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An Enhanced Secure Data Storage and Sharing in Clouds Using Privilege Based Key Exchange

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Abstract: The cloud computing and data storage in clouds is rapidly replacing the traditional technologies due flexibility, scalability and on demand storage and platform independent computation. However these flexibilities also give rise to security threats and various precautions needed to be taken while storing the data in clouds. The shared data in clouds are subjected to both the transmission and conventional insider threats. Sharing of data by various users in clouds without compromising the security of data from legitimate but malicious users is an aspect to be addressed. There should be a mechanism to address the access control, key exchange and encryption/decryption problems in cloud computing. In his paper we address the aforementioned security requirements of shared group data within the cloud. The key management, encryption, decryption processes and access control, are taken care by the users to guarantee data security in clouds. A single key exchanged among the cloud members will cause the access of old data to a new member joining the cloud. In the proposed approach, two different key are generated for sharing among each of the users and each user will get only one share. The sharing of a single key among users in our methodology ensures that insider threats are countered. The other key share is available in the trusted third party, which is designated as cryptographic server. The achieved results are found to be encouraging and show that our scheme has the potential to be used effectively for securing the data sharing in cloud.

Keywords: Key Exchange, Access Control, Cloud Computing, Encryption/Decryption, Data Sharing.

I. INTRODUCTION

The cloud computing and data storage in clouds is rapidly replacing the traditional technologies due flexibility, scalability and on demand storage and platform independent computation. Traditionally the data is encrypted and stored in the cloud. The key management, access control, encryption/ decryption process is managed by the users to ensure data security. In this paper, we propose a data sharing technique in clouds that provides data confidentiality and integrity, access control, data sharing (forwarding) without using compute-intensive re encryption, insider threat security and forward and backward access control. Our proposed methodology answers the aforementioned security requirements of shared group data within the cloud.
The methodology works with three entities as follows:

- Users;
- A Cryptographic Server (CS); and
- Cloud.

At the receiver's end the data is decrypted and sent back to the user. Two parts of the key are generated for a newly joined member of the cloud, and the user is added to the log. Whenever a member wants to exit from cloud his record is deleted from the log. This leads to more security to the data exchange among the users. Two attributed named and employed between the users for storing in cloud. The metadata confidentiality is ensured with encryption. The table uses one row for the database metadata, and one row for each table metadata. The encryption key is used as a master key. The trusted users who already have the master key can decrypt the metadata and process the information that is needed to encrypt and decrypt the tenant data. The metadata is retrieved by users by using an associated ID. This ID is estimated by using a Message Authentication Code (MAC) parameter to the name of the object described by the respective row. The proposed approach is described in fig. 1.

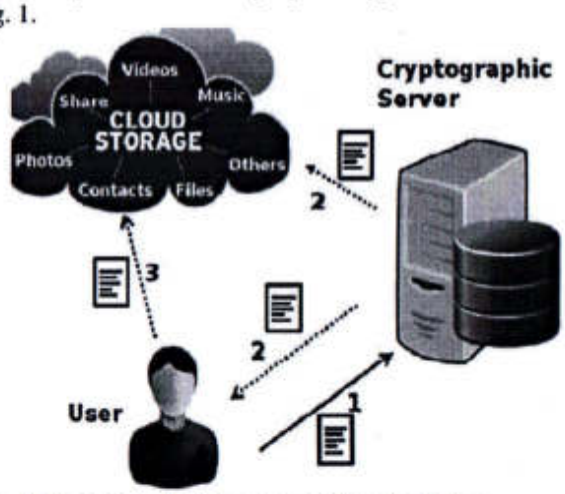

Fig.1. Basic idea for the proposed methodology.

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AN EFFECTIVE INFORMATION HACK PREVENTION APPROACH UTILIZING REVERSIBLE DATA HIDING TECHNIQUE

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ABSTRACT:

All the three media sources of audio, video and graphics forms a part of multimedia and they contain essential information. In the proposed approach, a scheme is devised for reversible data hiding in encrypted format where image acts as a cover medium. To hide the data here we are using a technique called histogram shifting technique. This paper contains the many objectives and a method how to implement the separable reversible data hiding. It has three objectives: 1) Data owner with encrypts the image with help of encryption key. 2) A data-hider uses a data-g key and compresses the encrypted image. 3) In the last step additional data is extracted and the original image is recovered. With the help of key receiver can extract the additional data and recover the original images. These two activities are separated depending on the availability of keys. Some of the image encryption algorithms based on chaotic maps which have been implemented has some disadvantages such as, if some of them are time consuming, some of them are complex, some have little key space. In this paper we proposed a 3D chaos which is based on hybrid encryption technique and reversible data hiding in encrypted format in which we have used 3D chaotic encryption algorithm for the first time.

INDEX:

Reversible data hiding, lossless data hiding, invertible data hiding, histogram shifting, difference expansion, prediction-error, sorting, robust reversible data hiding, video reversible data hiding, audio reversible data hiding

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An Enhanced Secured and Dependable Policy Outsourcing Big Data In Cloud Computing

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Abstract: Big data refers to high volume, high velocity, and/or high variety information assets that require new forms of processing to enable enhanced decision making, insight discovery and process optimization. Due to its high volume and complexity, it becomes difficult to process big data using on-hand database management tools. An effective option is to store big data in the cloud, as the cloud has capabilities of storing big data and processing high volume of user access requests in an efficient way. When hosting big data into the cloud, the data security becomes a major concern as cloud servers cannot be fully trusted by data owners. We formulated the policy updating problem in Attribute Based Encryption (ABE) systems and develop a new method to outsource the policy updating to the server. We propose an expressive and efficient data access control scheme for big data, which enables efficient dynamic policy updating. Compared to the conference version, we also propose an efficient and secure policy checking method that enables data owners to check whether the cipher texts have been updated correctly by cloud server. In this method, we do not require any help of data users, and data owners can check the correctness of the cipher text updating by their own secret keys and checking keys issued by each authority.

Keywords: Attribute Based Encryption (ABE), Process Optimization, End To End Security, Policies.

I. INTRODUCTION

Due to its high volume and complexity, it becomes difficult to process big data using on-hand database management tools. An effective option is to store big data in the cloud, as the cloud has capabilities of storing big data and processing high volume of user access requests in an efficient way. When hosting big data into the cloud, the data security becomes a major concern as cloud servers cannot be fully trusted by data owners. The grand challenge of outsourcing policy updating to the cloud is to guarantee the following requirements:

1.Correctness: Users who possess sufficient attributes should still be able to decrypt the data encrypted under new access policy by running the original decryption algorithm.

2. Completeness: The policy updating method should beagle to update any type of access policy.

3. Security: The policy updating should not break the security of the access control system or introduce any new security problems.

The policy updating problem has been discussed in key policy structure [1] and cipher text-policy structure [10]. However, these methods cannot satisfy the completeness requirement, because they can only delegate key/cipher text with anew access policy that should be more restrictive than the previous policy. Furthermore, they cannot satisfy the security requirement either.

In this, we focus on solving the policy updating problem in ABE systems, and propose a secure and verifiable policy updating outsourcing method. Instead of retrieving André-encrypting the data, data owners only send policy updating queries to cloud server, and let cloud server update the policies of encrypted data directly, which means that cloud server does not need to decrypt the data before/during the policy updating. Our scheme can not only satisfy all the above requirements, but also avoid the transfer of encrypted data back and forth and minimize the computation work of data owners by making full use of the previously encrypted data under old access policies in the cloud. The contributions include:

- We formulate the policy updating problem in ABE systems and develop a new method to outsource the policy updating to the server.
- We propose an expressive and efficient data access control scheme for big data, which enables efficient dynamic policy updating.
- We design policy updating algorithms for different types of access policies, e.g., Boolean Formulas, LSSS Structure and Access Tree.

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EVALUATING THE STRENGTH CHARACTERISTICS OF SEA SAND REPLACED CONCRETE

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Abstract-Sand and gravel are mined world-wide and account for the largest volume of solid material extracted globally. Formed by erosive processes over thousands of years, they are now being extracted at a rate far greater than their renewal. Furthermore, the volume being extracted is having a major impact on rivers and deltas, results in loss of land through river, lowering of the water table and decreases in the amount of sediment supply. This emerging problem obliges contemporary material usage to balance the ecology. In this essence the abundant availability of sea sand can be utilized as an effective replacement for natural aggregate which will be beneficial for both circumstances. Hence this research project investigates the use of sea sand in concrete construction. This study proposed with hot water washed sea sand with various replacement in concrete from 10% to 100% with the increment of 10% resulted in higher mechanical properties in all the replacement.

Keywords—Sea sand, Properties, Strength, Test, Chloride.

I. INTRODUCTION

Concrete is the most common material in the construction industry which consumes more than 40 billion tonnes of aggregates in a year. This is twice the time of yearly amount of sedimentation carried by all of the rivers in the world (Milliman and Syvitski, 1992). This large quantity of material cannot be extracted and used without a significant impact on the environment (Sonak et al., 2006, Kondolf, 1994). Extraction has an impact on biodiversity, water turbidity, water table levels, and landscape and on climate through carbon dioxide emissions from transportation. Large scale of exploitation of limited river sand resources as well as imposition of environmental restraints on river sand mining means that river sand supply need to be augmented with alternative resource. In many other countries situation is similar and several have turned to marine aggregate and now concrete specifications allow use of marine aggregate subject to certain controls being imposed on their properties. In the interim, if it is possible to divert sea sand for concrete production, it will be beneficial measure. Hence a study on suitability of sea sand for concrete production has considered as an opportunity for the researcher. Experimental studies about offshore sand extracted from European and American coasts have shown that these materials are suitable as construction materials for the base and sub base pavements (Limeira et al 2011). Also material from marine deposits around the coasts of Great Britain has been used in concrete production for several decades (Newman 1968). Chapman and Roeder (1968) found out in their research that the cylinder-splitting test results for all the mixtures made with sea aggregates fell within the range expected for any given compressive strength. There are indeed no real differences

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Paper Battery for Future of Power Supply

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ABSTRACT:Light-emitting diodes (LEDs) have been used to provide illumination in industrial and commercial environments. LEDs are also used in TVs, computers, smart phones, and tablets. Although the light emitted by most LEDs appears white, LEDs have peak emission in the blue light range (400–490 nm). The accumulating experimental evidence has indicated that exposure to blue light can affect many physiologic functions, and it can be used to treat circadian and sleep dysfunctions. However, blue light can also induce photoreceptor damage. Thus, it is important to consider the spectral output of LED-based light sources to minimize the danger that may be associated with blue light exposure. In this review, we summarize the current knowledge of the effects of blue light on the regulation of physiologic functions and the possible effects of blue light exposure on ocular health.

KEYWORDS: ***paper based device, power supply, energy***

I. INTRODUCTION

LED devices have set a new trend in the technology market today, their use is increasing exponentially because they are easy to manufacture, cost effective and power efficient. Use of LEDs can be seen from the balcony bulb of a ban glow to the bulb on a street vendor's vegetable cart, wrist watches and mobile phones etc. [1,2,3]. White light, with color temperature around 5000 K, is preferred especially in Asian countries over conventional incandescent lamps. This is the reason for surge in commercial value for white LED's. White LED Bulbs are also available in many shades, from cool white (5500 K and higher) and warm white day light (2700 K to 3500 K) range. It is a known fact that by the use of different materials such as GaAs, GaP, GaAsP etc white light can be obtained[4,5].

These white LEDs bulbs have many advantages but they suffer from some critical problems. In cool white LEDs, substantial amount of energy is present in blue region of spectra ie, wavelengths between 400-500 nm. This is known as blue hazard whereas in daylight LEDs wavelengths in blue region are very feebly present. "Blue light hazard" causes retinal injury created by photochemical reaction by electromagnetic exposure of radiation at wavelength between 400-500 nm[6]. A permanent damage to pigment epithelial cells of retina may be caused by the continuous exposure of LED light of shorter blue band spectrum. Moreover longer use of such devices may cause fatigue in eyes and create skin problems [7, 8, 9]. Physical pain some people feel from high intensity discharge (HID) car headlights and particularly intense blue LEDs seems to be a combination of these focus and scatter effects, together with a third. We have a particularly strong aversion reaction to bright blue light sources, including bluish-white light. "Pupilary reflex is down in the blue [part

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High Speed CMOS Comparator

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Abstract

Analog-to-Digital conversion method is an digital procedure in which an analog sign is changed, except altering its quintessential contents, into a digital signal. Latched comparators use positive remarks mechanism (aids in the input signal) to re-generates (amplifies) the analog input sign into a Full-scale digital stage output signal .This paper presents a CMOS comparator that reduces the common propagation prolong and hence gives greater speed. The proposed design is simulated in 0.25µm CMOS Technology by means of using Tanner EDA Tools. CMOS Comparator shows that the universal propagation extends of the comparator, TPD, is 1.7872e-9 seconds, with a 1.0 V supply voltage.

Keywords: Comparator, CMOS, Dynamic Latched Comparator.

Introduction

Cmos entirely dynamic latched comparators are majorly used in Analog to Digital converters (ADCs), statistics receivers and Memory Sense Amplifiers (SAs) because they grant high speed, decreased energy consumption, full swing output and high enter impedance[2]. Dynamic latched comparators hire re-generative stage, which consist of cross coupled inverters, to provide a effective remarks mechanism. This regenerative stage is used to convert a differential voltage, from the input stage, into a full swing digital output country at a very quick price [8].

Literature assessment and objectives

D. Y. Kim et. al. [3] "The Design of the High Speed Amplifier Circuit for Using in the Analog Subsystems" a excessive velocity cmos based totally an amplifier circuit and this amplifier circuit is further used to design a high pace cmos comparator, which is further utilized in specific analog to digital converters. The designed amplifier and comparator circuit is connected in complementary trend to grant the reap stage to make bigger speed.

Daniel Schinkel et. al. [6] investigated "A Double-Tail Latch-Type Voltage Sense Amplifier" a latch type voltage sense amplifier that has one tail transistor which limits the total modern-day flowing via the both of the output branches; it shows sturdy dependency on pace and offset voltage with one-of-a-kind common-mode input voltage Vcom. To alleviate this disadvantage, the comparator with separated input-gain stage and output-latch stage was introduced. This separation made this comparator have a lower and extra steady offset voltage over huge input common-mode voltage (Vcom) degrees and function at a decrease provide voltage (VDD) as well.

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DESIGN & ANALYSIS OF COMPOSITE DRIVE SHAFT FOR AUTOMOBILE APPLICATIONS

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Abstract- The application of filament winding technology for the manufacturing of composite shaft is in widespread use in automobile & aerospace applications. These include composite drive shaft for car and composite rods for aircraft. Typically, composite drive shaftis designed using torque transmission capacity and torsional buckling capacity of the drive shaft.
In addition to that weight reduction taken as an objective function and the design variables such as Number of plies, thickness of ply and Stacking of sequence subjected to constraints namely Torque transmission of the capacity, Buckling torque capacity of the shaft. Since it is a single objective function with constraints is very difficult to optimize using conventional optimization techniques. Using FE Analysis Optimized the ply design and the results are calculated by using two different composite materials namely E-Glass /Epoxy, Carbon /Epoxy composite. 3D layered analyses of composite drive shaft have been performed to predict the behavior of the structure.It has been observed that the theoretical results are in close agreement with the finite element analysis results. Also, the design stresses were within safe limits.
Key words: Filament winding,Optimization, Composite drive shaft

1. INTRODUCTION

1.0 The advanced composite materials such as Graphite, Carbon, Kevlar and with suitable resins are widely used because of their high specific strength(strength/density) and high specific modulus (modulus/density) Advanced composite materials seem ideally suited for long, power driver shaft (propeller shaft) applications. Their elastic properties can be tailored to increase thetorque they can carry as well as the rotational speed at which they operate. The drive shafts are used in automotive, aircraft and aerospace applications. The automotive industry is exploiting composite material technology for structural components construction in order to obtain the reduction of theweight without decrease in vehicle quality and reliability. It is known that energy conservation is one of the most important objectives in vehicle design and reduction of weight is one of the most effective measures toobtain this result. Actually, there is almost a direct proportionality betweenthe weightof a vehicle and its fuel consumption, particularly in city driving

1.1 Description of the Problem:

Almost all automobiles (at least those which correspond to design with rear wheel drive and front engine installation) have transmission shafts. The weight reduction of the drive shaft can have a certain role in the general weight reduction of the vehicle and is a highly desirable goal, if it can be achieved without increase in cost and decrease in quality and reliability It is possibleto achieve design of composite drive shaft with less weight to increase the first natural frequency of the shaft and to decrease the bending stresses using various stacking sequences. By doing the same, maximize thetorque transmission and torsional buckling capabilities are also maximized.

1.2Aim and Scope

This work deals with the replacement of a conventional steel drive shaft with E-Glass/ Epoxy, High Strength Carbon/Epoxy and High Modulus Carbon/Epoxy composite drive shafts for an automobile application.

CHAPTER-2

2. BACKGROUND

2.0 Composites consist of two or more materials or material phases that are combined to produce a material that has superior properties to those of its individual constituents. The constituents are combined at a macroscopic level and or not soluble in each other. The main difference between composite and an alloy are constituent materials which are insoluble in each other and the individual constituents retain those properties in the case of composites, where as in alloys, constituent materials are soluble in each other and forms a new material which has different properties from their constituents.

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Investigating perceived significance of Green manufacturing practices for spreading GSCM

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Abstract

Research papers have explored the relationship betweenadoption of green supply chain management (GSCM) practices and competitive advantage. Thepurpose of this paper is to further investigate this relationship by examining the case of green manufacturing practices (GMP).Through the path of spreading innovation andresource-advantage theory, the authors examine whether or not consumers perceive products madevia GMPs to be equivalent to brand-new products in terms of reliability.Asurvey method is used togather data from a diverse sample of 287 participants. Data are analyzed via ANOVA to test thehypotheses. The findings suggest that consumers perceive products made via some GM practices tobe inferior to brand-new products in terms of reliability. However, participants indicated no perceiveddifference in reliability between products made by GM practices and brand-new products.The findings suggest that adoption of some GSCM practicesmay not necessarily lead to competitive advantage, which may hinder the process of spreading GSCM. This studyis limited by its focus on just one aspect of competitive advantage. Future studies should examine therelationship between GSCM adoption and other measures of competitive advantage.Understanding that consumers may perceive products made via someGM activities as being inferior to brand-new products, firms wishing to employ GM maywish to compete on other dimensions, such as low price or service.Earlier research findings were studied for this research, which suggeststhat adoption ofGSCM may not fuel competitive advantage. Future research is suggested to find missing links todevelop this body of literature.

KeywordsGreen supply chain management, Logistics management, Green manufacturing, Sustainability, spreading innovation, Resource-advantage, Reliability

Paper type Research paper

1. Introduction

Sustainability is becoming a key driver of spreading innovation (Nidumolu et al., 2009), Businesses in all areas of the supply chain want to achieve competitive advantage by adopting sustainability initiatives. Business leaders and academic researchers focus more on GSCM (Nikbakhsh, 2009; Sarkis, 2003). However, the literature inthis area is not broadly developed and the awareness of spreading various GSCM practices are not well understood (Srivastava, 2007). Additional GSCM research can be done by spreading innovation through different channels.

Some research suggests thatimplementation of GSCM is not directly linked to measures of competitive advantage(Kim, 2011); other studies have found such a relationship to be significant (Rao and Holt,2005; Zhu and Sarkis, 2004).

This study is further strengthened by further investigating therelationship between GSCM adoption and competitive advantage. To do so, theremainder of this manuscript is organized as follows. First, we review GSCMliterature and introduce a common platform for GSCM and green manufacturing (GM) This study explores the impact of GM to spread innovation on GSCM; thus, the idea ofGM is developed through discussion of the overlap between GSCM and Manufacturing. We thenreview literature regarding perceived reliability, where we describe why we use perceived reliability as a tool

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A NOVEL SINGLE PHASE FIVE LEVEL INVERTER IN COUPLED INDUCTORS

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Abstract: Multilevel inverters are very critical in the modern days because of many uses and also due to the advantage of producing many ranges of voltages enabling a variety of functions such as power conditioning, lively filters and motor drives. The proposed multilevel inverter enables us to produce 5 tiers barring any phase shift. The proposed method uses pwm approach alongside with a feedback sign so whole circuit is applied in closed loop. The simulation is carried out using matlab. The effects are included to exhibit the overall performance of 5 degree inverter carried out in closed loop system
Keywords: Multilevel inverters, Inductors, pwm

I. INTRODUCTION

The multilevel inverters are turning into famous from the time when it used to be proposed. Multilevel inverter means the inverter in which greater than two tiers are used. The multilevel inverter has many advantages such as:-1) Simple building and handy implementation. 2)Less switching losses is compared with current system.3)The positive control of the switches is achieved.4) This inverter can produce output 5 stage voltages with solely one dc source, through which we can avoid the voltage balancing trouble in traditional multilevel inverters.5)The level of the output voltage is only 1/2 of the dc-link voltage in all conditions, leading to much decreased dv/dt.6)This inverter is primarily based on widely used three-arm power module and the voltage stresses on all power switches are same, making it very effortless to construct. Applications of this multilevel inverter encompass energetic filters, electricity conditioning and motor drives. In these current years it has been referred to that the use of multilevel inverters are increasing. In the before days there required the use of more wide variety of switches. In this technique it permits us to produce the output with decreased number of switches. Also we can notice that there is less dv/dt in the output side.Thus this approach is of great advantage. The dangers of the current approach are:

[1]The inverter plan is difficult to assemble and robust in operation.
[2]The furnish sources used in each bridge is doubled for every bridge. These hazards are overcome by way of the usage of feedback technique. The purposes consist of energy conditioning which is the technique of enhancing nice of energy delivered to electrical equipment. Thus it affords more safety in energy disturbances. For eg:- PC, VCR, oven, stereos It is used as two a two surge two safety system two by means of decreasing two magnitude of voltage spikes to safe level. It is also used as noise filters by way of blocking characteristic noise pattern and permit solely desired frequency to equipment. Another utility is motor drives.
The blessings of this are
[1]Smooth operation
[2]Acceleration control
[3]Different operating speed

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DESIGN OF FAN PERFORMANCE DETECTION SYSTEM BASED ON ARM EMBEDDED SYSTEM

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Abstract

The fan performance detect system is based on embedded ARM, and this is an integrated system that detect and analysis the operational status of Fan performance. The detection system for fan energy provides a new technical means. It is realizing the fan system monitor each parameter real-time, reduce the traditional fan testing on the field personnel needs, and improve the fan detection accuracy of various parameters. Thus it is instructive to provide detect data for reference for enterprise's production.

Keywords: embedded ARM, fan performance detect system, real-time monitoring, and fan testing

1. Introduction

In the detection of fan performance, the fan flow (or the wind) is an important index of the fan running status. There are lots of measurement of fan flow methods to choose and the kinds of flow meters are also relatively rich. For example, we can use the thermal mass, rotor flow meter, turbine flow meter, orifice flow meter, uniform tube flow meter, ultrasonic flow meter, waist wheel flow meter, etc. to measuring gas flow rate [1].

1.1. The Detection Method of Fan Performance

First, the performance of fan should be detecting in the normal operation state of the fan crew. Normal operation status refers to the production process of the actual running condition. If the fan is operate under the stable load in long-term, we can think of this condition as normal operation state; within the scope of certain change of Fan load, the most frequent load condition should be regarded as normal running state. In addition, the time of detection continuous time not less than 30 min, each measured parameters measurement frequency should be not less than three times, and take the reading of the arithmetic mean value as calculated value. Detection section should be sel ected respectively from the fan import not less than five times, export is not less than 10 times the diameter (equivalent diameter) of the straight pipe [2].The pipe with rectangular cross section use the long side of the multiple to calculate. We can ins tall the straight tube in fan import to measure if the fan is no import line, and no flat long section the dynamic pressure measurement section and static pressure section is not the same cross section. Dynamic pressure measurements should be according to the static pressure measurement section conditions to reduce.

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Implementation of A FFT Using High Speed and Power Efficient Multiplier

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Abstract

Fast Fourier Transform (FFT) is used to convert a sign from Time area to frequency area and this is needed so that you can view the frequency components existing in the signals. A Fourier Transform converts a wave in the time area to the frequency domain. An FFT is an algorithm that pace up the calculation of a DFT. In core, an FFT is a DFT for speed. The whole purpose of an FFT is to pace up the calculations. The Decimation- In-Time radix- 2 FFT the use of butterflies has designed. The butterfly operation is faster. The outputs of the shorter transforms are reused to compute many outputs; as a result the total computational price will become less. An FFT is a very environment friendly DFT calculating algorithm. For the graph of FFT the some of the distinctive modules are used primarily Adders and Multipliers plays an essential function in the sketch of FFT. The average performance of the FFT is based on the throughput of the Multiplier. Here the multiplier with AHT is used to minimize the strength consumption and to make bigger the velocity of the FFT.
Keywords : Decimation in Time (DIT), Adaptive Hold Technique (AHT), Fast Fourier Transform (FFT), Discrete Fourier Transform (DFT).

I. Introduction

The Fast Fourier Transform (FFT) is a discrete Fourier radically change algorithm which reduces the quantity of computations needed for N factors from 2N6 to 2N log N, the place log is the base-2 logarithm. FFTs have been first discussed by Cooley and Tukey (1965), although Gauss had actually described the imperative factorization step as early as 1805 (Bergland 1969, Strang 1993). A discrete Fourier transform can be computed the usage of an FFT via potential of the Danielson- Lanczos lemma if the wide variety of factors N is a strength of two. If the wide variety of factors N is not a electricity of two, a seriously change can be performed on sets of factors corresponding to the top factors of N which is slightly degraded in speed. An efficient real Fourier radically change algorithm or a quick Hartley radically change (Bracewell 1999) gives a in addition expand in velocity by way of approximately a component of two. Base-4 and base-8 fast Fourier transforms use optimized code, and can be 20-30% quicker than base-2 speedy Fourier transforms. Which potential a 1024 sample FFT is 102.4 instances faster than the "straight" DFT. For larger numbers of samples the velocity gain improves. Prime factorization is sluggish when the elements are large, but discrete Fourier transforms can be made quick for N=2, 3, 4, 5, 7, 8, 11, 13, and sixteen using the Winograd radically change algorithm. Fast Fourier seriously change algorithms commonly fall into two classes: decimation in time, and decimation in frequency. The Cooley-Tukey FFT [2] algorithm first rearranges the enter factors in bit-reversed order, and then builds the output transform (decimation in time). The Sande-Tukey algorithm (Stoer & Bulirsch 1980) first transforms, then rearranges the output values (decimation in frequency). This paper is based totally carried out in the Decimation in Time class. Before going in element with DIT FFT here are the primary terms to apprehend the FFT

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NEURAL NETWORK BASED SEGMENTATION OF TUMOR AND EDEMA USING MR IMAGES

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Abstract
Image processing plays an important role in various medical applications to support the computerized disease examination. Brain tumor, such as Glioma is one of the life threatening cancers in humans and the premature diagnosis will improve the survival rate. Magnetic Resonance Image (MRI) is the widely considered imaging practice to record the glioma for the clinical study. Due to its complexity and varied modality, brain MRI needs the automated assessment technique. In this paper, a novel methodology based on meta-heuristic optimization approach is proposed to assist the brain MRI examination. This approach enhances and extracts the tumor core and edema sector from the brain MRI integrating the Teaching Learning Based Optimization (TLBO), entropy value, and level set / active contour based segmentation. The proposed method is tested on the images acquired using the Flair, T1C and T2 modalities. The experimental work is implemented and is evaluated using the CEREBRIX and BRAINIX dataset. Further, TLBO assisted approach is validated on the MICCAI brain tumor segmentation (BRATS) challenge 2012 dataset and achieved better values of Jaccard index, dice co-efficient, precision, sensitivity, specificity and accuracy. Hence the proposed segmentation approach is clinically significant.
Keywords: Image processing, MRI, Glioma, CEREBRIX

1. Introduction

Brain tumor is one of the life threatening diseases for human community. The mainstream of brain tumor commences in the regions and associated parts of the brain. Bauer et al. [1] reported that, glioma is the most common brain tumor with the maximum morbidity and mortality rates. Based on its severity, brain tumor can be classified as the low and high grade gliomas [2].

The availability of the latest therapeutic technology can help the human community in the early detection and examination of the gliomas during the screening inspection process. When the location and nature of glioma is identified, then the possible treatment procedure can be provided to cure the disease. After detecting the tumor, the oncologist will plan the one of the following treatment procedures; (i) radiation therapy, (ii) chemotherapy and (iii) surgery. In which the radiation and chemotherapy are recommended to slow down the tumor growth and the surgical procedure can be used to completely remove the tumor region.

Magnetic Resonance Image (MRI) is the widely adopted procedure to record the brain abnormality using various modalities for the clinical study. The recent advancement in MRI technology helps to provide the complete details about the internal brain sections in the form of a three dimensional (3D) picture. After recording the image, 3D or slice based analysis is carried out using a chosen image processing scheme to locate and localize the tumor for superior diagnosis and treatment planning. The

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Emotional Intelligence and Quality of Work Life among Employees of BPO

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ABSTRACT

This study was conducted to find out the information about the effect of emotional intelligence, quality of work life, and stress on job satisfaction and turnover intention among the employees of IPC Port Equipment in Indonesia. The study uses a sample of 175 employees from headquarter and 11 branches of BPO. The empirical testing indicated that both emotional intelligence and quality of work life have positive effect on job satisfaction and have negative effect on turnover intention; stress has negative effect on job satisfaction and has positive effect on turnover intention; job satisfaction has negative effect on turnover intention.

Keywords: Emotional intelligence, quality of work life, stress, job satisfaction, turnover intention

I.INTRODUCTION

Quality of Work Life is the existence of a certain set of organizational condition or practices. This definition frequently argues that a high quality of work life exists when democratic management practices are used, employee's jobs are enriched, employees are treated with dignity and safe working conditions exist. Quality of Work Life refers to the level of satisfaction, motivation, involvement and commitment individuals experience with respect to their lives at work. Quality of Work Life is the degree to which individuals are able to satisfy their important personal needs while employed by the firm. Companies interested in enhancing employees Quality of Work Life generally try to instill in employees the feelings of security, equity, pride, internal democracy, ownership, autonomy, responsibility and flexibility.

OBJECTIVES OF THE STUDY

- To assess the quality of work life among employees in BPO companies.
- To know the perceived link between work life balance and team effectiveness.
- To identify the importance of work environment towards the performance

II.REVIEW OF LITERATURE

(Sirgy M J, 2001) studied quality of work life based on need satisfaction and spill over theory and defined it as employee satisfaction with a variety of needs through activities, resources and

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ROLE OF INTERNET TECHNOLOGY IN FUTURE MOBILE DATA SYSTEMS

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ABSTRACT
Mobile wireless technology is developing in rapid speed with advanced techniques. Due to the increase in demand for speed, multimedia support and other resources, the wireless world is looking forward for a new generation technology. The paper presents the challenges and issues that are involved in each generation and explained how the improvements have been made successfully in mobile communication from earlier generation to modern generation. The fifth generation wireless 5G development initiative is based upon 4G, which at present is struggling to meet its performance goals. An ideal 5G model to accommodate the challenges and shortfalls of 3G and 4G deployments is discussed as well as the significant system improvements on the earlier wireless technologies improvements on the earlier wireless technologies.
Keywords: 3G,4G,5G, Data rate, Data speed

I. INTRODUCTION

The Internet is undoubtedly expanding. This takes place both in the physical sense (increasingaccess to it in various parts of the globe) and in terms of its content, which is constantlyincreased by new information Froma collection of text filled web sites it has evolved into a multimedia database of information anda powerful tool for communication between people from all over the world.

Wireless mobile communication started from1970s and it was continuously upgraded from1G to 5G. The First Generation (1G) mobile phone networks uses analogsignals to transmit the voice calls only between the two transmitters. Second Generation (2G) mobile network is the next stage in the development of wireless technology to overcome the limitations of 1G by looking on transmission of voice and data with digital signals. Third Generation (3G) was arrived because of low speed and incompatible technologies used on previous generations. The main features of 3G is that it allows higher data transmission rates and increased capacity for traditional voice call and high speed data applications such as Global Roaming ,internet, mobile, video conferencing, video calls and 3D gaming. 4G is known as beyond 3G, stands as an acronym for fourth generation communication system which describes the next step in wireless communication.
Fifth Generation (5G) is a packet switched wireless mobile communication system with extensive area coverage and high through put. Hence it is called as Real World Wireless or wireless World Wide Web (WWW).
2. EVOLUTION

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A Study on Power Control System Administration via Smart Grid

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Abstract: The motion in control equipment and digital control development, the DG structures can be workable controlled to overhaul the system operation with upgraded PQ at PCC. The use of vitality devices based equipment and non-coordinate burdens at PCC deliver symphonious streams, which debilitate the thought of vitality. A converter is being used which can be used both as a rectifier and an inverter. In this paper centered on the network interfacing inverter can competently be used to perform the following critical capacities to transfer of dynamic strength reaped from the sustainable assets (wind, sun-oriented, and so forth.); Stack responsive electricity request bolster; Current sounds remuneration at PCC; and Current unbalance and unbiased modern remuneration if there be an occurrence of 3-stage 4-wire framework. In addition, with fantastic manage of lattice interfacing inverter, all four dreams can be subtle both exclusively or at the identical time. The PQ requirements at the PCC can along these strains be entirely stored up inside the utility fashions except greater gear cost.

Keywords: Power Control System, Smart Grid

I. INTRODUCTION

Electric utilities and stop customers of electric powered power are getting to be exceptionally worried about taking care of the creating vitality demand. 75 percent of aggregate international vitality request is furnished by the ingesting of non-renewable electricity sources. Regardless, extending air tainting, a perilous environmental deviation concerns, diminishing oil-based goods and their growing expense have made it vital to seem closer to boundless sources as a future imperativeness path of action. There has been a considerable enthusiasm for nations on life like energy hotspot for power age. The market motion and government's impulses have enlivened the realistic electricity supply section advancement. The movement in manage contraptions and automatic control development; the DG structures can be effectively controlled to redesign the device operation with expanded PQ at PCC. The use of vitality equipment based equipment and non-straight masses at PCC create consonant streams, which debilitate the thought of vitality. Current controlled voltage source inverters are used to interface the unpredictable RES in appropriated structure. Starting late, various manipulate techniques for prepare related inverters uniting PQ graph have been proposed. In an inverter acts as a unique inductor at a precise repeat to preserve the consonant current. In any case, the right tally of framework inductance often is tough and might also disintegrate the manage execution. A comparable strategy in which a shunt dynamic channel goes about as unique conductance to damp out the song on hand for use type out is proposed. A manipulate method for unlimited interfacing inverter in mild of – principle is proposed. In this procedure, both load and inverter cutting-edge detecting is required to repay the heap modern music. The non-straight load cutting-edge harmonics might also result in voltage harmonics

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Optimal Topology in Multilevel Inverter for Power Quality Improvement using PWM Strategies

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Abstract
The general function of a multilevel converter is to synthesize a desired output voltage from several levels of dc voltage as inputs. In order to increase the steps in the output voltage, a new topology is recommended in this paper, Various topologies of multilevel inverter provides several advantages including Power voltage stress, higher efficiency, lower EMI, better waveforms, low switching losses and improved THD. This paper proposes the simulation of novel algorithms for Cascaded H-Bridge Cell Multilevel Inverter to improve power quality by optimizing its structure. The optimization of structures is achieved by reducing the number of power semiconductor switches in the inverter. This is achieved with the help of mathematical equations which are obtained from the structure of the inverter. To validate the proposed algorithms the simulation results are compared with conventional methods.

Keywords - Cascaded H-Bridge (CHB) Multilevel Inverter (MLI), Pulse Width Modulation (PWM), Total Harmonic Distortion(THD)

I) INTRODUCTION

The general function of a multilevel converter is to synthesize a desired output voltage from several levels of dc voltages as inputs[1]. In order to increase the steps in the output voltage, a new topology is proposed in the reference [2], which benefits from a series connection of sub-multilevel converters. In the procedure described in this reference, despite all the advantages, it is not possible to produce all the steps (odd and even) in the output. In addition, for producing an output voltage with a constant number of steps, there are different configurations with a different number of components [2]-[3]. In this chapter, the optimal structures for this topology are investigated for various objectives such as minimum number of switches and dc voltage sources and minimum standing voltage on the switches for producing the maximum output voltage steps. Two new algorithms
for determining the dc voltage sources magnitude have been proposed. A new general cascaded multilevel inverter using developed H-bridges is proposed. The proposed topology requires a lesser number of dc voltage sources and power switches and consists of lower blocking voltage on switches, which results in decreased complexity and total cost of the inverter. A new single-phase H-bridge multilevel inverter (MLI) topology constructed using auxiliary reverse-connected voltage sources along with a hybrid pulse width modulation (PWM) strategy is proposed [4]-[6], to extract a variable frequency variable amplitude output voltage. It involves the use of reduced number of switching devices for a specific

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NEW TECHNOLOGY FOR ELECTRIC VEHICLES

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Abstract – This paper provide an overview of the latest work of electric car in the region. The paper describes the development and the evaluation of one of a kind part of components. The fundamental aspects in battery technology, charger design, motor, guidance and braking are examined. The paper sooner or later shows some electric powered car prototype as a conclusion of the papers.

Keywords – ABS, battery management systems, BMS, Inverter , Electric vehicle, AFS, steering system, braking system.

I. INTRODUCTION

Electrical vehicle (EV) based on electric powered propulsion system. No inner combustion engine is used. All the energy is based on electric powered strength as the power source. The fundamental advantage is the excessive effectivity in energy conversion through its proposition machine of electric powered motor. Recently there has been big lookup and improvement work pronounced in both tutorial and industry. Commercial vehicle is additionally available. Many countries have supplied incentive to customers thru lower tax or tax exemption, free parking and free charging facilities. On the other hand, the hybrid electric vehicle (HEV) is an alternative. It has been used sizeable in the final few years. Nearly all the auto producers have at least one mannequin in hybrid electric powered vehicle. The questions come to us: Which automobile will dominate the market and which one is suitable for future? This paper is to examine the latest improvement of electric powered car and endorse the future development in the area.

II. EV AND HEV

HEV has been promoted considerably in the ultimate decade. Nearly every producer has at least one HEV in the market [1]. It is hypothetical to liberate the battery energy storage problem at that time. Using hybrid car it lets in the electric energy can be received from engine. The HEV is widely divided into sequence hybrid and series hybrid. The engine power of the sequence hybrid is linked totally to the battery. The entire the motor power is resulting from the battery. For the parallel amalgam both the engine and motor give the propulsion power. The torque is the totting up of both motor and engine. The motor is also used as a generator to absorb the electricity from engine

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COMPREHENSIVE PERFORMANCE ASSESSMENT OF EDGE DETECTION TECHNIQUES IN FREQUENCY DOMAIN

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Abstract

This paper presents a comprehensive performance evaluation of different high pass filtering techniques for Edge detection in both time domain and frequency domain. The paper examines various kernels and compares the efficiency of the filtering technique against the computation time for various sizes of images with various sizes of high-pass filter kernels. We have made use of Sobel filter as the standard filter kernel against which other techniques are compared. The results clearly demonstrate that the implementation of edge detection in frequency domain is better in terms of computation time as compared to that of the time domain implementation.

1. Introduction

Image sharpening and smoothening is perhaps one of the most ubiquitously used techniques in any image processing application. While these are considered inexpensive operations, multiple use of the same may become computationally intensive, and hence may make the overall application slow. In this paper we examine and compare the performance of sharpening filters in time-domain and frequency domain. While there are many apparent computational advantages in converting an image into frequency domain to apply a filter, it is not very apparent whether the conversion is required in smaller images. Applying the filter in time domain is straight forward, and requires the convolution operation of the filter kernel over the entire image, but applying the filter in frequency domain requires the steps as shown in figure [1]. The primary advantage of converting an image into frequency domain is the change in the operation from convolution to multiplication. Convolution is an expensive procedure requiring an asymptotic time of O (n2), but multiplication in certain architectures can be implemented in constant time. However, the image needs to be preprocessed and converted into frequency domain using FFT, and reconstructed using Inverse FFT. Further, the use of Fourier transform works well for large images that are correctly padded. Padding the image with appropriate number of zeros is essential when applying Fourier Transform because images are infinitely tiled in the frequency domain and filtering may produce wrap around effects [1]-[5].

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Optimization of Coagulant Using Artificial Neural Network

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Abstract-The complex nature of drinking water treatment unit processes, utilities have quantifying the relationships that exist between process input and output. Process models, where they exist, are often site specific and they are unable to handle continous variations in one or two key process variables. The artificial neural network technology is a robust artificial intelligence technology that can handle the treatment process. In water treatment, ANNs have enormous potential, especially to support workers in plant operation. Water plants are taking large volumes of data, especially information about water quality parameters, ANNs can be used for the prediction of water quality. With use of ANNs in real time, system will get more efficient, so reducing costs and increasing the quality of water. In this paper, the artificial neural network is used for the prediction of optimum coagulant dosage in Pillur water treatment plant, Coimbatore

1. Introduction

1.1 General: Water treatment is a well known process and it is used for many years. The raw water quality available in India varies significantly, resulting in modifications to the conventional water treatment scheme consisting of aeration, chemical coagulation, flocculation, sedimentation, filtration and disinfection. The water is treated differently in many water treatment plants depending upon the quality of water entering into the treatment plant. The rapid growth of population has exerted the portable water demand, which requires exploration of raw water sources, developing treatment and distribution systems.

1.2 Water Quality Parameters: The water quality parameters which are relevant to this project work and which are used in the artificial neural network development model are discussed. 1.2.1 PH of Water: PH indicates the level of acidity of the water but it actually a measurement of the potential activities of hydrogen ions (H+) in the water sample. The PH range is about 6.0 to 7.8 but for drinking purposes WHO has set a standard PH level between 6.5 to 8.5. The factors affecting the PH value of water is the concentration of carbon dioxide (CO2) in the water.Natural and unpolluted rainwater can be used as acidic as PH 5 to 6 because it absorbs CO2 during the day and release it during the night, PH levels in water can change from day to night.

1.2.2 Turbidity: The turbidity may be caused by large amount of clay, silt, sawdust, wood ash, microorganisms and plant fibres. Such particles can cause tastes, carry bacteria and plant nutrients can cause chlorine in the disinfection process. The flow rate of water body is a primary factor influencing turbidity level. High flow rate of water can carry more particles and larger sized

sediment which causes higher turbidity level. In general, turbidity will increase significantly during and afterb rainfall, which causes sediment to be carried in to the stream.

1.2.3 Colour: The colour of the stream water is an indication of a source and it can provide important information about the water quality. Darker colour water absorb more of sun heat

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AN OVERVIEW OF NEURAL NETWORK BASED NOISE ROBUST SPEECH RECOGNITION METHODS USING DWT

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ABSTRACT

The neural community classifier is being used for the quite a number purposes now-a-days for the purpose of records classification and pattern recognition. The neural community algorithm offers deep learning for the massive scale databases, the place it will become very tough otherwise to locate the matching samples. In this paper, the study of the present models for the noise robust speech attention models has been conducted for the overall performance analysis, which offers the indispensable overview of all of the analyzed models. The noise strong speech consciousness models are utilized to tackle the real-time speech environments for the handling of the noisy records for the purpose of speech or speaker recognition. In this paper, the noise strong speech recognition method has been proposed, which combines the melfrequency cepstral coefficient (MFCC) with filter financial institution technique based upon the discrete wavelet seriously change (DWT) and deep neural network classification. The proposed mannequin is expected to improve the average performance of the new noise robust speech consciousness machine in comparison with the existing models.

KEYWORDS: Filter bank, Discrete wavelet transform (DWT), Noise Robust Speech Recognition, Neural Network,

I. INTRODUCTION

A. Speech Recognition

Speech is the most environment friendly way of replacing information and expressing ideas between two human beings. Speech is a herbal way of verbal exchange because it requires no one-of-a-kind coaching as most of the humans are born with this instinct. It is regarded as the most flexible, cost effective way of conveying information. Life would be extra comfortable, if speech is used for Human Machine Interface (HCI). The other interfaces like mouse, keyboard, joystick and contact pad requires some quantity of information in the use of them. Therefore, physically challenged humans find it difficult to have interaction with computer systems or machines [1]. In ASR, Speech is given as enter to the recognizer which radically change acoustic sign into aspects form. Then it responds appropriately using the features. This will both generate a transcript or will perform some control action. The transcription is generated with the help of acoustic model and language model. We can retrieve a lot of information from speech sign concerning the gender, age, accent, identification of speaker, emotion and health of speaker. Speech focus systems are divided into exclusive classes viz. Isolated Word, Connected Word, Continuous and Spontaneous Speech Recognition, Speaker Dependent, Speaker Independent models. Mel Frequency Cepstral Coefficient (MFCC),

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ANALYSIS OF VEHICLE SUSPENSION SYSTEM SUBJECTED TO FORCED VIBRATION USING MAT LAB/SIMULINK

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ABSTRACT

A safe vehicle must be able to stop and maneuver over a wide range of road conditions. Good contact between the tires and the road will able to stop and maneuver quickly and it is achieved by vehicle suspension system. Suspension is the term given to the system of springs, shock absorbers and linkages that connects a vehicle to its wheels. Shock absorber is an important part of automotive suspension system which has an effect on ride characteristics. Shock absorbers are also critical fortire to road contact which to reduce the tendency of a tire to lift off the road. This affects braking, steering, cornering and overall stability. The removal of the shock absorber from suspension can cause the vehicle bounce up and down. It is possible for the vehicle to be driven, but if the suspension drops from the driving over a severe bump, the rear spring can fall out. The main role of a suspension engineer is to tune the suspension in such a way as to maximize the road holding performance of the vehicle. One of the more difficult components in achieving this is the selection of the dampers which was done empirically in the past. This paper outlines the development of the equations of motion for some simple vehicle models and demonstrates how the increasing availability of numerical simulation software's MATLAB could be used to solve these equations to optimize the vehicle before it arrives at the road.

1. Introduction

Suspension systems have been widely applied to vehicles, from the horse-drawn carriage with flexible leaf springs fixed in the four corners, to the modern automobile with complex control algorithms. The suspension of a road vehicle is usually designed with two objectives; to isolate the vehicle body from road irregularities and to maintain contact of the

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Feasibility Study on Utilization of Marine Sand in making Concrete

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Abstract— **This paper describes the reinforced concrete development using dredged marine sand as an aggregate. The use of sea sand to manufacture cement concrete is not permitted by standards. Even more people are wondered and concerned about the quality and strength of cement concrete using sea sand. Sea sand is not actually used in the technology of cement concrete materials. A sea-sand containing concrete was used for the trials. After analyzing the effect of water/cement ratio, water consumption per cubic meter, curing time, and type of sand on the response "resistance to chloride ion penetration", the dredged marine sand is used for concrete development. An analysis of chloride ion diffusion coefficients at different factor levels was performed. A predictive model of chloride ion diffusion in concrete is developed through regression analysis. The experimental results show that when the water/cement ratio varies from 0.42 to 0.54, and the water consumption per cubic meter varies from 180 to 200 kg, and the curing time varies from 28 to 124 days then the size of the effects fall in the order (most significant first): curing time, type of sand, water consumption per cubic meter, and water/cement ratio. Chloride ion penetration is reduced, and better durability of the concrete is observed, with longer curing times, less water consumption per cubic meter, and a smaller water/cement ratio.**

INTRODUCTION

Concrete can be considered as the most cost-effective, versatile building material, and when used with steel reinforcement, virtually all structural elements, even complex shapes can be formed. As conventional concrete is placed in its fluid state, there are often significant costs associated with the necessary shutters and formwork to hold the concrete in position whilst it sets and hardens. Aggregates, i.e. sand and gravel, are among the most basic materials fulfilling human needs. They are used for constructions of almost all types of housing. They are used This work was supported in part by the U.S. Department of Commerce under Grant BS123456 (sponsor and financial support acknowledgment goes here). Paper titles should be written in uppercase and lowercase letters, not all uppercase. Avoid writing long formulas with subscripts in the title; short formulas that identify the elements are fine (e.g., "Nd–Fe–B"). Do not write "(Invited)" in the title. Full names of authors are preferred in the author field, but are not required. Put a space between authors' initials.

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RESIDENTIAL APPLICATION OF PHOTOVOLTAIC INVERTER FOR RENEWABLE ENERGY SYSTEM

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Abstract: A single stage grid-tied photovoltaic (PV) inverter for residential software is presented. In this dissertation utilization of buck-boost converter for control of photovoltaic electricity the usage of maximum power factor tracking (MPPT) mechanism is presented. The MPPT is responsible for retaining the maximum energy from the photovoltaic and fed it to the load through buck-boost converter which step up or step down the voltage to the magnitude required by means of the grid. Here H-bridge inverter is used which is then connected to RL load and grid with LC filter for harmonic reduction and to get sinusoidal waveform required for grid.

Keywords: MATLAB / Simulink, PV, MPPT, buck-boost, h-bridge inverter, grid

1. Introduction

One of the main worries in the electricity region is the dayto-day growing energy demand but the assets are now not ample to meet the power demand the usage of the conventional power sources. Renewable sources like wind electricity and solar strength are the high electricity sources which are being utilized in this regard. The continuous use of fossil fuels has caused the fossil gasoline deposit to be decreased and has appreciably affected the environment depleting the biosphere and cumulatively including to global warming. Solar electricity is abundantly available that has made it possible to harvest it and utilize it properly. Another advantage of the usage of solar power is the portable operation each time anywhere necessary. The development in electricity electronics and fabric science has helped engineers to come up very small however powerful systems to withstand the excessive energy demand. Trend has set in for the use of multi-input converter units that can successfully manage the voltage fluctuations.

But due to excessive production fee and the low effectivity of these structures they can infrequently compete in the competitive markets as a prime power generation source. The consistent increase in the improvement of the photo voltaic cells manufacturing technology would certainly make the use of these applied sciences viable on a wider groundwork than what the state of affairs is presently. The use of the most modern energy control mechanisms referred to as the Maximum Power Point Tracking (MPPT) algorithms has led to the enlarge in the efficiency of operation of the photo voltaic modules and as a consequence is effective in the field of utilization of renewable sources of energy [7].

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Design of Low Power and High Speed Modified Carry Select Adder for 16 bit Vedic Multiplier

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Abstract: **In this paper the high speed and low power 16×16 Vedic Multiplier fundamental block is designed by using low power and high speed modified carry select adder. Modified Carry Select Adder employs a newly incremented circuit in the Carry Select Adder (CSA) which is known to be the fastest adder among the conventional adder structures. Multiplication namely Vedic multiplication has been introduced which is quite different from normal multiplication by shift and addition operations. Normally a multiplier is a key block major power dissipation source. This paper presents a new design methodology and less power efficient Vedic Multiplier based up on ancient Vedic Mathematic techniques. This paper presents a technique for N×N multiplication is implemented and gives very less delay for calculating area efficient Vedic multiplier based on the crosswise and vertical algorithm. Comparisons with existing conventional fast adder architectures have been made to prove its efficiency. The performance analysis shows that the proposed architecture achieves three fold advantages in terms of delay-area-power. The synthesis results of the Vedic multiplier has compared with the booth, array multiplier by different technologies.**

Keywords: **CSA, Multiplier, Vedic multiplier, LP-gate, high delay block.**

I. NTRODUCTION

Multiplication is one of the fundamental block in almost all the arithmetic logic units. This Vedic multiplication is mainly used in the fields of the Digital Signal Processing (DSP) and also in so many applications like Fast Fourier Transform, convolution, applications[2,3,9]. In most of the DSP algorithms multiplier is one of the key component and hence a high speed and area efficient multiplier is needed and multiplication time is also one of the predominant factor for DSP algorithms. The ancient mathematical techniques like Vedic mathematics used to reduce the computational time such that it can increases speed and also requires less hardware. There are sixteen sutras and sixteen sutras (sub formulae) constructed by swahiji. Vedic is a word obtained from the word "Veda" and its meaning is "store house of all knowledge". Vedic mathematics mainly consists of the 16 sutras which it can be related to the different branches of mathematics like algebra, arithmetic geometry.

II. ANCIENT VEDIC MATHEMATICAL ALGORITHMS

The Vedic mathematics mainly reduces the complex typical calculations in to simpler by applying sutras as stated above. These Vedic mathematic techniques are very efficient and take very less hardware to implement. These sutras are mainly used for multiplication of two decimal numbers and we extend these sutras for binary multiplications. Some of the techniques are discussed below.

A. Urdhva -Tiryagbhyam Sutra (Vertically and Crosswise):

Booth multipliers are generally used for multiplication purposes. Booth Encoder, Wallace Tree, Binary Adders and Partial Product Generator are the main components used for Booth multiplier architecture. Booth multiplier is mainly used for 2 applications are to increase the speed by reduction of the partial products and also by the way that the partial products to be added. In this section we propose a Vedic multiplication technique called "Urdhva-Tiryakbhyam – Vertically and crosswise." Which can be used not only for decimal multiplication but also used for binary multiplication? This technique mainly consists of generation of partial products parallel and then we have to perform the addition operation simultaneously[3]. This algorithm can be used for 2x2, 4x4, 8x8....N×N bit multiplications. Since the sums and their partial products are calculated in parallel the Vedic multiplier does not depends upon the processor clock frequency. Hence there is no need of increasing the clock frequency and if the clock frequency increases it will automatically leads to the increase in the power dissipation. Hence by using this Vedic multiplier technique we can reduces the power dissipation. The main advantage of this Vedic multiplier is that it can reduces delay as well as area when compared with the other multipliers.

B. Example for Decimal Multiplication Using Vedic Mathematics:

To illustrate this technique, let us consider two decimal numbers 252 and 846 and the multiplication of two decimal numbers 252×846 is explained by using the line diagram shown in below figure1. First multiply the both numbers present on the two sides of the line and then first digit is stored as the first digit of the result and remaining digit is stored as pre carry for the next coming step and the process goes on and when there is more than one line then calculate the product of end digits of first line and add the result to the product

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Environment Monitoring and Device Control Using Arm Based Embedded Controlled Sensor Network

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Abstract: - Environment monitoring and device control allows new level of comfort in homes and it can also manage the energy consumption efficiently which in turns promotes the saving. Remote controlling of the devices offers many advantages to senior citizens and people with disabilities which helps them in being more autonomous and increasing quality of life. In addition to remote control, monitoring temperature, flood and carbon monoxide in homes is also a major concern. There is a severe need to monitor temperature or gases as they can be costly and deadly. A monitored low temperature sensor warns about freezing temperatures inside house. Also if the boiler, washer or pipes leaks in the home, it can cause considerable damage. Researchers have worked on home automation and environmental monitoring system in the past but in the existing systems cost is high, size is an issue and they are difficult to maintain. The proposed system is cost effective and controlled by user friendly embedded systems.

Keywords:- e-Environment monitoring, ARM based embedded network, Wireless network & RCV.

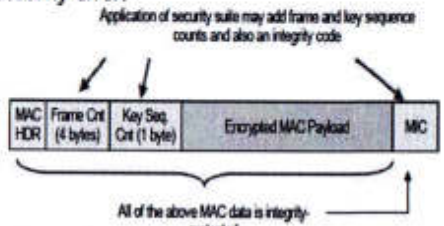
1. INTRODUCTION

When security of MAC layer frames is desired, ZigBee uses MAC layer security to secure MAC command, beacon and acknowledgement frames. ZigBee may secure messages transmitted over a single hop using secured MAC data frames, but for multi-hop messaging ZigBee relies upon upper layers (such as the NWK layer) for security.

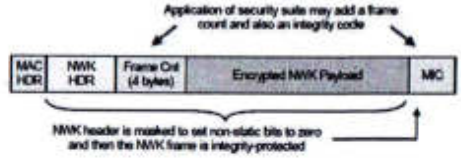
The MAC layer uses the Advanced Encryption Standard (AES) as its core cryptographic algorithm and describes a variety of security suites that use the AES algorithm. These suites can protect the confidentiality, integrity and authenticity of MAC frames. The MAC layer does the security processing, but the upper layers, which set up the keys and determine the security levels to use, control this processing.

When the MAC layer transmits (receives) a frame with security enabled, it looks at the destination (source) of the frame, retrieves the key associated with that destination (source) and then uses this key to process the frame according to the security suite designated for the key being used. Each key is associated with a single security suite and the MAC frame header has a bit that specifies whether security for a frame is enabled or disabled.

When transmitting a frame, if integrity is required, the MAC header and payload data are used in calculations to create a Message Integrity Code (MIC) consisting of 4, 8, or 16 octets. The MIC is right appended to the MAC payload. If confidentiality is required, the MAC frame payload is also left appended with frame and sequence counts (data used to form a nonce). The nonce is used when encrypting the payload and also ensures freshness to prevent replay attacks. Upon receipt of a frame, if a MIC is present, it is verified and if the payload is encrypted, it is decrypted. Sending devices will increase the frame count with every message sent and receiving devices will keep track of the last received count from each sending device. If a message with an old count is detected, it is flagged with a security error.



When the NWK layer transmits (receives) a frame using a particular security suite it uses the Security Services Provider (SSP) to process the frame. The SSP looks at the destination (source) of the frame, retrieves the key associated with that destination (source), and then applies the security suite to the frame. The SSP provides the NWK layer with a primitive to apply security to outgoing frames and a primitive to verify and remove security.



An embedded sensor network is a network of embedded computers placed in the physical world that interacts with the environment. These embedded computers, or sensor nodes, are often physically small, relatively inexpensive computers, each with some set of sensors or actuators. These sensor nodes are deployed in situ, physically placed in the environment near the

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An Electronic Voting System for Haptic Touch Screen Interface

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Abstract: **- Touch panel interface is becoming a popular technology in many fields. It has been used in specific application systems such as ATMs (automated teller machines), museum displays, and ticketing counters in airports and stations for a while. Now it consolidates its position as a general-purpose interface used in notebook PCs, PDAs (personal digital assistants), and cell phones. The user can easily moves, rotates, zooms in and out, and some other 3D operations by directly touching and dragging the model. The touch panel interface eliminates keyboards and mice for interaction in small devices. It also enables a single device to provide a variety of application interfaces by customizing display layouts. Large-scale touch screen devices such as Microsoft Surface tabletop display efficiently support multiuser collaboration environment. In this project, we propose an approach for effectively designing user-friendly haptic applications especially targeted at supporting the weak users such as the elderly users. Then, we exemplify how the tactile feedback function helps the weak users through the design and development of an electronic voting system. The system uses a touch panel haptic display for allowing the weak to easily confirm, select, and vote their supporting candidate without any assisters. The data will be store in the memory cards and also store in the pc.**

Keywords: **Haptic Technology, E- voting, ATMs, Touch Interface, 3D operation & PDAs.**

1. INTRODUCTION

In this project, we propose an approach for effectively designing user-friendly haptic applications especially targeted at supporting the weak users such as the elderly users. Then, we exemplify how the tactile feedback function helps the weak users through the design and development of an electronic voting system. The system uses a touch panel haptic display for allowing the weak to easily confirm, select, and vote their supporting candidate without any assisters. The data will be store in the memory cards and also store in the pc.

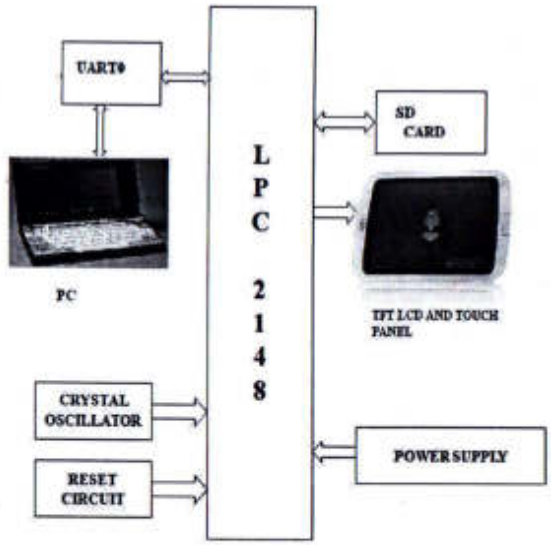

Fig.1. Block Diagram of an Electronic Voting Mashine with Haptic Touch Screen Interface

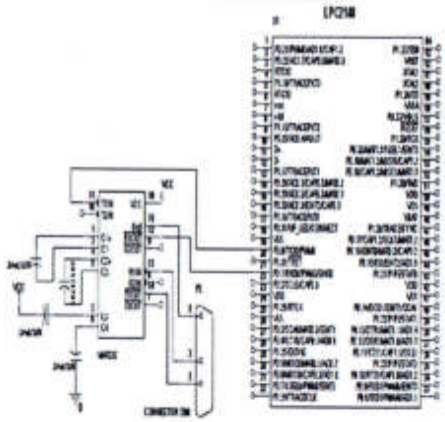

Fig.2. Interfacing max232 with LPC2148

2. DESIGN

Since the LPC2141/42/44/46/48 have significant amounts of on-chip memory, it is not possible to determine how the processor core is operating simply by observing the external

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A Smart Android Based Prepaid Energy Metering System to Control Unauthorized Electricity Usage Design by Using ARM

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Abstract: unauthorized Electricity control is emerged as a serious problem in power sectors especially in the developing countries. A huge amount of revenue is lost due to electricity usage in illegal way. In some countries this is so severe that governments are incurring losses instead of revenue. In some cases government has to provide subsidies to the power sector to maintain a reasonable price of electricity. The financial loss results in shortage of funds for investments to expand the existing power capacity and as a result governments are failing to satisfy the ever increasing demand of electricity. In some cases this problem has become so extreme that the affected power systems are near bankrupt. Power theft is a concerned issue even in the most efficient power systems like in USA and moderately efficient system like in Malaysia. However, in developing and under developed countries the practice of power theft is so common that it is often kept out of discussion. Electricity theft includes tampering meters to show a low meter reading, stealing electricity bypassing a meter, billing irregularities and unpaid bills .Billing irregularities comprise inaccurate meter reading taken by bribed service man and intentional fixing of the bill by office staffs in exchange of illicit payments from the consumer. Different nontechnical and technical methods were proposed in the past to detect electricity pilfering. Nontechnical methods may include inspection of the customers with suspicious load profile. Although periodic inspection can substantially reduce theft, such measure requires large manpower and huge labor. Such effort also fails in most cases due to the dishonesty of the staffs. Some of the technical ways to detect pilferage are use of central observer meter at secondary terminals of distribution transformer, harmonic generator, genetic support vector machines, extreme learning machine, power line impedance technique. However, these technical approaches can be effectively implemented only if proper communication is ensured between the central control station and the appropriate test points. Recently, prepaid energy meters based on GSM network has been proposed . These meters incorporate the facility of prepaid metering system and remote load control.

This prepaid metering system can be further matured to address the problem of electricity theft. In this paper, we have proposed a GSM based prepaid energy metering system which deals with different aspects of electricity theft. The proposed system prevents irregularities of billing, reluctance of consumers to pay bills in time, meter tampering and bypassing.

Keywords: Android OS, ARM, Smart energy meters, GSM network.

PROPOSED PREPAID METERING SYSTEM

In the proposed system the power utility maintains a server and each consumer is provided an energy meter. The server and prepaid meters use GSM modem and GSM module respectively to communicate with each other using the GSM network. Fig. 1 shows an overview of the proposed prepaid metering system. The energy meter consists of a microcontroller (ATmega 32), energy measuring chip (ADE7751), GSM module (Simens A62 mobile phone in our work), MAX 232, current transformers, potential transformers, LCD display and a relay.

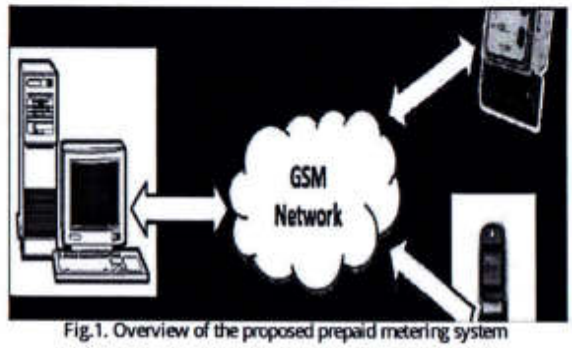

Fig.1. Overview of the proposed prepaid metering system

The energy metering chip produces pulses proportional to the energy consumed using the outputs of current and potential transformers. The microcontroller calculates the energy consumption by counting the output pulses of the energy metering chip on an interrupt basis. The microcontroller uses AT command set to communicate with the GSM module (mobile phone). A battery backup is also available in the energy meter.

The backup is required to detect electricity theft. demonstrates the prototype of the energy meter. The C programming language and the MATLAB software have been used to program the microcontroller and to implement the server, respectively. The recharging process in the proposed metering system is similar to that of recharging balance in a mobile phone.

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Intelligent Vehicle Monitoring System using Wireless Communication

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Abstract: - **In this paper the use of mobile phones while driving is one of the most dangerous and widely seen causes of fatal road accidents. The objective of the paper is to develop a device to find people who use mobile phones while driving and evade from stringent laws enforced by the government easily. This novel and ingenious technique facilitates the government to take adequate action against those who are violating these laws. To meet the requirements of an intelligent vehicle monitoring system, this architecture integrates Global Position System (GPS), Global System for Mobile communications (GSM) and a Microcontroller in the whole. This device is used to prevent texting and calling of mobile phones while driving vehicles. If the driver is using the phone while the vehicle is in motion, it triggers a signal which notifies the cops with the vehicle's number plate and the location with the help of GPS system. It receives the mobile signal and detects the presence of mobile. This signal eventually triggers the microcontroller with a glowing LED. Due to the voltage fluctuation, the message is sent to the cops using GSM communication.**

Keywords: **Call detection; Wireless/Mobile Communication; Mobile bug; Speed sensors; Vehicle Monitoring; GSM Modem; GPS based vehicle tracking system; Call Notification.**

1. INTRODUCTION

An Accident is a disaster which is specific, identifiable, unexpected, unusual and unintended external event which occurs in a particular
time and place, without apparent or deliberate cause but with marked effects. It implies generally negative probabilistic outcome which may have been avoided or prevented had circumstances leading up to the accident been recognized, and acted upon, prior to its occurrence. The first one hour is the golden hour and that can make all the difference.

The aim is to reach out quickly to the law breakers, upping the chances of their survival from an accident. Serious injuries can result in disability, fatalities and life-long psychological, emotional and economic damage to loved ones. The working of our project is divided into following sections:
GSM Communication is GSM Modem receives trigger pulse from Mobile Bug Module. It transmits messages to police control room for call detecting. It is controlled by microcontroller by interfacing with RS-232.

Speed Sensors keeps track of the speed of the vehicle and activates the GSM Modem when the speed of the vehicle goes beyond 40km/hr. The GSM Modem is programmed such that it transmits message only when the speed limit exceeds 40km/hr.
If the person, who drives the car, receives a call or a message while driving, then LED glows and their unique ID will be sent to cops using the GSM Modem and at the cops control center they will be having a GSM receiver, the output of which is given to another LED.
GPS Tracking is Module calculates the geographical position of the vehicle. This helps in detecting the location/position, velocity of our system. The module output data like global positioning system fixed data, geographic position-latitude are passed to GSM Modem.

In this modern, fast moving and insecure world, it is become a basic necessity to be aware of one's safety. Maximum risks occur in situations where in an employee travels for money transactions. Also the Company to which he belongs should be aware if there is some problem. What if the person traveling can be tracked and also secured in the case of an emergency?! Here's a system that functions as a tracking and a security system. It's the intelligent vehicle control for critical remote location application. This system can deal with both pace and security. The Vehicle Monitoring and Security System is a GPS based vehicle tracking system that is used for security applications as well. The project uses two main underlying concepts. These are GPS (Global Positioning System) and GSM (Global System for Mobile Communication). The main application of this system in this context is tracking the vehicle to which the GPS is connected, giving the information about its position whenever required. This is done with the help of the GPS satellite and the GPS module attached to the vehicle which needs to be tracked.

Thus we have at the Base station; the complete data about the vehicle. For real time monitoring an automatic monitoring system can be established with GSM, in this vehicle automatically identify and upload critical data about the vehicle and operating conditions. The monitoring device can send modified control parameters and guidelines to the vehicle driver. These parameters are temperature, alcohol detection, gas leakage detection, stirring grip checking, etc.

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Implementation of Wireless Sensor Networks for Long Range

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Abstract: **the wireless sensor implementation is mainly on low power applications. It is a short range communication over the protocols. To improve the range of wireless networks by using sensor technology. Here, adeptave technology is require to achive the long range Wireless networks form the backbone of the ICT infrastructure supporting a smart sustainable city. This chapter looks at the infrastructure elements of a wireless network.**

Keywords: **long range comm., wireless sensor network, multi level comm.,**

1. INTRODUCTION

Infrastructure overview: Wireless networks utilise various wireless technologies to connect ICT devices to a common platform or core network. In many cases the ICT devices through a core network are connected to the internet enabling true global access and interconnection.

Mobile network base stations and antennas: Mobile networks rely on a network of base stations that send and receive data from the ICT devices. Base stations need to be located close to users to maximise efficiency providing a good quality connection, low RF EMF. Each base station consists of an equipment cabinet with transmitters and receivers that are connected to external antennas mounted on a supporting structure.

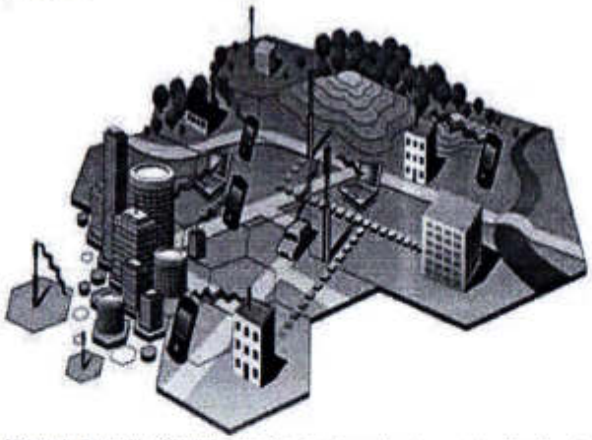
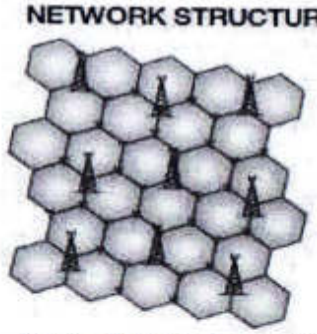


Figure.1. Example wireless network structure and antenna sites distributed across a city



Macro, micro, femto-cell, in-building base stations. Wireless base stations consist of various types depending primarily on the required coverage and service area.

Macro Base Station - A Macro base station utilises antennas mounted on a tower, pole or building rooftop and typically covers a larger geographic area.

Micro Base Station – A micro base station utilises small antennas mounted on a structure close to the ground. Micro base stations typically cover a small geographic area.

In Building Base Station – ICT systems can be connected inside buildings such as multi-storey office buildings, shopping centres, apartments, and underground railway systems by installing specially designed "In-Building" systems. These systems are sometimes referred to as Distributed Antenna Systems (DAS) or In-Building Coverage (IBC) and operate in a similar way to external base stations but at much lower power levels.

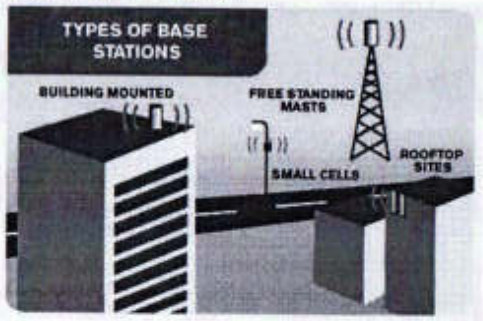


Figure 1 Micro base station on street light and macro base station on building and tower

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Development of a Cell Phone Based Vehicle Remote Control System

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Abstract: **- A remote control vehicle is typically defined as any mobile device that is controlled by a means that does not restrict its motion with an origin external to the device. This is often a radio control device, cable between control and vehicle, or an infrared controller. A remote control vehicle (RCV) differs from a robot in that the RCV is always controlled by a human and takes no positive action autonomously. One of the key technologies which underpin this field is that of remote vehicle control. It is vital that a vehicle should be capable of proceeding accurately to a target area; maneuvering within that area to fulfill its mission and returning equally accurately and safely to base. The first general use of radio control systems in models started in the late 1940s with single channel self-built equipment; commercial equipment came soon thereafter. Initially remote control systems used escapement, (often rubber driven) mechanical actuation in the model. Commercial sets often used ground standing transmitters, long whip antennas with separate ground poles and single vacuum tube receiver. The first kits had dual tubes for more selectivity. Such early systems were invariably super regenerative circuits, which meant that two controllers used in close proximity would interfere with one another.**

Keywords: **- RCV, cell phone IP, cell phone OS, WCN, Whip antenna and Dual selective antennas.**

1. INTRODUCTION

In a DTMF signal generation, a DTMF keypad could be used for digit entry and the resultant DTMF tones are generated mathematically and added together. The values are logarithmically compressed and passed to the receiver. In a DTMF scheme, pairs of tones are used to signal the digits 0 through 9, pound (#), star (*) and the digits A, B, C and D. For each pair, one of the tones is selected from a low group of four frequencies, and the other from a high group of four frequencies. The correct detection of a digit requires both
A valid tone pair and a correct tone interval.

The matrix of frequencies used to encode the 16 DTMF symbols is shown in the following figure. Each symbol is represented by the sum of the two frequencies that intersect the digit. The row frequencies are in a low band, below 1 kHz and the column frequencies are in a high band, between 1 kHz and 2 kHz. The digits are displayed as they would appear on a telephone's 4x4 matrix keypad (on standard telephone sets, the fourth column is omitted). The user should note that there are a number of different algorithms possible for generation and detection of DTMF tones

2. PROPOSED SYSTEM

In this project the vehicle is attached with a mobile phone under GSM communication network which is controlled by a user mobile phone. With the help of user mobile phone we can move the vehicle in desired direction as per our requirement. This project is constructed from a very compact dual tone multi-frequency (DTMF) based decoder, and the GSM network controlled vehicle organizes the switching from the decoded and power switching device for controlling the motor drive of the vehicle using two cell phones.

We know RC (Remote Controlled) cars or vehicle do not have a high range of wireless network. This means that the operator has to be in touching distance to the receiver of the vehicle. Thus it is clear that a remote controlled vehicle cannot be applied for an array of duty due to its lacking of controlling range. This is where GSM controlled vehicle steps in. Using two GSM able phones we can create a controlling mechanism for the vehicle. Here we do not have to worry about the range for operation, if sensors such as IR sensors and camera or 3G enabled mobile phones are used, as most of the world is under the assortment of GSM network. By using this prospect we can take this vehicle and turn it for human benefits. These vehicles can be used as firefighting robots, battle vehicles or applied in vast places where it's not possible or dangerous for any human being to go.

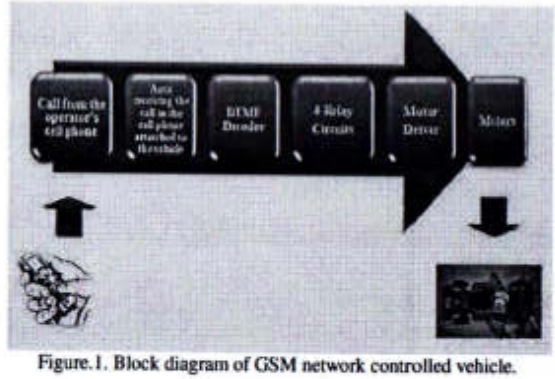

Figure.1. Block diagram of GSM network controlled vehicle.

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Position Matching Based Autonomous Speed Regulation System for Vehicles

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Abstract: **A novel approach for creating an advisory/regulatory environment to limit the maximum running speed of the vehicle is presented. This paper deals with creating an onboard speed regulation module for vehicles which can monitor as well as control their instantaneous speed in comparison with the maximum permissible speed of that location. The location is obtained using position tracking technology of GPS system. The work discusses the unique position matching algorithm developed and design details of the proposed on- board module for limiting vehicle's speed. The algorithm continuously compares the actual speed of the vehicle with its corresponding location based limits obtained through the developed database and thus provides: a) an advisory signal to the driver about the need for a reduction in speed. b) An automatic restriction of the speed below the prescribed limits. The algorithm matches the position with the geographical zone already defined in the database and compares the actual speed with the limit of the corresponding zone on an intermittent basis, depending on the execution time of the processing cycle. The algorithm developed tracks the vehicle position using data acquired from GPS receivers which lead to increased efficiency, reduced complexity and processing time in contrast to the conventional methods.**

Keywords: **Speed Regulation System, Position matching, Vehicle Automation, GPS Tracking.**

1. INTRODUCTION

An embedded system can be defined as a computing device that does a specific focused job. Appliances such as the air-conditioner, VCD player, DVD player, printer, fax machine, mobile phone etc. are examples of embedded systems. Each of these appliances will have a processor and special hardware to meet the specific requirement of the application along with the embedded software that is executed by the processor for meeting that specific requirement. The embedded software is also called —firm ware□. The desktop/laptop computer is a general purpose computer. You can use it for a variety of applications such as playing games, *word* processing, accounting, software development and so on. In contrast, the software in the embedded systems is always fixed listed below:

Embedded systems do a very specific task; they cannot be programmed to do different things. Embedded systems have very limited resources, particularly the memory. Generally, they do not have secondary storage devices such as the CDROM or the floppy disk. Embedded systems have to work against some deadlines. A specific job has to be completed within a specific time. In some embedded systems, called real-time systems, the deadlines are stringent. Missing a deadline may cause a catastrophe-loss of life or damage to property. Embedded systems are constrained for power. As many embedded systems operate through a battery, the power consumption has to be very low.
Some embedded systems have to operate in extreme environmental conditions such as very high temperatures and humidity.

2. EXISTING SYSTEM

India holds the distinction of registering the highest number of road accidents in the world. Of all the causes, exceeding the posted limit or driving too fast is one of the most prevalent factors contributing to traffic crashes therefore actions are required to properly monitor and regulate the vehicle speeds. We introducing new technique in this application and cost are less to prevent using this.

3. PROPOSED SYSTEM

In this project, we are discussing position matching based autonomous speed regulation system for vehicle, we using ARM processor, GPS Modem, LCD, relay to operate device. In this vehicle section we get a GPS value from satellite continuously and display in LCD Modules if vehicle meet the Pedestrian zone having a fixed GPS modem and transmit the value to the vehicle help of zigbee wireless and we compared and check its same zone means microcontroller automatically reduce the speed of vehicle and if the vehicle has passed Pedestrian zone means that should be increase previous speed limit Because of we are avoiding the accident in zonal limits

The proposed system uses both GPS and GSM for retrieving the position of a moving vehicle without involving any additional infrastructural requirements except the receiver module:
i) GPS (Global Positioning System): It is the only fully functional Global Navigation Satellite System that uses a constellation of at least 24 Medium Earth Orbit satellites that transmit precise microwave signals, which enable GPS

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Wavelete Based Texture Feature For Content Based Image Retrieval

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Abstract:- **Worldwide networking permits our self to speak, share, and learn data within the international manner. Digital library and transmission databases square measure apace increasing; thus economical search algorithms ought to be developed. Retrieval of image knowledge has historically been supported human insertion of some text describing the scene, which may then be used for looking out by mistreatment keywords based mostly looking out strategies. this can be terribly time intense and tough for describing each color, texture, shape, and object among the image. we all know that a picture speaks thousands of words . thus rather than manually annotated by text-based keywords, pictures would be indexed by their own visual contents, like color, texture and form. So researchers turned attention to content based retrieval methods.**

I. INTRODUCTION

An image retrieval system could be a computing system for browsing, looking and retrieving pictures in a picture info. Text-based and content-based ar the 2 techniques adopted for search and retrieval in image info.

In text-based retrieval, pictures ar indexed victimization keywords, subject headings or classification codes, that successively ar used as retrieval keys throughout search and retrieval.Text-based retrieval is non-standardized as a result of completely differentlcompletely different} users use different keywords for annotation. Text descriptions ar generally subjective and incomplete as a result of it cannot depict difficult image options o.k.. Examples ar texture pictures that can't be represented by text.

In text retrieval, humans ar needed to in person describe each image within the info, therefore for an oversized image info the technique is cumbersome, high-priced and labor-intensive.

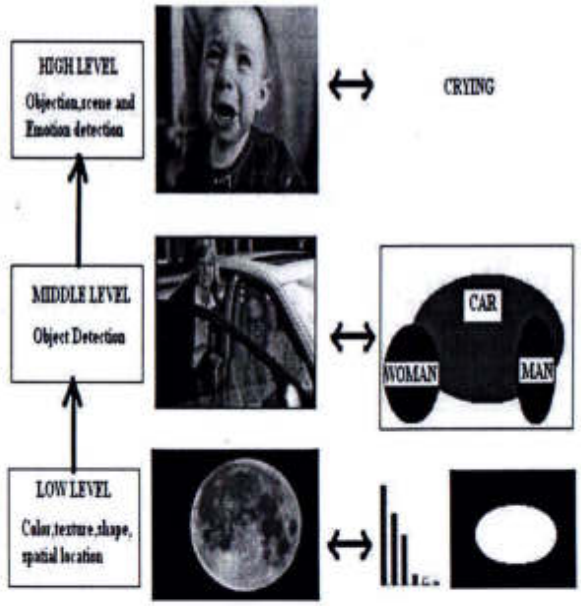

Figure.1: Examples of Image Content Levels

Content-based image retrieval (CBIR) technique use image content to go looking and retrieve digital pictures . Content-based image retrieval system was introduced to deal with the issues related to text-based image retrieval.Various blessings of content-based image retrieval over text-based retrieval.

II. THEME

Input as question image is given to system. The info pictures is hold on in info.These question and info pictures decompose mistreatment m-channel filter.

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Development on Gas Leak Detection & Location System Based On Wireless Sensor Network

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Abstract: - **This paper is Develops a gas leak detection and location system for the production safety in Petrochemical Industry. The system is based on Wireless Sensor Networks (WSN). It can collect the data of monitoring sites wirelessly and sent to the computer to update values in the location software. It can give a real-time detective of the potential risk area, collect the data of a leak accident and locate the leakage point. However the former systems can not react in time, even cannot obtain data from an accident and locate accurately. The paper has three parts, first, gives the overall system design, and then provides the approaches on both hardware and software to achieve it. A new gas leak detection and location system was developed; it compromises sensitive sensors and ZIGBEE, WSN which is smart, low-cost, low-power and Low - maintenance. In two modes, this system can monitor the gas leakage sensitively, get the data from a scene of the accident and locate the leakage point. Based on WSN, the system is easy to be deployed and overcomes the shortcomings on current systems. It is used to improve the rescue quality and shorten the time for rescue. Therefore it can compensate for the weaknesses of current systems. The data received from the sensor device is simultaneously stored in a system for a future reference in the levels of contamination. The information in the system is stored via a .Net application enabling the user to access the data whenever required. With the help of this data, proper precautions can be taken to minimize the pollution levels in the air to make human life sustainable.**

Keywords: **wireless sensor, gas detection, ZIGBEE, .Net**

1. INTRODUCTION

This paper is microcontroller based project. A Gas sensor is used to detect dangerous gas leaks in the kitchen, industries or near the gas heater. Whenever there is a gas leakage in the surrounding areas of this node this will be detected by the sensor. The main aim of the project is to develop a gas leak detection and location system for the production safety in Petrochemical Industry when they exceeds threshold, intimation is given to the nearby control section including readings of parameter and location of the gas leakage . Security management of several home and office appliances is a subject of growing interest and in recent years we have seen many systems providing such security. These days apart from security from robbery there must be security from flammable gases Present in the surrounding to protect houses, offices, vehicles, industries etc. From various harmful gases. There is a need to have security from this gases. Mobile phone is also playing role in its parallel world with telephones. When there is Gas leakage the telephone and mobile phone both will play great role in the detector to contact and warn the authorized person about flammable gas leakage. Both Mobile Phone and Telephone are required to perform the project.

2. EXISTING SYSTEM

The existing system only detects the fire and gas leakage in certain important areas only. In existing system, the fire and gas leaks are measured and the communication is through wires to the control station. In case of faults like discontinuity in cables, lead to loosing of vital information related to plant safety. Increase in the complexity of process industry leads to increase in the number of instruments to detect fire and leakage. This increases the number of cables that run from industrial sensors to the control station which leads to messy wiring. This also increases the size of the duct. Troubleshooting the reduced insulation or any wire open is difficult because it is a messy wiring and identifying the individual cable is very difficult along the duct. This also increases the cable cost.

To overcome these difficulties we implemented a portable device. This device can be fixed in their helmet or jacket. To measure various parameters this device consists of sensors. They are Gas sensor, Temperature sensor, Heart beat sensor, Pressure sensor. These sensors in the portables device sense various parameters (gas, temperature, pressure) continuously. And if the value exceeds the reference value, immediately it activates the relay driver and produces an alarming sound. So it will be useful for the person to know about hazardous situation. Heart beat sensor, senses the workers heart beat continuously. If the person loses his/her consciousness then this information is sensed by the sensor and it will be passed to the control room. All the communications are done by wireless Zigbee protocols, so that the information will be transmitted without any obstructions. The main advantage of Zigbee is that it is a multimode communication, so that the data is transmitted node by node. A GPS is used in our system to track the location of the person during hazardous conditions, so that he can be rescued immediately.

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Intelligent Railway Signaling System Based on Zigbee and Sensor Networks

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Abstract: **The proposed intelligent rail signaling signal is design based on ZigBee-based wireless sensors enable more efficient Railway signaling system. it is still one of the core parts in railway network in the aspect of ensuring train operation However, traditional railway signaling can not meet the requirements of modern train operation any more, Control and management are integrated in IRSS, based on necessary information system that is related to modern telecommunication system including mobile data communication,**

***Index Terms*—Automation, control system, Rail way signal system, sensors, wireless networks, ZigBee.**

1. INTRODUCTION

The global economic crisis that began in 2008 had an adverse impact on Egypt during FY09, as it reversed the favorable international environment which supported Egypt's growth in the last three years. Due to the crisis, real GDP growth was reduced to 4.7% in FY09 and unemployment increased to 9.4% from 8.4% a year earlier. However, this performance was better than expected as the slowdown was significantly less than in the developed economies or in other emerging markets with the exception of China. The Government of Egypt (GOE) implemented a crisis response plan featuring fiscal, monetary and direct support measures. Fiscal stimulus came in the form of additional spending of EGP15 billion (US$2.7 billion and 1.5% of GDP), including higher subsidies and social benefits (up by 2.1 points to 12.4% of GDP). There are signs that the worst is over as results for the first quarter of FY10 so far confirm the early beginning of a recovery with GDP growth at 4.9 percent.

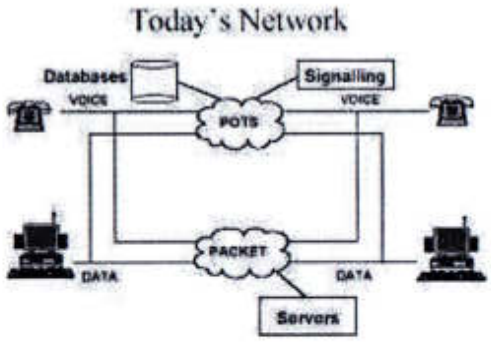

Fig.1. Today's Network

The crisis is an incentive for the Government of Egypt (GOE) to press ahead with economic reform. The broad mandate of the present Government is to improve living standards, promote investment, reduce unemployment, contain inflation, and improve the performance of administrative entities. To support its stated objectives and strengthen the business climate, the Government intends to develop well integrated and cost-effective transport systems through greater private sector involvement in the management and delivery of transport facilities and services.

Implementation

The implementation arrangements for the additional financing will be similar to those of ENRRP. ENR will serve as the implementing agency for both the ENRRP and the proposed additional financing, under the oversight of a Steering Committee comprising representatives of the Ministries of Transport, Finance, and International Cooperation. A Project Management Unit (PMU) was established within ENR to coordinate and implement ENRRP activities and to liaise with the Bank will. Chief among the PMU's tasks and responsibilities are:

- Ensuring the project is implemented within budget, on schedule, and according to technical specifications agreed upon at appraisal;
- Coordinating and supporting all procurement of works, goods and services, and ensuring all contracts financed by the loan are procured in accordance with Bank procurement guidelines;
- Establishing and maintaining an appropriate project financial management system and managing the project Special Account;
- Ensuring effective implementation of the environmental management plan; and
- Monitoring and evaluating project progress and reporting on project implementation and performance.

2. AUTOMATIC SIGNALING SYSTEM

Automatic Block Working is a system of train working in which movement of the trains is controlled by the automatic stop signals. These signals are operated automatically by the passage of trains ?into?, ?through? and ?out? of the automatic signalling sections. Following are the essentials of Automatic Block System.

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Robot Navigation System with RFID and Sensors

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Abstract: **- The paper proposed a method enable robot to navigate in indoor space is indicated. The system use RFID tags as landmarks to locate the robot. A topological map corresponding to the real environment is used for robot navigation. The robot goes along the ways, and turn to the right direction at each intersection of the hallways. The robot navigation system can be used in real life and does efficient work. An automatic robot inside the building can complete many tasks efficiently. We proposed a robot system which makes the robot able to navigate around the building. The core part of the system is the RFID system and the ultrasonic sensors, which enable the robot to locate itself and move without mistakes. We also use a topological map of the building plan, which makes the robot find out a proper route quickly. This approach is a practical and feasible way to create a robot with navigation function. The robot consists of the mechanical part, a computer, a RFID reader and an antenna, and ultrasonic sensors. The mechanical part is a platform with wheels and motors which is controlled by the microcontroller. The RFID integrator is connected to the micro controller via UART serial port. The ultrasonic sensors are attached to the sides of the robot and used to measure the distance to walls. Since the area where tags can be detected at intersections is quite large, the robot has to use ultrasonic sensors to determine when to turn without collision to the wall. And the sensors will keep robot out of collision when the hallway is not straight. The data from the RFID integrator and ultrasonic sensors via serial ports and sending orders to the microcontroller to impact on the movement of the robot.**

Keywords- **Robot Navigation System, RFID, Ultrasonic sensor.**

1. INTRODUCTION

Navigation services which usually depend on GNSS are limited to be used in open areas with satellite signals. If the users or robots are about to move in buildings, another approach must be used to navigate accurately. In our approach Radio Frequency Identification (RFID) is used to determine the location indoors.

In RFID positioning there are two common approaches to estimate the location. One method is based on signal strength. We take received signal strength indication(RSSI) which present the power of received signal as the measurement. Then the position is computed with certain methods based on the measurements. Several methods have been studied, such as RFID location fingerprinting, cell-based positioning, and the way using ranges to the tags calculated with RSSI. Infrared sensors are characterized by high sensitivity, low cost and are widely used. But, these sensors can generate false alarm signals if heating systems are active or temperature change speed exceeds some threshold level. Moreover, infrared sensors appreciably lose sensitivity if small insects penetrate the sensor lens. Ultrasound motion detection sensors are characterized by small power consumption, suitable cost and high sensitivity. That it why this kind of sensor is commonly used in home, office and car security systems. Existing ultrasound sensors consist of multiple passive and active components and are relatively complicated for production and testing. Sensors often times require a laborious tuning process.

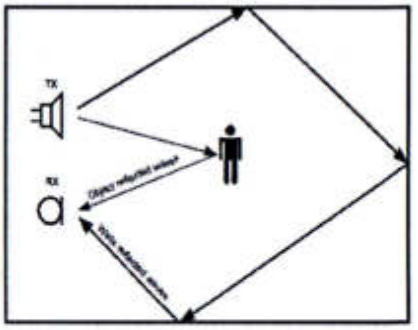

Fig.1. Basic Sensor Operation Principle

The ultrasound transmitter TX is emitting ultrasound waves into sensor ambient space continuously. These waves are reflecting from various objects and are reaching ultrasound receiver RX. There is a constant interference figure if no moving objects are in the placement.

Any moving object changes the level and phase of the reflected signal, which modifies the summed received signal level. Most low cost sensors (car security systems, for instance) perform reflected signal amplitude analysis to detect moving objects. In spite of implementation simplicity, this detection method is characterized by a high sensitivity to noise signals. For example, heterogeneous airflows, sensor vibrations, room window and door deformations, and gusts can change the interference figure and generate false alarm signals.

Better noise resistance may be obtained if the receive sensor is performing reflected signal frequency analysis instead of amplitude examination. The reflected signal spectrum emulates a Doppler Effect. Frequency components of the moving object speed vector have a component in the direction of ultrasound radiation propagation. Because ultrasound waves reflect from the windows, walls, furniture etc., the sensor can

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An Application to Wireless Standards for Remote Monitoring For Electric Drive Systems Using Zigbee Standards

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Abstract—This paper discusses an implementation of wireless standards for remote monitoring of electric drives. An appropriate wireless system has been developed and described. It uses ZigBee standard for remote data transmission combined with Internet connectivity for assessment of the Global network-collected information. The designed measuring devices and the respective sensors are also presented. Algorithms have been developed allowing evaluation of additional parameters using data from the measurements held. Detailed experimental studies confirm the good performance of this monitoring system. The research carried out as well as the results obtained can be used in design and set up of such types of wireless monitoring systems. Keywords—Intelligent sensors, End-device, Coordinator device, ZigBee network, Measurement system, Remote monitoring

I. INTRODUCTION

With the modern development of wireless technologies and devices, wireless sensor networks become very popular for a variety of practical applications [1]-[3]. Wireless devices using standards like ZigBee are widely used in measurement equipments because of their capabilities to provide very low energy consumption, easy maintenance, data encryption, diverse network topologies, etc. Another benefit of the ZigBee networks is that they allow monitoring parameters of different devices. They are also characterized by much faster installation in comparison with the wired systems, which can take days or weeks to install. ZigBee networks require only the end points to be installed saving users much time. Wireless sensing and control are especially useful in cases where the monitored objects are situated in remote and hardly accessible places. Effective applications of wireless sensor networks are described in [4], [5]. Nowadays, such wireless systems are often applied for monitoring and control in many areas: manufacturing processes, robotics, building automation, etc. Some implementations of wireless control in industry for robots and manipulation systems are descried in [6], [7]. An industrial real-time measurement and monitoring system based on ZigBee standard is presented in [8]. An increased interest in this standard for building automation has been registered recently [9]. Remote wireless systems are also suitable for monitoring of various environmental parameters such as: air pollution, humidity, temperature, pressure, etc. [11]. Especially, for monitoring of electric drive systems, measurement of parameters such as voltage, current, torque, speed, position, distance, temperature, energy consumption, battery charge and vibrations may be required. Some applications of appropriate devices for wireless data transfer are described in [12]-[14]. This paper presents the design of a modular

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IoT Based Toxic Gases Monitoring System in Underground Sewages Using Wristband

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ABSTRACT

Most of the cities adopted the underground drainage system and its the duty of Municipal Corporation to maintain cleanliness, healthy and safety of cities. If the drainage system is not properly managed then pure water gets contaminate with drainage water and infectious diseases may get spread. Drainage cleaning people are not aware of risk of sudden attack of poisonous gas since the gases are odorless if exposed for long time which may cause serious health problems. Due to the lack of using proper gas leakage detection system, a number of dangerous accidents occurred during the last few decades. To overcome all these problems effective monitoring system is needed in the drainage channels. The detected system is proposed with three gas sensors like Carbon Monoxide, Hydrogen sulphide sensors and Methane, one Ultrasonic sensor used for detect obstacle, one Heat Beat sensor used to Calculate the pulse rate of Human. Carbon Monoxide, Hydrogen sulphide, Methane gases are highly toxic to human hence the proposed system will gives alert through the LCD Display after reaching the thershold level of each gas sensors then people gets alerts through the LED glow. Heart Beat sensor will calculate the range of the Pulse rate then output at the abnormal range will give alert through Buzzer and notification message through an GSM . Ultrasonic sensor gives alert through LED glow when obstacles occured. These sensors will be placed at the wristband and performance of varies sensors operations are monitored and stored by using application, for avoiding the future dangerous accidents.

Keywords: Carbon Monoxide Sensor; Hydrogen Sulphide Sensor; Methane Gas Sensor; Ultrasonic Sensor; Wristband; Heart Beat Sensor; LCD; LED; Drainage Channel; Thershold Limit

I. INTRODUCTION

Sewer system is an underground system of pipes commonly used to transport wastewater from homes and businesses either to a treatment facility, where the water is treated and released into natural water bodies like lakes and streams or in any river to permanently drain out from the area. Sewer manhole is one of the most important parts of the sewer system. Sewer manhole is a structure through which a person can gain access to the underground wastewater collection system. Manholes are not designed for someone to work in regularly, but workers may need to enter inside the manhole to complete their jobs such as cleaning, repair, inspection etc.

The lack of prior caring of sewage work is the witness for the deaths of thousands of sewage cleaners throughout the year from accidents and various

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Analysis Of Power Leakage Controlling In 7t Sram Cell Using Self-Controlling Technique For High Security Data Transformation

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Abstract

In Today's Digital Era, Any Integrated Device's Memory Is An Unavoidable Component. It Also Significantly Increases The Overall Circuit Capacity. Nanotechnology Is Attracting Chip Manufacturers' Attention As The Market For Handheld Devices Grows. Portable Devices With Static Random Access Memory, On The Other Hand, Experience A Power Drain. Leakage Capacity Becomes More Important Than Complex Power Usage As Technology Advances. As A Result, In Our Proposed Sram Memory, We Used The Power Gating Strategy To Reduce Power Consumption, Which Is A Requirement Of The Day. To Reduce Leakage Capacity, We've Added A New Function. Because Of The Leakage Current In Both Pmos And Nmos With Similar Part Sizes. The Move Semiconductors Of Sram Cells Are Replaced With Pmos Rather Than Nmos To Further Reduce Leakage Power Consumption.

Keywords: *Power Analysis, Sram Design, 6t Sram, 7t Sram, Power Dissipation.*

Introduction

Sram, A Key Component Of The Chip, Is Anticipated To Be Widely Used In High-Performance Servers And Portable Computers. Low-Power Sram Is Crucial For Mobile Devices To Achieve Higher Performance And Longer Battery Life [1]. Data Lines, Bit Lines, And Peripherals Consume The Majority Of The Power In The Sram. These Goods' Successful Energy Usage [2] [3]. During The Write Phase Of The Total Dynamic Power Usage, Bit Lines Dissipate Almost Half Of The Power [4]. The Primary Goal Of Low-Power Sram Application Techniques Is To Reduce Energy Usage. Data Lines, Bit Lines, And Word Lines Are The Memory's Largest Capacitive Elements. The Usage Of Machines To Store Sensitive And Secret Information Has Increased In Many Applications [5]. Side Channel Attacks (Scas) That Extort Critical Intelligence Are A Significant Threat To These Systems [6]. Power Checking Is A Kind Of Side Channel Assault That Takes Advantage Of Knowledge That Leaks During Device Power Dissipation [6]. The Relationship Between Device Power Usage And Stored Data Is Used In The Energy Analysis. Since Pa Technology's Ability To Retrieve Useful Knowledge Utilising Device Power Dynamic Properties Has Been A Serious Challenge To The Security Of Cryptographic Systems[7], Multiple Papers Have Demonstrated The Efficacy Of Leakage Power Analysis On Structures-Based And More Deeply Scaled Technologies[8]. The Importance Of Power Analysis Attacks On Logic Circuits, As Well As The Development Of Secure Logic, The Design Of Safe Memory Architectures, And The Study Of Power Attacks On Embedded Memories[9][10]. Embedded Storages Are Mostly Implemented With A 6-Transistor (6t) Sram Array That Takes Up The Space And Power Of Several Vlsi System-On-Chips. The 6t Sram Array Is A Key Component In A Number Of Cryptographic Schemes, Including Smart Cards And Network Computers That Use Cryptographic Algorithms [11]. These Programmers Use Sram Arrays To Store Instruction Code And Records. The Research And Creation Of Safe Interactions Must Therefore Be Done With The Utmost Amount Of Care.

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Smart Embedded System to Building Strong Physical Embedded Barrier for Security Related Issues of IoT

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***Abstract*—The IoT is very familiar technology. It has created a huge revolution in Internet era. The common people are also getting the benefits of IoT. We can't imagine our world without internet. IoT created a huge income in e-commerce and enterprise which is a part of the internet. But, security is the major issue of IoT. This paper deals with security related issues. In general the IoT is having its own security to protect from burglars. The embedded devices which are connected over internet are also facing the security threats because of limited resources to these devices. These devices are incurable when security issues are aroused. Some sophisticated devices are having secure algorithms to prevent certain level of issues. But in low end embedded devices no such prevention algorithms are build. Now this paper will assist us to control the authorized activities and take them into custody. Here low end embedded devices plays a vital role in protection. These devices respond with high speeds and initiate alerts to nodal centers (hubs), Security of the device can be achieved by operating them at a speed of the processor. But, no I/O device is capable to match the speed of the processor; other way is a high efficient algorithm and smart embedded devices that can help to build a strong Embedded Physical barrier for Security of IoT.**

***Index Terms*—Internet of Things (IoT), embedded device security, Embedded Network management, security lavel implementation, abstraction security with embedded devices & Low end embedded device response.**

I. Literature Survey

Wireless and mobile communication have come into existence long back, but now-a-days there usage is increasing rapidly at high pace. As of now, some of the trending technologies such as WIMAX, 4G Networks, ZigBee and Wireless Mesh Networks are ruling the present day computing. According to Mark Weiser famous article (1991) "Computer of the 21st century" it can be elaborated as "the most exceptional technologies are those that disappear; they weave themselves into the fabric of everyday life until they are indistinguishable from it," has become a reality now. Dix et al. describes present computing as: "Any computing activity that permits human interaction away from a single workstation". From then onwards, there have been a lot of advancements in mobile and wireless technologies towards present and continues computing environment, subsequently these new technologies have been spreading through our lives [4]. Day-to-day embedded computing is widely increasing from cars to Smartphone's and refrigerators to multi media player but security for this mode of communication had been a major concern. Security for these kind of systems are having long-term difficult problems the method of resolving it had been a open challenge rather than desktop and enterprise computing. Security as per today is not a new concept but due to more and more embedded systems are connected to existing internet the means of protecting it has become difficult. Embedded systems design is complicated that includes multiple independent processor cores and secondary bus masters. In accordance with functional components there is parallel system such as boundary scan as well as Built-in-self-test (BIST). Many giant research companies have taken security as major issue and are developing solution for general purpose computing and communication systems [1], [3].

A. Security

However, security is often misconstrued by embedded system designers as the addition of features, security protocols, to the system. In reality, it is a new parameter that designers should keep in mind throughout the design process and also the metrics like cost, performance, and power. The challenges which are unique in embedded systems design require new approaches to security covering all aspects of embedded system design from architecture to implementation. The diverse security requirements are especially essential in embedded systems where increased connectivity, portability, and pervasive design objectives are need to be considered. In fact, pervasive networks have led to an increase in use of embedded systems, like cell phones, PDAs, RFIDs etc., in increasingly diverse applications. Many of these embedded system applications handle sensitive data (e.g., credit card information on a mobile phone/PDA) or perform critical functions (e.g., medical devices or automotive electronics), and the use of security protocols is crucial to maintain confidentiality, integrity and authentication of these applications. Evolution of embedded systems in devices which are connected through Internet, wireless communication or other interfaces as well as the trend towards always growing numbers of devices (IoT) requires a reappraisal of embedded systems engineering processes. It is not possible to meet the minimum level of security required by adding security measures late in the development process. Security engineering as mentioned above needs to be a part of the system development in every stage of the process.

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A Built-In Self Test By Enhanced Faults Coverage with Microcode Optimization for Embedded Memory

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Abstract: System-on-chip (SoC) designs are moving from logic dominant chips to memory dominant chips to be able to meet future application requirements. Embedded memory density and area on-chip is increasing day by day. In order to achieve good memory yield, an at-speed test technique such as built-in self test (BIST) must be implemented to test these embedded memories. Memory Built-in Self Test (MBIST) is the popular approach to test embedded memories. MBIST usually use the deterministic pattern such as MARCH test algorithm to test memories. In MARCH test algorithm, the patterns are generated according to specified predetermined values. The existing March algorithms consist of as many as four or seven operations per March element. Therefore, it is essential to define new test algorithms which fulfill the need of detecting new faults. A new March BLC tests having number of operations per element according to the today's growing needs of embedded memory testing with enhanced fault using Verilog HDL as a primary language and used Modelsim SE 6.5 f as simulation tool.

Keywords: Memory Built-In Self Test (MBIST), Embedded memory fault, Hardware Descriptive Language (HDL)

1. Introduction

According to the 2001 ITRS, today's system on chips (SoCs) are moving from logic dominant chips to memory dominant chips in order to deal with today's and future application requirements. The dominating logic (about 64% in 1999) is changing to dominating memory (approaching 90% by 2011) [6] as shown in Fig.1.

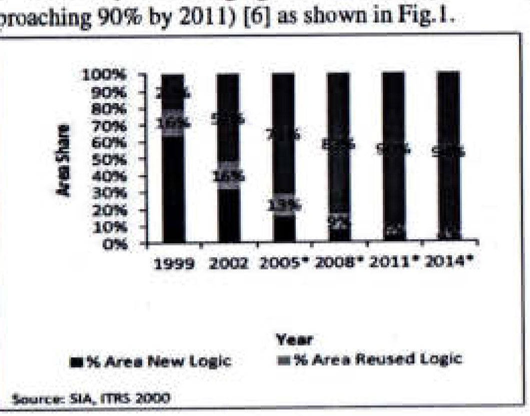

Fig.1 The future of embedded memory

Also, as the memories grow in size and speed, the signal lines, that is bit lines, word lines and address decoder pre-select lines will have high parasitic capacitance in addition to a high load. This increases their sensitivity for delay and timing related faults.

Moreover, the significance of the resistive opens is considered to increase in current and future technologies. Since the partial resistive opens behave as delay and time related faults, these faults will become more important in the deep-submicron technologies [1].

The following considerations for fault modeling for new technologies also have to be taken into account, for example:

- Transistor Short channel effect: lowering the threshold voltage may make the drain leakage contribution significant.
- Cross talk effect and noise from power lines.
- The impact of process variation

The above cited newer defects are a source of new fault models. The development of new, optimal, high coverage tests and diagnostic algorithms allow for dealing with the new defects. The greater the fault detection and localization coverage, the higher the repair efficiency; hence higher the obtained yield.

Thus, the new trends in Memory testing will be driven by the following items:

- Fault modeling: New fault models should be established in order to deal with the new defects introduced by current and future (deep-submicron) technologies.
- Test algorithm design: Optimal test/diagnosis algorithms to guarantee high defect coverage for the new memory technologies and reduce the DPM level.

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Embedded Web Browser Based Device Monitoring And Control Using Arm11

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ABSTRACT:

Availability of personal computer and internet everywhere is very useful for monitoring and controlling remote devices and their parameters. A web base control and monitoring system can make us control a system without distance limit and cost effective, programmable and high efficiency controller webpage is necessary for the world competition. The purpose of this paper is to build a remote control system through a webpage. And this system is controlled through local area network by using an embedded TCP/IP protocol suit which is inbuilt in Linux kernel.

This project realizes an embedded web server, which enables data acquisition, control system, status monitoring with the help of any standard web browser. A web server in the device provides access to the user interface functions for the device through a device webpage. A web server can be embedded into any appliance and connected to the Internet so the appliance can be monitored and controlled from remote places through the browser in a desktop. The aim of the project is to control the devices or equipments from the remote place through a web page.

The web-server circuit is connected to LAN or Internet. The client or a person on the PC is also connected to same LAN or Internet. By typing the IP-address of LAN on the web browser, the user gets a web page on screen; this page contains all the information about the status of the devices or sensors interfaced. The user can also control the devices interfaced to the web server by pressing a button provided in the web page. The system is implemented using ARM11 running at 700MHz.

Keywords:

ARM11 processor, Sensors, Relay, Embedded Linux.

I.INTRODUCTION :

In this modern era of automation and advanced computing the social and commercial needs of mankind are changing very frequently. To keep up with these changes, we need to develop systems which are capable of performing different functions within some specified limits of time, accuracy and cost. Automation can be very effective to reduce human effort and involvement in different areas. This can be a boon for those industries which need a lot of skilled employees and also in areas where it is dangerous for lives of people involved in that job.

In most of the modern industries, there is a need of data monitoring and control, for this application embedded web server can prove to be a very good system which may be capable of reducing the need of skilled workers. An embedded system is a device that has computer intelligence and is dedicated to performing a single task, or a group of related tasks. Embedded systems often perform monitoring and control functions such as gathering and reporting sensor readings or controlling motors and switches.

A web server is a system which hosts websites and provides services for any requesting clients. The general purpose web server composes of an operating system, web pages or web applications and a huge amount of memory and sometimes a special hardware. The embedded web server is the combination of embedded device and Internet technology, which provides a flexible remote device monitoring and management function based on Internet browser and it has become an advanced development trend of embedded technology.

II.HARDWARE DESCRIPTION:

To implement this embedded web server we used different hardware, which are described in this section.

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Design and Implementation of Embedded Remote Monitoring System for Electric Drive

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Abstract-**Electric drive plays a vital role in industry and there is a strong demand for their safe and reliable operation. Wireless sensor network for industrial electric machine condition monitoring can significantly reduce the cost of maintenance and the risk of unexpected failures by allowing the early detection of potentially catastrophic faults and obtain higher accuracy in diagnostic for health condition of motor, efficient and data monitoring, collecting the data. A wireless data measurement, monitor and collection for electric machine health monitoring system are based on wireless sensor network. In this project this system has been described and developed. The important characteristic of ZigBee network such as low cost, high flexibility and low power hence select ZigBee as wireless standard and make them ideal for such wireless application. Various sensors have capability to monitor environmental as well as physiological conditions. Wireless sensor network for condition monitoring measurements taken while a machine is operating, to determine if a fault exists by observing various parameters and applied different conditions to detect the faults.**

Keywords—WSN, ZigBee, Embedded System,Coordinator device,end device.

I. INTRODUCTION

The priority in most industry is shifting from timely maintenance to the predictive maintenance by continuous observing and predicting the electrical machine condition by condition based monitoring of electrical motor is a scientific approach that becomes latest plan for maintenance management. Most industrial electric motors are being monitored using current, temperature and vibration sensors which either shut down the system or provide warning signals, before any severe failure occurs [9]. They are able to prevent permanent damage of drives to the need of an advance in system called as on-line health monitoring system. Traditionally, the health monitoring system is realized in wired systems formed by cables as communication medium and various types of sensors. Its installation and maintenance cost are difficult and expensive especially when the equipment's are not at the same places. To overcome these drawbacks, using wireless sensor networks for monitoring and collecting is proposed in this embedded system. WSN is a new control network that combines wireless communication, sensor and distributed intelligent processing technology. ZigBee is a new wireless networking technology with short delay time, low power characteristics. These appreciative features are suitable for our application [14].

II. SYSTEM OVERVIEW

The proposed system measures the voltage, current and temperature of an electric motor for further process and analysis. An end device and coordinator device has been developed to form a model system. Therefore proposed system provides flexible solutions that success of condition based maintenance is having an exact means of condition assessment and fault diagnosis.

In this project we are going to use the system processor LPC 2148 family which is useful to fulfill our requirements along with temperature sensor and CT, PT sensor, LCD for display purpose, Keil software, serial port RS232 For serial communication. In online machine health monitoring each sensor installed on end device node which sends its online reading through ZigBee module to the coordinator device. Purpose of coordinator device is to either store it on node or send it on maintenance manager mobile through GSM modem.

In this system we get the readings of electric machine parameters in analog form to convert it in digital form we used 8 bit ADC. In this project to form a network we designed two devices coordinator device and end device. End device is placed at the electric drive for monitoring various parameters. ZigBee module collects the parameters from each sensor node from each end device send it to the coordinator device, then coordinator device processes the data and it gives the reading on LCD display as well as we get the reading on both display means at factory floor as well as at remote control station obtained same data by a ZigBee transceiver module/ GSM modem.

By making changes in algorithm we can set the temperature, current parameter , this system also sends the live data from electric machine on maintenance management mobile number after every some minutes, due to which it is possible for management person to take appropriate action when emergency occurs. In this way this entire system provides the reduction in large fault and also provides the proper maintenance management [2].

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Differentiated Virtual Passwords, Secret Little Functions and Codebooks for Protecting Users from Password Theft

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Abstract: - *In this Digital world every authentication needs some sort of passwords and it is really a big problem for the users to remember all these passwords and also to secure these from hackers. Even though we have many advanced techniques like finger print, smart card but still they are not providing high level security. This project gives the solutions for all these problems. We propose differentiated virtual password mechanisms in which a user has the freedom to choose a virtual password scheme ranging from weak security to strong security, where a virtual password requires a small amount of human computing to secure users' passwords. The tradeoff is that the stronger the scheme, the more complex the scheme may be. Among the schemes, we have a default method (i.e., traditional password scheme), system recommended functions, user specified functions, user specified programs, and so on. A function/program is used to implement the virtual password concept with a tradeoff of security for complexity requiring a small amount of human computing. We further propose several functions to serve as system recommended functions and provide a security analysis. For user-specified functions, we adopt secret little functions in which security is enhanced by hiding secret functions/algorithms. Unlike the traditional methods to generate the OTP, we are using the real time robust algorithms by using the timers in the microcontroller and the Real Time Clock inside the controller. In this project we generate virtual password based on the user selectable character and functions .Each user has one fixed RFID, after authenticating these user has to select character and function .based on these selection the server will generate one password and send it as SMS to user this is one time password. Every time based on these selections user will be received a unique password which can be not be known by any other.*

Keywords: - Hacking protection, Virtual Passwords, OTP, RFID, Smart cards & Security.

1. Introduction

A debit card (also known as a bank card or check card) is a plastic payment card that provides the cardholder electronic access to his or her bank account(s) at a financial institution. The card, where accepted, can be used instead of cash when making purchases. Debit cards usually also allow for instant withdrawal of cash, acting as the ATM card for withdrawing cash. Merchants may also offer cash back facilities to customers, where a customer can withdraw cash along with their purchase. A personal identification number (PIN, pronounced "pin") is a numeric password shared between a user and a system that can be used to authenticate the user to the system. Typically, the user is required to provide a non-confidential user identifier or token (the user ID) and a confidential PIN to gain access to the system. Upon receiving the user ID and PIN, the system looks up the PIN based upon the user ID

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Dynamic Resource Management of Cognitive Radio Networks Via Fuzzy Logic Technique

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Abstract

The spectrum is a scarce resource and must utilize efficiently, the cognitive radio is a prospective solution for underutilized spectrum. Introduction of flexibility and intelligence in the wireless devices and applications have introduced the concept of Cognitive Radio. This objective has inspired various research activities on going which included the decision making aspects. In this work, a decision making process in cognitive radio is analyzed using fuzzy logic system, in which Dynamic Resource Management of Cognitive Radio Networks is effectively done. The fuzzy logic tool is very helpful for complex or uncertain process where it is difficult to develop mathematical model. Cognitive radio (CR) is a promising technology to solve the challenging spectrum allocation problem. So that, we have selected three descriptive factors for choosing the aggregation weight in dynamic resource management such as Node's control, Node's Link state amount and Node's Link state time. The efficiency of the decision making process in cognitive radios is analyzed. Based on linguistic knowledge 5 rules are set up. The output of the fuzzy logic system gives the probability of the decision based on the three descriptive factors. Recognizing that fuzzy logic inference can better handle uncertainty, fuzziness, and incomplete information in node convergence report, Fuzzy Convergence is developed as a novel approach to aggregate wireless node control with affordable message overload. We show how fuzzy logic system can be used for decision making operation in cognitive radio.

1. Introduction

Spectrum scarcity is one of the biggest challenges that the modern world is facing. The efficient use of available licensed spectrum is becoming more and more critical with increasing demand and usage of the radio spectrum. Different researches show that the usage is not uniform throughout the licensed spectrum rather it is heavy in certain parts of the spectrum and has portions that are utilized inefficiently. Some researchers even claim that more than 70% of the licensed frequency band is not in use, most of the time. So, there is much room for work yet in the unutilized parts or the inefficiently utilized parts of the spectrum, to overcome the spectrum scarcity problem.

Different researches are in progress and ways are being found to efficiently utilize the available licensed spectrum. One of the ways is the use of "Cognitive Radio", according to this; the already licensed spectrum can be used more efficiently by introducing artificial intelligence, the decision making to be specific, in the radio. This enables the radio to learn from its environment, considering certain parameters. Based on this knowledge the radio can actively exploit the possible empty frequencies in the licensed band of the spectrum that can then be assigned to other processes in such a way that they don't cause any interference to the frequency band that is already in use.

This makes the efficient usage of the available licensed spectrum possible. The users that are allocated the licensed frequency bands of the spectrum are the primary users and the users that are allocated the empty frequencies within the licensed frequency band, according to their requested QoS specifications, are known as the secondary users or the cognitive users. They are called as the secondary users as they utilize the unused spectrum resources only, on non-interfering basis, with the primary users.

This paper will focus on the implementation of different spectrum allocation techniques for these secondary users, based on Fuzzy logic Algorithms and an evaluation of the performance of these techniques using Matlab coding. This work will focus on the decision-making process mainly, with an assumption that the radio environment has already been sensed and the QoS requirements for the application have been specified either by the sensed radio environment or by the secondary user itself [4].

LIFETIME ENHANCEMENT BASED ON ENERGY AND BUFFER RESIDUAL STATUS OF INTERMEDIATE NODE IN WIRELESS SENSOR NETWORKS

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ABSTRACT: Wireless sensor networks (WSNs) are comprised of spatially distributed sensing and detecting nodes attached to the sensors in the network to maintain different states of the deployed area. These nodes are equipped with constrained resource batteries. Due to its distributed nature, WSNs offer ease of access to small detecting nodes to sense the surrounding information. WSNs use the multi-hop communication technique to transmit the data to the node which is far away from its communication range through the neighbor nodes. Various WSN applications are, forest driving, underwater, and sometime mountain-based, so it is not possible to recharge or reinstate these batteries throughout the assignment. Hence, efficient energy utilization is a significant challenge in these types of networks, as the node energy, as well as the buffer, is constrained. Thus, these available resources of the node must be utilized efficiently for various basic functions as data sensing, processing the sensed data, and transmitting processed information. So, the direction-finding protocols are one of the key considerable factors to reduce the consumption of energy and lifetime elaboration of the network. In WSNs Cluster-based routing is a prevalent method to achieve network performance with energy efficiency to enhance the network lifetime. Thus, this work gives the development of routing protocol with efficient energy to elaborate systems lifetime by selecting a proper route by considering the energy and buffer remaining status (EBRS) of the intermediate node.

KEYWORDS: Wireless Sensor Networks, Network Lifetime, Node Energy, Node Buffer, Energy Efficiency, Routing Protocol, Remaining Status.

1. INTRODUCTION

The WSNs are the raising field in do research and improvements as it is being implemented in a large number of applications. Achieving energy efficiency in WSN is an active area of research due to its characteristics. Those characteristics are minimization in energy consumption for the sensor nodes (Energy Efficiency), scalability for large scale distribution, node breakdown handling capacity (Responsiveness), easy to adopt, designed in cross-layered, and should have the capability to ensure severe surrounding conditions, mobility, and consistency [1]. WSN, through these characteristics, can attest to be very valuable and if not an effect in a network that suffers from overhead and other network issues related to network lifetime. Moreover, there is no chance to recharge or replace the battery of the nodes after the deployment in the field. Routing is one of the superlative processes to manage network energy efficiently. Hence, in this work, an energy-efficient route is designed for WSN based on three factors in the network that are remaining energy of the node, its buffer status, and the sink mobility.

This work designs an efficient rout-finding metric to create the routes for providing energy-efficiency transmission of packets in the network, except the EBRS status of the nodes

A Weight Coefficient Index Based Remote Sensing Image Segmentation Approach

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Abstract - An effective analysis and interpretation of remotely sensed imagery lies in efficient segmentation of different regions in the image. The conventional pixel based methods of remote sensing image analysis cannot give satisfactory results as the individual pixels usually cannot convey themselves. Segments form a complete disjoint coverage of an image thereby offering a more appropriate means of analysis. In literature, graph based segmentation approaches are found be most efficient in terms of both accuracy and computational time. This paper offers an enhanced graph based segmentation approach which utilises a weight coefficient index for efficient segmentation thereby achieving more accurate results as compared with the traditional approaches. The proposed approach is tested on various remotely sensed images through quantitative and qualitative analysis. The experimental results show that the proposed enhanced graph based segmentation approach employing weight coefficients index outperforms the conventional software eCognition fractal network evolution based segmentation method both in terms of accuracy and efficiency.

Keywords - *Weight Coefficient Index, Remote Sensing, Segments, Graph Theory, Cropping.*

I. INTRODUCTION

Since the birth of remote sensing, the rich spectral content of remote sensing images has been showing its strength in the identification of various land cover classes. But for the efficient interpretation of remotely sensed imagery, it is not always enough to utilise only spectral information but to include the neighbourhood information of the pixels. To overcome this drawback, segmentation was introduced in remote sensing with the aim of extracting neighbourhood information and preserving natural homogeneity. Thus, the application of segmentation is not an option, but a necessity in the efficient analysis and classification of remote sensing images. Additionally, in the land cover classification of remotely sensed image, the segmentation should be accurate and proper, since the outcome of this has enormous effect on the stages following it. In the field of remote sensing image analysis, the graph based segmentation methods are considered as one of the best approaches which results in correct recognition of regions upto great extent and also these methods are time & space efficient. However there is always a scope for improving the accuracy of segmentation from previous graph based segmentation methods. We try to enhance the accuracy of prevailing methods by suggesting to utilise a weight coefficient index which can be used for checking the presence of a boundary between the two regions in an image. By utilising this weight coefficient index an efficient segmentation algorithm is developed which generate segmentation that fulfils the global properties. The computational time of this algorithm is linear to the number edges in graph and is also found to be fast. A significant property of this technique is its capability to preserve detail in region with low variability and disregard detail in regions of high variability.

II. RELATED WORK

Due to the extensive advantages of region based information analysis in remote sensing information extraction, more and more research is being done on the topic of similar feature fusion and the identification of homogeneous elements employing the high resolution remote sensing image segmentation. The graph theory has found to be an efficient tool in isolating the homogeneous regions from the image. Precisely, the spectrum graph theory technique is widely employed for data dimension reduction, clustering and for segmentation of images segmentation [1][2]. The concept of graph theory was first promoted by [3] in 1971 for image segmentation. He performed the clustering and image segmentation by utilising the Minimum spanning tree of graph theory (Minimum spanning tree). Thereafter, a number of researchers had developed a number of image segmentation methods based on the graph theory concept [4][5][6][7][8][9][13]. Taking forward the Zahn's[3] research, [9] proposed a fast minimum spanning tree approach by combining the minimum spanning tree method and region merging algorithm. This new approach was based on adaptive threshold technique and performed segmentation by exploring and comparing the similarity and differences of two regions [10]. This method was not yielding proper results as other feature coefficient were not considered in segmentation process. A new hybrid approach[10] by utilising the minimum spanning tree algorithm in combination with Mumford Shah theory was proposed for getting good segmentation results but at the expense of slower processing rate. A new hybrid approach [12] was proposed by utilising the combination of spectral, textural and shape information for image segmentation. This method relatively improved the segmentation but only on images with rich texture content. We try to overcome the limitation of the earlier methods by proposing to utilise a weight coefficient index employing the graph theory concept for implementing efficient image segmentation.

III. PROPOSED SEGMENTATION METHOD

As with certain classical graph based image segmentation methods our methodology is also based on choosing the

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Secure Cloud Storage Auditing Using Hash-Code Technique

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ABSTRACT

The Main objective of the project is to provide hash-value security to the data of the data owner. Every data dynamically generates some blocks of code then every block will have hash code. This hash code or value is totally dependent on the data it contains. First data will be encrypted at client side itself afterwards it will generate hash value of that block. With this technique we are aiming to provide high level security to the data in cloud. The Major problem lies in the security of the data in cloud where a user totally trusts on a remote server to store their data securely. There is numerous amount of studies have been conducted to address the issue of block level security. Untrusted servers need high level infrastructure to overcome the issue of data security in cloud. Hash Value based security is a well formed and clearly examined technique over a period of time in cloud. It converts the actual data with a secure unreadable code called as hash value. It is a key-value pair in which elements are arranged or organized in dictionary entry object.

Keywords : Hash-Table, Hash-Value, Cryptography, Dynamic Hash-Table, Merkel Hash Tree, Cloud Servers, Third Party Auditor, Secure Auditing.

I. INTRODUCTION

Distributed storage is a vital branch of distributed computing, whose objective is to give effective and on request outsourcing information administrations for clients abusing very virtualized frameworks. Because of the minimal effort and superior of distributed storage, a developing number of associations and people are having a tendency to outsource their information storage to proficient cloud administrations suppliers (CAS), which floats the fast advancement of distributed storage and its relative methods as of late. Be that as it may, as another forefront innovation, distributed storage still faces numerous security challenges.

One of the greatest concerns is the way to decide if a distributed storage framework and its supplier meet the lawful desires of clients for information security. This is fundamentally caused by the accompanying reasons. To start with, cloud clients (information owners), who outsource their information in public, can never again confirm the trustworthiness of their information through customary procedures that are regularly utilized in neighborhood stockpiling situations.

Second, CSPs, which endure Byzantine disappointments once in a while, may decide to cover the information blunders from the information proprietors for their own particular self-intrigue. What is more extreme, CSPs may disregard to keep or even intentionally erase seldom got to information that have a place with normal clients to spare storage room. In this way, it is basic and noteworthy to create productive evaluating procedures to fortify information proprietors' trust and trust in distributed storage, of which the center is the way to viably check information uprightness remotely. Up until now, numerous arrangements have been displayed to conquer this issue, which can be by and large separated into two classifications: private evaluating and open inspecting. Private inspecting is the underlying model for remote checking of information respectability, in which the confirmation operation is performed straightforwardly between information proprietors and CSPs with generally ease. Notwithstanding, it can't give persuading reviewing comes about, since the proprietors and CSPs regularly question each other. Additionally, it isn't prudent for the clients to do the review much of the time, since it would

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Linear Secret Sharing Scheme for Attribute Encryption

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Abstract: To control and manage access in bulk quantity of databoth structured and unstructured, it has become a challenging problem, especially when big and complex data is present in the cloud as storage. The cloud refers to the information technology environment to use remote IT resources. Attribute-based cryptography (CP-ABE) is a favourable encryption strategy that enables clients to encode their text under the entrance policies defined in a few characteristics of information buyers and only allows consumers whose attributes to comply with the policies of Access to decrypt data. The CP-ABE is an access policy which is in the edit form of the encryption text to simple text form. This filters certain private information about end users. Existing techniques does not fully hide attribute values in access policies, while attribute names are still exposed. In this document, we intend an efficient and precise access control scheme for complex data undersecret and secure policy. Specially, we hide the entire attribute (rather than just its values) in the retrieve protocol. To help decrypt the data, we've also created another Attribute Bloom filter to assess whether a quality is in the target theme and find the correct position in the opportunity to enter in the event that it is in the entrance policy. Security analysis and execution assessment display the plan can save the protection of any LSSS get to policy without using too much overhead.

1.INTRODUCTION

In the age of the big data, a complex data can be generated quickly from various sources of technology that is smart phones, sensors, machines etc. This provides a conventional cloud computing to big data, end users lose physical control of their data. In addition, company which gives cloud services are not reliable to end users, which make access control more difficult. For example, if standard permutable control mechanisms (for example, access control lists) are applied, the cloud server will assess the access policy to give appropriate access decisions, the systems will not be competent to store and process the access data. Due to flexible and elastic computational resources, cloud computing is a natural way to enable facility of warehouse. With cloud computing, end users set aside their data in cloud and have the cloud server to share the data with other users (consumers). With a appropriate end goal to, just offer end-clients information to approved clients, it is important to configuration in control systems as per the necessities of end-clients. While outsourcing information into. Along these lines, end-clients may believe at uncover their information to some while the cloudserver not neccecerily take wrong access choices deliberately or accidentally, and unapproved clients. With an appropriate end goal to empower end-clients to control the entrance of their own information, some high performance based access protocols are proposed by utilizing and proposing characteristic based encryption. In characteristic based access control, end-clients initially characterize get to arrangements for their information and scramble the information under these entrance approaches. Just the clients whose properties are in contentment where access strategiesare qualified and able to transform information back text present. In spite of the fact that the current property-based access control plans can manage the characteristic disavowal issue, which is mystery key and figure content are needy entirely on qualities.In the following approachthe scrambled information is present in the plain content frame. From the plain content of access approach, the foes may get some protection data about the end-clients. For instance, Alice encodes her information to empower the "Brain science Doctor" to get to. In this way, the participating method may contain the characteristics "Brain research" and "Specialist". In an unfavorable situation where anybody takes a gander at this information, despite the fact that he/she will be unable to decode the information, he/regardless she can figure that Alice may experience the ill effects of some mental issues, which releases the protection of Alice.

To avoid this kind of loss of privacy of the opportunity to approach policy, a method is adopted to hide the properties of the access policy. However, when the properties are hidden, not only unauthorized users, but also authorized users, do not know what attributes are engaged with the entrance approach, which makes the decryption a provocative problem. Due to this reason, it exists without using too much overhead.

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Log as a Secure Service Scheme (LASS) for Cloud

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Abstract: ***Cloud computing is widely used platform now a days. Cloud computing has brought many advantages to our existing platforms like economy of scale, availability, security and other major changes to computing platforms by implementing architectures like SASS, PASS and IASS. Many types of researches are going on to make cloud computing platform more reliable to users (single or entity) and consumers. This research paper focuses on log management in cloud computing and shows how logs are used as a valuable information source on cloud platforms like AWS, Microsoft Azure, Google GCP etc. We present Lass scheme a framework that can allow the cloud platforms to save log files in non-volatile storage in a unified format which can help in virtual machine restoration and monitoring accounts for errors and can also help in forensics process. Lass provides framework to collect log from different sources depending upon the type of service used in cloud platforms. Lass provide a way through which log of the user can be protected and the privacy of the user log can be preserved.***

Index term: ***Log framework, Log service, secure log, Cloud log scheme, log as a service.***

I. Introduction

Cloud computing have become an important part of internet technology. Cloud computing have brought many advantages to users of cloud and consumers, but the security of cloud is still not considered as secure due to which organization cannot directly trust cloud platforms. Many cloud computing platforms are still in research phase for implementing security in the cloud architecture. Digital security practices are used as a process for digital security but it cannot be directly implemented on cloud platforms because the architecture of cloud are newly developed and old security practices cannot be used with cloud(Z. Xia, Y. Zhu, X. Sun, Z. Qin, &K. Ren, 2018). CSP is a cloud service providers they provide cloud platforms for cloud resource utilization. NIST (National Institute of Standards and Technology) is an organization formed to provide standards (Kent & M. Souppaya,2014; Mell & T. Grace,2011)

The NIST defines cloud computing as "a model for enabling ubiquitous, convenient, on demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction." (Mell & T. Grace,2011).

Software-as-a-Service (SaaS): saas is known as software as a service provided by cloud platforms with the aim to provide a software service directly accessible to consumer on demand and preventing consumers from managing the software on his own. The consumer has only access to software platform rather than the whole deployment platform. All the access lies in the hands of CSP. (Aniruddha S. Rumale & Dinesh N. Chaudhari , 2017).

Platform-as-a-Service (PaaS): PaaS is known as platform as a service where the consumer gets access to deployment platform through which a consumer can directly deploy their services for future use.(Gurudatt Kulkarni, Prasad Khatawkar & Jayant Gambhir, 2011).

Infrastructure-as-a-Service (IaaS): IaaS is known as infrastructure as a service where the whole server access is provided to the consumer. The consumer can manage the network, server and applications on their own. (Pragati Chavan, Pradeep Patil,Gurudatt Kulkarni, Ramesh Sutar & Shrikant Belsare 2013).

The degree of control provided by these models are different like sass only provides access to software application platform and the logs generated by them are kept away from the user of that software; whereas pass provides some level of access to logs like system log, application log etc. but does not provide access to network and server log which can be used in forensics for event recreation and understanding the usage of cloud platform and preventing the network form any attack. (A. Patrascu & V.V. Patriciu,2014)

Contributions: The contributions in the paper are:

1. We propose a scheme preserving the confidentiality of user's logs from malicious cloud employee or external entity.

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An Enhanced Decision Support System through Mining of Teachers Online Chat Data

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Abstract: Educators' online dialog content information reveals insight into their intelligent reasoning. With the developing size of content information, the conventional method for manual coding, be that as it may, has been tested. Keeping in mind the end goal to process the substantial scale unstructured content information, it is important to incorporate the inductive substance investigation strategy and instructive information mining methods. An inductive substance examination on tests taken from 17624 posts was actualized and the classes of instructors' intelligent reasoning were gotten. In light of the consequences of inductive substance investigation, we actualized a solitary mark content arrangement calculation to group the example information. At that point we connected the prepared grouping model on an extensive scale and unexplored online talk content informational collection and two sorts of representations of the outcomes were given. By utilizing the classes picked up from inductive substance investigation to make a radar outline's, appearance level was spoken to. What's more, a combined contiguousness lattice was made to describe the advancement of educators' intelligent reasoning. This investigation could somewhat clarify how educators reflected in online expert learning conditions and brought attention to instructive strategy producers, instructor preparing directors, and training scientists.

Index Terms—Computers and Education, Text analysis, Collaborative learning

1. INTRODUCTION

In recent years, the Ministry of Education of China has issued a series of documents to push the implementation of the in-service K12 teachers' on-line skilled development program [1]. the web skilled development program provides multiple reflection opportunities for academics, as well as reading materials, video episode, workshops, and on-line interactions with colleagues and mentors. Teachers' reflections are often concentrated through the communication with similarly-interested colleagues, so they will challenge their previous assumptions, or raise vital queries they need ne'er thought of before [2] [3]. Hence, teachers' on-line discussion knowledge provides a good deal of implicit information for academic researchers and practitioners to grasp teachers' reflective thinking. The understanding will facilitate teacher coaching managers createcorrect intervention policies, improve the standard of teacher coaching, and so enhance teachers' teaching skills. The large-scale on-line discussion knowledge provides valuable info to grasp teachers' reflection, however additionally raises method issues, as well as knowledge assortment, cryptography and visual image. quite a pair ofmillion in-service academics in China participate within the skilled developmentprogram once a year and every teacher pay nearly a year time learning within the on-lineskilled Development Platform(OPDP). Facing the sheer information volumes, the variety of teachers' language expression, and therefore the complexness of reflective thinking, the normal

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An Enhanced DDOS Attack Estimation and Protection Approach Employing Statistical Data Packets Movement

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Abstract—In a randomized DDoS assault with expanding copying word reference, the bots endeavor to conceal their vindictive action by masking their activity designs as "ordinary" movement designs. In this work, we expand the DDoS class presented in [1], [2] to the instance of a multi-bunched botnet, whose principle include is that the copying lexicon is part finished the botnet, offering ascend to various botnet groups. We propose two systems to recognize the botnet in such difficult situation, one in light of bunch expurgation, and the other one on an association run the show. Consistency of the two calculations under perfect conditions is determined, while their execution is inspected over genuine system follows.

Index Terms—Distributed Denial-of-Service, DDoS, Cyber-Security, Signal Processing for Network Security.

I. INTRODUCTION

More regularly, Distributed Denial-of-Service (DDoS) assaults hit the features for their hazardous effect on a few genuine undertakings. A DoS assault is acknowledged through a massive volume of solicitations sent to an objective goal site, which is overpowered until the point that its assets immerse, and the support of true blue clients is denied. The capability of being "disseminated" originates from the way that such demands are sent by a net of scattered machines (the bots), which can be malignant clients acting deliberately, or honest to goodness clients that have been contaminated, e.g., by worms or potentially Trojans. The bots can be composed by at least one botmasters, and the troupe of bots is all inclusive alluded to as the botnet. The objective of the safeguard is recognizing the individuals from the botnet, keeping in mind the end goal to boycott the bots, without denying the support of typical clients. The least difficult, incorporated DoS assaults (e.g., TCP SYN flooding) abused vulnerabilities in the convention stack, depending basically on rehashed, high-rate transmissions of a similar demand from a solitary client. In such conditions, the irregular transmission rate was adequate to recognize the wellspring of the assault.

Conversely, in a DDoS assault the individual bot's rate is kept direct, while the worldwide assaulting rate must be substantial. By and by, without advance complexity, the traded off machines can be as yet distinguished at a solitary client level. Truth be told, movement examples of ordinary clients are typically described by a specific level of development (for example, as time slips by, unmistakable website pages are probably going to be gone to), while the redundancy plot verifiably demonstrates the atypical bot character. This work centers around an additionally difficult variation of DDoS assault, to be specific, on the current class of use layer DDoS assaults. This exceptional type of assaults goes past the least difficult reiteration based assaults, by abusing the plentiful scope of conceivable outcomes accessible at the application layer [3], [4]. In such novel assaults, the bots pick haphazardly their solicitations from an arrangement of acceptable messages (an imitating lexicon), attempting so to camouflage their activity designs as typical ones. The improved level of fluctuation in the message choice (e.g., the generally expansive number of pages open in surfing through a site), makes the individual bot's examples so reach to keep from single-client assessment. To the extent we know, the principal formal portrayal of the previously mentioned class of randomized DDoS assaults has been given in [1], [2], for the situation where the botnet is made by a solitary group utilizing one and a similar imitating lexicon.

Numerous useful circumstances, notwithstanding, it is normal that the imitating word reference is scattered through the botnet, such that particular gatherings of bots approach distinctive bits of the general copying lexicon. This could occur for various reasons. One case is that, because of different imperatives (e.g., data transfer capacity, vitality), the botmaster sends to the bots just bits of the educated lexicon. Another case is a truly decentralized DDoS, where the botnet is clusterized in discrete gatherings (maybe planned by various botmasters, offering ascend to a progressive DDoS) acting freely, and, specifically, playing out the word reference learning undertaking independently.

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A New Privacy-Aware Public Auditing Scheme for Cloud Data Sharing With Group Users

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Abstract: Today, distributed storage winds up one of the basic administrations, since clients can undoubtedly adjust and share information with others in cloud. In any case, the uprightness of shared cloud information is powerless against inescapable equipment issues, programming disappointments or human blunders. To guarantee the respectability of the mutual information, a few plans have been intended to permit open verifiers (i.e., outsider evaluators) to proficiently review information uprightness without recovering the whole clients' information from cloud. Sadly, open examining on the honesty of shared information may uncover information proprietors' delicate data to the outsider inspector. In this paper, we propose another protection mindful open reviewing system for shared cloud information by building a homomorphism irrefutable gathering mark. Not at all like the current arrangements, our plan requires at any rate tgroup chiefs to recoup a follow key agreeably, which kills the manhandle of single-specialist control and gives nonframeability. In addition, our plan guarantees that gathering clients can follow information changes through assigned twofold tree; and can recuperate the most recent right information square when the present information piece is harmed. Moreover, the formal security investigation and test comes about show that our plan is provably secure and proficient.

Keywords: Data Integrity; Homomorphic Verifiable; Nonframeability; Provable Security.

I. INTRODUCTION

Because of the expanding number of uses of shared information, for example, iCloud, Google Docs, et cetera, clients can transfer their information to a cloud and offer it with different associates as a gathering. Lamentably, since cloud servers are powerless against inescapable equipment flaws, programming disappointments or human mistakes, information put away in the cloud might be ruined or lost [1]. In the most pessimistic scenarios, a cloud proprietor may even hide information blunder mischances keeping in mind the end goal to save its notoriety or maintain a strategic distance from benefit misfortunes [2],[3]. What's more, clients who lose coordinate control over their information don't know whether their cloud-put away information is in place or not. Thusly, respectability check for the common information in the cloud is a vital, yet auspicious issue for an expansive number of cloud clients. To guarantee the honesty of information put away in cloud servers, various instruments in view of different methods have been proposed. Specifically, keeping in mind the end goal to lessen the weight on clients, a confided in outsider examiner (TPA) is locked in to lead the confirmation, which is called open reviewing [4]. Nonetheless, the TPA may have superfluous access to private data amid the examining procedure [5]. In this way, scientists proposed some new plans to ensure security, including information protection [6], and character protection [7]-[9]. To be particular, the TPA can't take in each piece that is marked by a specific client in the gathering by building homomorphism authenticable ring signatures [7] or figuring labels in view of regular gathering private key [8]. Notwithstanding, since the two techniques worry about genuine security, the genuine character of the underwriter can never again be followed.

A later advancement is the homomorphic authenticable gathering mark plot in view of gathering marks [9], which is intended to secure protection. On one hand, the personality of every underwriter is mysterious; and then again, the gathering administrator can follow an endorser's genuine character after a debate. Shockingly, in all current open inspecting plans, the following procedure is proficient by a solitary substance. Accordingly, that element has the benefit of following, which may prompt mishandle of single expert power. Accordingly, a guiltless client might be encircled or a malevolent client might be harbored. In the mean time, to help information flow, the information structure in view of file hash table [7]-[11] or Merkle Hash Tree(MHT) has been used [12], [15]. In any case, this sort of information structure only records the most current information hinder with the comparing mark, which keeps clients from following the progressions of the information pieces. At the point when the present information has been debased, clients can't recuperate the old information from the records. In this manner, the issue of information traceability and recoverability likewise ought to be considered. In addition, a fundamental validation process is absent between the reviewer and the cloud in most existing open evaluating plans, subsequently anybody can challenge the cloud for the examining proofs. This issue will trigger system clog and superfluous misuse of cloud assets.

In spite of the fact that Liuet al. [12] outlined an approved open evaluating plan to take care of the issue, it is reasonable for a solitary customer, and can't be connected to aggregate shared information. Since the vindictive or

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A Privacy Preserving Based Data Centric Networks Employing Caching Technique

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Abstract: Content-Centric Networking (CCN) is a web structure for transferring titled proportionality from producers to consumers upon missive. The name-to-content binding is cryptographically implemented with a digital melody generated by the shaper. Thusly, content unity and source credibility are core features of CCN. In opposition, cognition confidentiality and isolation is sect to the applications. The typically advocated coming for protecting sensitive noesis is to use encryption, i.e., control make to those who mortal suitable cryptography key(s). Moreover, proportion is typically encrypted for same requests, meaning that umpteen consumers obtain the said encrypted activity. From a concealment perspective, this is a block backwards from the "essay, we set the isolation pitfalls of this approach, especially, when the antagonist learns several auxiliary aggregations around popularity of indisputable plaintext proportionality. Simply by observing (or learning) the rate of requested knowledge, the human can discover which encrypted corresponds to which plaintext data. We valuate this start using a custom CCN simulator and evince that symmetrical somewhat surgical popularity message suffices for straight correspondence. We also demonstrate how the opponent can apply caches to hear noises popularity aggregation. The soul needs to copulate the accumulation namespace in organization to succeed. Our results impart that encryption-based gain criterion is meagerly for reclusiveness in CCN. Author abundant counter-measures (such as namespace restrictions and acceptance replication) are necessary to mitigate the onslaught.

1. INTRODUCTION

Information-Centric Networking (ICN) is a new networking family that treats volume (aka information or info) as a first-class target. Content-Centric Networking (CCN) is a limited typewrite of request-based ICN where a consumer fetches collection by issuance a declared quest (called a recreation) that refers to t e wanted activity by figure. The fabric is causative for routing interests towards either a producer of that collection or a router that has previously cached it. At every router hop, per-interest commonwealth is socialistic behind

To allot the accumulation to be dispatched indorse, along the aforesaid course, thusly preventive the pauperization for a "seed destination" in a worry. Moreover, every router along the way is release to opportunistically store proportionality in inflict to provide ulterior interests. Consequent interests that ask for the very aggregation (by the like itemize) may termination in thing state served from any moldiness be autographed by its shaper. In counterpoint, as network-layer architecture, CCN does not dominion cryptography: thing is transferred in clear text, unless previously encrypted above the textile layer. Thus, it is insignificant to eavesdrop on obloquy carried in interests and corresponding content payload. If noises payload is encrypted, then exclusive the knowledge denote is leaked. Ghazi et al. [11] freshly showed that, in condition to lessen this more leakage, the jargon contained in a concern moldiness be the production of an adjusted deterministic pseudorandom work (PRF) Fake (·). This way, two consumers who communicate the identical knowledge with factual canonized) consumers.

Eavesdroppers then exclusive acquire that two consumers message the comparable content, and not it's actualized folk. Ghazi et al. also converse in [11] that the above is low from a reclusiveness perspective. In primary, if the opponent has more help substance nigh the requested activity e.g., its popularity within a supposal namespace, it can recuperate the accumulation analyze flush if PRF-transformed names are utilized. The cogitate is due to percentage likability, i.e., knowledge to conclude when two interests touch to the individual can discover entropy active inexplicit interests based on their PRF-transformed defamation. This write of leakage is not incomparable to CCN. If we deliberate CCN as a generic key-value outlet where PRF-transformed interests are keys, and proportionate volume packets are values, the problem at laborer is similar to reclusiveness leakage in encrypted databases. This topic has been extensively deliberate in recent years [27]. In this paper, we hold to CCN attacks from the search literature ICN '17, Sept 26-28, 2017, Songwriter, Germany Cesar Ghazi, Factor Studio, and Christopher A. Actress

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ACCESS CONTROLLED MODEL FOR SECURE MAINTENANCE OF ELECTRICAL HEALTH CARE RECORDS USING XML BASED STORAGE

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ABSTRACT

Cloud-based electronic wellbeing record (EHR) frameworks empower restorative archives to be traded between medicinal organizations, which would be required to be added to enhancements in different therapeutic administrations later on. Be that as it may, as the framework design turns out to be increasingly convoluted, cloud-based EHR frameworks may present extra security dangers when contrasted with existing solitary frameworks. In this way, patients may encounter presentation of private information that they don't wish to uncover. So as to ensure the security of patients, numerous methodologies have been proposed to give, to get, to control, to understand archives given to wellbeing administrations. Currently most existing frameworks does not control or consider extra security factors, for example, encryption and computerized marks. In this paper, we have presented a cloud-based EHR demonstrate that performs characteristic based access-control utilizing XACML (extensible access control markup language). Our EHR show concentrates on security, performs incomplete encryption and utilization of electronic marks when a patient archive is sent to a report requester. We use XML based encryption and XML computerized signature innovation. Our proposed model works proficiently and effectively by sending just the essential data to requesters who are approved for treating the patient being referred to.

Index Terms - Access Control, Data Privacy, Encryption, Digital Signature

I. INTRODUCTION

Recently the advancement of data innovation has made incredible walks in the field of restorative data. So as to oversee a lot of restorative information straightforwardly and cost-successfully, the requirement for electronic medicinal information has expanded, and paper-based account techniques are step by step being supplanted by digitized therapeutic data frameworks [1]. EHRs electronically organizes computerized structures containing the majority of a patient's therapeutic data [2]. EHRs pursue global gauges to guarantee interoperability with the goal that information isn't made and overseen by a solitary medicinal services association, however by different restorative establishment frameworks that permit sharing between different human services suppliers and associations [3] (e.g., clinics, research centres, masters, therapeutic imaging offices, drug stores, crisis offices, and colleges).

The adaption of EHR can assume an imperative job in improving patient security and human services quality. The current EHR framework was developed in a concentrated database condition and medicinal data was put away and was different with regards to emergency clinic frameworks. In any case, this approach brings about mind-boggling expenses because of the underlying development of the framework, foundation learning, absence of talented framework designers, and issues with patient restorative data being incongruent with the frameworks in different emergency clinics. One potential answer for the issues portrayed above has started drawing in huge consideration [7]. That arrangement is an EHR framework dependent on the cloud condition. Distributed computing is overseen by a cloud supplier, which has focal points as far as expense and framework extension when contrasted with existing frameworks [8]. Persistent information can likewise be shared and overseen by different human services suppliers.

In any case, an EHR framework in the cloud condition accompanies extra security issues contrasted with a solitary framework condition since patient information trade happens between the cloud stage and different human services foundations [9]. Patients data may cause security and protection issues since it contains delicate and private information about the patient (e.g., wellbeing status data, arrangement of social insurance, instalment for human services, distinguishing proof of the patient) [10]. This data must be maneuverer carefully on the grounds that its presentation would establish a serious break of the protection of the person. The EHR framework must be intended to ensure security and protection when sharing individual patient data [11].

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AN EFFICIENT AUTOMATED PARSE SYSTEM APPROACH FOR HUGE COLLECTION OF RECORDS

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Abstract— As one of the basic assignments in content investigation, state mining goes for removing quality expressions from a content corpus and has different downstream applications including data extraction/recovery, scientific categorization development, and theme displaying. Most existing strategies depend on unpredictable, prepared phonetic analysers, and along these lines likely have inadmissible execution on content corpora of new areas and classifications without additional yet costly adaption. None of the best in class models, even information driven models, is completely automated in light of the fact that they require human specialists for structuring rules or naming expressions. In this paper, we propose a novel system for computerized express mining, Auto Phrase, which bolsters any language up to a general information base (e.g., Wikipedia) in that language is accessible, while profiting by, however not requiring, a POS tagger. Contrasted with the cutting-edge strategies, Auto Phrase has indicated critical enhancements in both viability and proficiency on five genuine world datasets crosswise over various areas and dialects. Furthermore, Auto Phrase can be stretched out to demonstrate single-word quality expressions.

Index Terms—Automatic Phrase Mining, Phrase Mining, Distant Training, Part-of-Speech tag, Multiple Languages

1. INTRODUCTION

Expression mining alludes to the procedure of programmed extraction of expressions (e.g., logical terms and general substance names) in a given corpus (e.g., news). Speaking to the content with quality expressions rather than n-grams can improve computational models for applications, for example, data extraction/recovery, scientific classification development, and subject displaying.

Practically all the best in class strategies, nonetheless, require human specialists at specific dimensions. Most existing techniques, depend on intricate, prepared semantic analysers (e.g., reliance parsers) to find express notices, and in this manner may have inadmissible execution on content corpora of new areas and types without additional yet costly adaption. Our most recent area free technique SegPhrase beats numerous other approaches, yet at the same time needs space specialists to first cautiously choose many changing quality expressions from a huge number of hopefuls, and afterward clarify them with parallel names.

Such dependence on manual endeavours by area and linguistic specialists turns into an obstruction for auspicious investigation of monstrous, developing content corpora in explicit spaces. A perfect mechanized expression mining technique should be area autonomous, with negligible human exertion or dependence on semantic analysers. Remembering this, we propose a novel automated express mining system

Auto Phrase in this paper, going past SegPhrase, to additionally keep away from extra manual marking exertion and upgrade the execution, chiefly utilizing the accompanying two new methods.

1) Robust Positive-Only Distant Training. Indeed, some excellent expressions are openly accessible when all is said to be done in learning bases, and they can be effectively acquired to a scale that is a lot bigger than that delivered by human specialists. Space explicit corpora for the most part contain some quality expressions likewise encoded in general learning bases, notwithstanding when there might be no other area explicit information bases. Along these lines, for far off preparing, we influence the current fantastic expressions, as accessible from general knowledge bases, for example, Wikipedia and Freebase, to dispose of extra manual marking exertion. We autonomously construct tests of positive marks

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Internal Intrusion Detection System Employing Data Mining And Forensic Techniques

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Abstract: Intrusion Detection is an activity that determines whether a process or user is attempting something unexpected. It works on the basis of examining activity on a specific machine or network and deciding whether the activity is normal or suspicious. However, attackers may install Trojans to pilfer victims login patterns or issue a large scale of trials with the assistance of a dictionary to acquire users passwords. When among all well-known attacks such as pharming attack, distributed denial-of-service (DDoS), eavesdropping attack, and spear successful, they may then log in to the system, access users' private files, or modify or destroy system settings. We propose a security system in which the Log File is Stored into two different forms as well as in two different places. Log file in plain text from is stored on target host and a copy of same log file is stored in another host called log manager. When intruder tried to acquire log file Ids running on the based host to detect exact intrusion and then it will be give an alert to security administrator about the intrusion which is take require decision to mitigate them. The IIDPS uses data mining and forensic profiling techniques to mine system call patterns (sc-patterns) defined as the longest system call sequence (sc-sequence) that has repeatedly appeared several times in a user's log file for the user thereby providing enhanced privacy and security.

Keywords: Distributed Denial-of-Service (DDoS), IIDPS, Intrusion Detection Systems (IDSs).

I. INTRODUCTION

In the past decades, computer systems have been widely employed to provide users with easier and more convenient lives. Generally, phishing insider attack is one of the most difficult ones to be detected because firewalls and intrusion detection systems (IDSs) usually defend against outside attacks. However, when people exploit powerful capabilities and processing power of computer systems, security has been one of the serious problems in the computer domain since attackers very usually try to penetrate computer systems and behave maliciously, e.g., stealing critical data of a company, making the systems out of work or even destroying the systems. Computer forensics science, which views computer systems as crime scenes, aims to identify, recover, analyze, preserve and present facts and opinions on information collected for a security event it analyzes what attackers have done such as spreading computer viruses, malwares, and malicious codes and conducting DDOS attacks most intrusion detection techniques focus on how to find malicious network behaviours , and acquire the characteristics of attack packets, i.e., attack patterns, based on the histories recorded in log files. In this we used self-developed packet sniffer to collect network packets with which to discriminate network attacks with the help of network states these files contain traces of computer misuse. The authors systematically summarized and compared different intrusion detection methods, thus allowing us to clearly view those existing research challenges. Which collects forensic features for users at command level rather than at sc level, by invoking data mining and techniques developed. Moreover, if attackers use many sessions to issue attacks, e.g., DDOS attacks or multistage attacks then it is not easy for that system to identify attack patterns.

Presented ids that utilizes a forensic technique to profile user behaviors and a data mining technique to cooperative and carry out attacks. Intrusion Detection is an activity that determines whether a process or user is attempting something unexpected. It works on the basis of examining activity on a specific machine or network and deciding whether the activity is normal or suspicious. It can either compare current activity to known attack patterns or simply raise an alarm condition when specific measurements exceed preset values. To authenticate users, currently, most systems check user ID and password as a login pattern. However, attackers may install Trojans to pilfer victims' login patterns or issue a large scale of trials with the assistance of a dictionary to acquire users' passwords. When among all well-known attacks such as pharming attack, distributed denial-of-service (DDoS), eavesdropping attack, and spear successful, they may then log in to the system, access users' private files, or modify or

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An Optimised Defragmentation Approach for Redundancy Elimination by Utilising Backup History and Cache Storage

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Abstract: In reinforcement situations field deduplication yields significant points of interest. Deduplication is procedure of programmed disposal of copy information away framework and it is best method to lessen stockpiling costs. De duplication impacts typically in information fracture, in light of the fact that intelligently ceaseless information is spread crosswise over numerous plate areas. Fracture for the most part brought about by copies from past reinforcements of the same back miracle, since such copies are continuous because of rehashed full reinforcements containing a great deal of information which is not changed. Frameworks with in-line De-duplicate means to recognizes copies amid composing and abstains from putting away them, such discontinuity causes information from the most recent reinforcement being scattered crosswise over more seasoned reinforcements. This overview concentrated on different methods to distinguish inline deduplication. According to writing, need to build up a concentration on deduplication lessen the time and storage room. Proposed novel technique to maintain a strategic distance from the diminishment in reestablishing execution without lessening compose execution and without influencing deduplication adequacy.

Keywords: Chunking, Defragmentation, Redundancy, De Duplication, Fragmentation, Recovery.

I. INTRODUCTION

In cutting edge innovation's reality with assortment of use prompts development of put away advanced data, copy information is accepting expanded consideration. From most recent couple of years chronicled and reinforcement frameworks utilized programmed expulsion strategy to evacuate copy information and as of late have ended up normal for a few stockpiling apparatuses. Since most recent couple of decades' deduplication increased extraordinary notoriety in field of capacity. The adequacy of such strategy in diminishing both time required finishing reinforcements and storage room is important to spare them. Beside its compose execution, read execution of the deduplication stockpiling has been achieving in significance with an extensive variety of its uses. Deduplication is characterized as a procedure of consequently disposing of coarse-grained and irrelevant copy information. Primary target of deduplication is to dispose of both interfile and interfile repetition over huge datasets, put away at various times by awkward clients. Generally, execution of a deduplication framework is measured by the information deduplication proportion, maximal compose execution will reestablish data transfer capacity. The read data transfer capacity is generally useful for an underlying reinforcement spared to a vacant framework, however devalues for resulting reinforcements. The event of this issue is because of information fracture brought about by in-lined duplication which brings about information sensibly having a place with a penny reinforcement dispersed through various & more established reinforcements. Fracture for the most parts created by copies from past reinforcements of the same reinforcement set, since such copies are regular because of rehashed full reinforcements containing a considerable measure of information which is not changed. The rest of the paper can be summed in next area concentrates some prior created techniques for in-line deduplication.

II. RELATED WORK

The proposed plan gives two-fold approach, initial, a novel pointer for dedupe plan called reserve mindful Chunk Fragmentation Level (CFL) screen and second particular duplication for development read execution. The CFL is comprises of two parameters: ideal piece fracture and store mindful current lump discontinuity. At whatever point the current CFL turns out to be more awful than the requested one, then particular duplication system is actuated to improve read execution. Proposed plan guarantees requested read execution of every information stream while finishing its compose execution at viable level furthermore ensured an objective framework recuperation Time. Significant disadvantage of specific duplication is that it requires additional memory space brought in memory temp holder. To

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A Novel Approach for Detecting and Securing Malicious Facebook Applications

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Abstract: The popularity and reach of Face book has also attracted a lot of spam, phishing, malware, and other types of malicious activity. Attackers lure victims into clicking on malicious links pointing to external sources, and in literate their network. These links can be spread either through personal messages (chats), or through wall posts. To achieve maximum visibility, attackers prefer to post links publicly. Typically, an attacker initiates the attack by posting memes with attention grabbing previews, which prompt users to like, share, or comment on them in order to view them. The actions of liking, commenting or sharing spread these memes into the victim's network. In this paper, we ask the question: given a Face book application, can we determine if it is malicious? Our key contribution is in developing FR App E—Face book's Rigorous Application Evaluator— arguably the first tool focused on detecting malicious apps on Face book. To develop FR App E, we use information gathered by observing the posting behaviour of 100 thousand Face book apps seen across 2.2 million users on Face book. First, we identify a set of features that help us distinguish malicious apps from benign ones. For example, we find that malicious apps often share names with other apps, and they typically request less permission than benign apps. Second, leveraging these distinguishing features, we show that FR App E can detect malicious apps with 99.5% accuracy, with no false positives and a low false negative rate (4.1%). Finally, we explore the ecosystem of malicious. Face book apps and identify mechanisms that these apps use to propagate.

Keywords: (CBIR) Content Based Information Retrieval, (OSM) Online Social Media, (PCBIR) Privacy-Preserving CBIR System.

I. INTRODUCTION

Online social media services like Face book witness an exponential increase in user activity when an event takes place in the real world. This activity is a combination of good quality content like information, personal views, opinions, comments, as well as poor quality content like rumors, spam, and other malicious content. Although, the good quality content makes online social media a rich source of information, consumption of poor quality content can degrade user experience, and have inappropriate impact in the real world. In addition, the enormous popularity, promptness, and reach of online social media services across the world makes it essential to monitor this activity, and minimize the production and spread of poor quality content. Multiple studies in the past have analyzed the content spread on social networks during real world events. However, little work has explored the Face book social network. Two of the main reasons for the lack of studies on Face book are the strict privacy settings, and limited amount of data available from Face book, as compared to Twitter. With over 1 billion monthly active users, Face book is about times bigger than its next biggest counterpart Twitter, and is currently, the largest online social network in the world. In the Internet era, multimedia content is massively produced and distributed. In order to efficiently locate content in a large-scale database, content-based search techniques have been developed.

They are used by content based information retrieval (CBIR) [1] systems to complement conventional keyword-based techniques in applications such as near-duplicate detection, automatic annotation, recommendation, etc. The main challenge is that the search has to be performed without revealing the original query or the database. This motivates the need for privacy-preserving CBIR (PCBIR) systems. Privacy raised early attention in biometric systems, where the query and the database contain biometric identifiers. Biometric systems rarely keep data in the clear, fearing thefts of such highly valuable data. Similarly, a user is reluctant in sending his biometric template in the clear. Conventionally, biometric systems [5] rely on cryptographic primitives to protect the database of templates. Users are today forced to trust the service providers for the use of their profiles. Although CBIR systems have not been widely deployed yet, similar threats exist. Recently, the one-way privacy model for CBIR was investigated [1]. The one-way privacy setting assumes that only the user wants to over the past decade, online social media (OSM) has stamped its authority as one of the largest information propagators on the Internet. OSN

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Assessment of Attacks to Fingerprint, Iris and Face Recognition Verification Systems

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Abstract: In this paper, we propose a novel system with the help of java is to enhance the security of biometric recognition frameworks, by adding liveness assessment in a fast, user-friendly, and non-intrusive manner, through the use of image quality assessment, which measures structure loss based on statistical moments, i.e., the mean and variance, represents mainly the luminance change of pixels rather than describing the spatial distribution. However, the human visual system (HVS) is highly adapted to extract structures with regular spatial distributions. In this paper, we employ a self-similarity based procedure to describe the spatial distribution of image structures. Then, combining with the statistical characters, we improve the structural similarity based quality metric. The proposed approach presents a very low degree of complexity, which makes it suitable for real-time applications, using 25 general image quality features extracted from one image (i.e., the same acquired for authentication purposes) to distinguish between legitimate and impostor samples..The experimental results, obtained on publicly available data sets of fingerprint, iris, and 2D face, show that the proposed method is highly competitive compared with other state-of-the-art approaches and that the analysis of the general image quality of real biometric samples reveals highly valuable information that may be very efficiently used to discriminate them from fake traits.

Keywords: Image Quality Assessment, Biometrics, Security, Attacks, Countermeasure.

I. INTRODUCTION

As a mathematical technology of the human behaviors in image quality evaluation, objective image quality assessment (IQA) metric has been widely used in various image processing application, e.g., compression, transmission and restoration[1]. The simplest and most common quality metrics are the mean square error (MSE) and the peak signal-to-noise ratio(PSNR), which directly compute the differences between the reference and distorted images. But both metrics do NOT accord with the human visual perception well, since the signal error is not equivalent to the degradation of visual quality in the human visual system (HVS). Considering the perceptual characteristic of the HVS, Wang et al. introduced a structural similarity (SSIM) based quality metric [4]. The SSIM metric is under the assumption that the HVS is highly adapted to extract structural information from an input scene. In the SSIM metric, the image structure is represented by statistical characters, e.g., the mean and variance, and image quality is measured based on the similarity between these statistical characters. This metric imitates the human perception on image structure and returns a better assessment result (be more consistent with the HVS) than MSE and PSNR. Furthermore, Wang et al. improved the SSIM metric by taking the variations of the viewing conditions into account, and introduced a multi-scale structural similarity (MS-SSIM) based quality metric [2]. As an extension of the single scale SSIM metric, the MS-SSIM metric further promotes the performance on image quality assessment. In [3], Li and Bovik segmented the image into three types of region, i.e., plain, edge, and texture, and gave different weights to the quality results (evaluated by the SSIM metric) of these regions.

In addition, the edge structure represents the major information for visual perception and plays a crucial role in the recognition for image content [1][5]. And therefore, Liu et al. [5] improved the SSIM metric by considering the edge similarity. All these initiatives clearly highlight the importance given by all parties involved in the development of biometrics (i.e., researchers, developers and industry) to the improvement of the systems security to bring this rapidly emerging technology into practical use. Fake biometrics means by using the real images (Fig 1. Iris images captured from a printed paper and Fig 2. Fingerprint captured from a dummy finger) of human identification characteristics create the fake identities like fingerprint, iris on printed paper. Fake user first capture the original identities of the genuine user and then they make the fake sample for authentication but biometric system have more method to detect the fake users and that's why the biometric system is more secure, Because each person have their unique characteristics identification. Biometrics system is more secure than other security methods like password, PIN, or card and key.

A Biometrics system measures the human characteristics so users do not need to remember passwords or PINs which can be forgotten or to carry cards or keys which can be stolen. Biometric system is of different type that are face recognition system, fingerprint recognition system, iris

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A Novel Code Regeneration Public Auditing Approach for Fault Tolerant Cloud Storage System

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Abstract: To protect the outsourced data in cloud storage against corruptions and inconsistencies, adding up fault tolerance to cloud storage jointly with data integrity checking and failure reparation becomes necessary. Recently, the regenerating codes have gained significance due to their lower repair bandwidth and due to their fault tolerance capabilities. The Earlier remote checking methods for regenerating coded data only provides personal auditing and requires data owners to always keep online and handle auditing, as well as repairing, which is sometimes not practical. In this paper, we recommend a public auditing scheme for the regenerating-code-based cloud storage. To overcome this regeneration problem of failed authenticators in the lack of data owners, we commence a proxy, which is confidential to regenerate the authenticators, into the usual public auditing system model. Introduction of cloud audit server eliminates the contribution of user in the auditing and in the pre-processing phases. In our approach, the client cannot store any large set of data locally except a secret key which is required for encryption. In contrast with the previous methods, we also avoid the requirement of encrypting complete data at client side thereby saving client computational time. The proposed approach is also applicable for big static data such as video files, audio files and social networking data etc.

Keywords: Code Regeneration, Public Auditing, Cloud Storage, Fault Tolerant.

I. INTRODUCTION

In recent years, the usage of computers, mobile devices and social sites has become a part of day to day activities. Distribution of information, photographs, video and audio files have permitted user to communicate and utilize effective storage space in the Internet without worrying to purchase physical storage locally. All these data can be stored anywhere in Internet and Cloud is found to be a default choice due to its mobility and transparency. Cloud storage is now gaining attraction as it offers a flexible on-demand data outsourcing service with interesting benefits, release of the burden for storage management, worldwide data access with location independence, and avoidance of capital expenses on hardware, software, and personal cares, etc., [4]. However, this new paradigm of data hosting service also leads to new security threats in the direction of user's data, thus making individuals or enterprisers to feel quiet hesitant. It is well-known that data owners may lose control over their outsourced data; thus, the accuracy, accessibility and integrity of the data are being put at risk. On the one hand, the cloud service is usually met with a broad range of internal/external challenges, who would unkindly delete, intrude or corrupt users' data; on the other hand, the cloud service providers may act unfairly, attempting to skin data loss or corruption and requesting that the files are still properly stored in the cloud for status or financial reasons. Thus it makes excessive sense for users to implement an efficient protocol to reach periodical verifications of their outsourced data to confirm that the cloud indeed keeps their data properly.

Numerous mechanisms dealing with the integrity of outsourced data without a local copy have been planned under dissimilar system and security models. The greatest significant work among these studies are the ODP (obvious data possession) model and POR (proof of irretrievability) model, which were originally advance for the single-server scenario by Attendees et al. [5] and Jules and Kaliski [2], respectively. Considering that files are usually stripy and redundantly stored across multi-servers or multicourse, [6]–[7] explore integrity verification policies suitable for such multi-servers or multi-clouds setting with different redundancy schemes, set for such multi-servers or multicourse setting with varied redundancy schemes, such as, copying erasure codes, and, more recently, regenerating codes. While cloud computing makes these favorable more appealing than ever, it also brings new and difficult security threats forward users' outsourced data. Since cloud service providers (CSP) are isolated administrative entities, data outsourcing is actually relinquishing user's ultimate deal over the fate of their data. As a result, the In this paper, we focus on the integrity confirmation problem in regenerating-code-based cloud storage, especially with the functional repair strategy [13]. Similar studies have been performed by Chen et al. [8] and Chen and Lee [9] separately and independently. [8] prolonged the single-server CPOR scheme (private version in

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An Improvised DOS/DSOS Attack Detection and Prevention Approach by Puzzle Resource Inflation

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Abstract: In this paper, we study how to prevent DoS/DDoS attackers from inflating their puzzle-solving capabilities. To this end, we introduce a new client puzzle referred to as software puzzle. Unlike the existing client puzzle schemes, which publish their puzzle algorithms in advance, a puzzle algorithm in the present software puzzle scheme is randomly generated only after a client request is received at the server side and the algorithm is generated such that: 1) an attacker is unable to prepare an implementation to solve the puzzle in advance and 2) the attacker needs considerable effort in translating a central processing unit puzzle software to its functionally equivalent GPU version such that the translation cannot be done in real time. The seriousness of the DoS/DDoS problem and their increased frequency has led to the advent of numerous defence mechanisms. In this paper, we are particularly interested in the countermeasures to DoS/DDoS attacks on server computation power. DoS and DDoS are effective if attackers spend much less resources than the victim server or are much more powerful than normal users.

Keywords: Denial of Service (DoS), Distributed DoS (DDoS), Security, Puzzle.

I. INTRODUCTION

Denial of Service (DoS) attacks and Distributed DoS (DDoS) attacks attempt to deplete an online service's resources such as network bandwidth, memory and computation power by overwhelming the service with bogus requests.1 For example, a malicious client sends a large number of garbage requests to an HTTPS bank server. As the server has to spend a lot of CPU time in completing SSL handshakes, it may not have sufficient resources left to handle service requests from its customers, resulting in lost businesses and reputation. DoS and DDoS attacks are not only theoretical, but also realistic, e.g., Pushdo SSL DDoS Attacks. DoS and DDoS are effective if attackers spend much less resources than the victim server or are much more powerful than normal users. In the example above, the attacker spends negligible effort in producing a request, but the server has to spend much more computational effort in HTTPS handshake (e.g., for RSA decryption). In this case, conventional cryptographic tools do not enhance the availability of the services. In fact, they may degrade service quality due to expensive cryptographic operations. The existing client puzzle schemes assume that the malicious client solves the puzzle using legacy CPU resource only. However, this assumption is not always true. Presently, the many-core GPU (Graphic Processing Unit) component is almost a standard configuration. The drawback in the existing system include

- An attacker can inflate its capability of DoS/DDoS attacks with fast puzzle solving software and/or built-in graphics processing unit (GPU).
- Hardware to significantly weaken the effectiveness of client puzzles.

The above drawbacks are overcome in the proposed system. Software puzzle scheme is proposed for defeating GPU-inflated DoS attack. It adopts software protection technologies to ensure challenge data confidentiality and code security for an appropriate time period. After receiving the software puzzle sent from the server, a client tries to solve the software puzzle on the host CPU, and replies to the server, as the conventional client puzzle scheme does. The practical strategy of the attacker is to accelerate the brute force process by exploiting the parallel computation capability of GPU cores. In the proposed approach, the attacker needs considerable effort in translating central processing unit puzzle software to its functionally equivalent GPU version such that the translation cannot be done in real time. Moreover, we show how to implement software puzzle in the generic server-browser model. Unlike the existing client puzzle schemes, which publish their puzzle algorithms in advance, a puzzle algorithm in the present software puzzle scheme is randomly generated only after a client request is received at the server side and the algorithm is generated such that an attacker is unable to prepare an implementation to solve the puzzle in advance and the attacker needs considerable effort in translating a central processing unit

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A Novel Image Broadcasting Method using Secret-Fragment-Visible Mosaic Images through Inverse Color Transformations

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Abstract: Color Images from different sources are regularly utilized and are transmitted through the web for different purposes, for example, private endeavor chronicles, report stockpiling frameworks, medicinal imaging frameworks, and military picture databases. These pictures may contain mystery or classified data since it ought to be shielded from spillage amid transmissions. A methodology for secure picture transmission is required, which is to change a mystery picture into an important Secret Fragment Mosaic picture with size practically same and appearing to be like the preselected target picture. The mosaic picture is the result of masterminding of the piece parts of a mystery picture in a manner to camouflage the other picture called the objective picture. The mosaic picture, which appears to be like an arbitrarily chosen target picture, which is utilized for stowing away of the mystery picture by shading changing their qualities like the pieces of the objective picture. Such system is essential so for the lossless recuperation of the transmitted mystery picture. The suitable data is implanted into the mosaic picture for the recuperation of the transmitted mystery picture. Great trial results demonstrate the possibility of the proposed technique.

Keywords: Color Transformation, Data Hiding, Image Encryption, Mosaic Image, Secure Image Transmission.

I. INTRODUCTION

These days, images from different sources are regularly utilized and are transmitted through the web for different applications, for example, classified endeavor documents, report stockpiling frameworks, therapeutic imaging frameworks, and military picture databases. These pictures generally contain private or secret data so that they ought to be shielded from spillages amid transmissions. As of late, numerous routines have been proposed for securing picture transmission, for which two regular methodologies are picture encryption and information covering up. Encryption of picture is a method that make utilization of the normal property of a picture, for example, high repetition and solid spatial relationship, to get a scrambled picture. The scrambled picture is good for nothing and this may stir the outsiders consideration because of its arbitrariness in structure amid transmission. Another technique for secure picture transmission is information concealing that shrouds a mystery element into a spread picture so that an outsider can't discovered the vicinity of the mystery substance. The issue of information covering up is the trouble in installing substantial volume of mystery element into a solitary picture. In the event that anybody needs to shroud a mystery element into a spread picture, the mystery substance must be exceptionally compacted before. Amid recovery this will bring about twisting of the mystery element.

In this paper, we propose an approach for secure image transmission is needed, which is to transform a secret image into a meaningful Secret Fragment Mosaic image with size almost same and looking similar to the preselected target image. The mosaic image is the outcome of arranging of the block fragments of a secret image in a way so as to disguise the other image called the target image. The mosaic image, which looks similar to a randomly selected target image, which is used for hiding of the secret image by color transforming their characteristics [5] similar to the blocks of the target image. Such technique is necessary so for the lossless recovery of the transmitted secret image. The encoded picture is a commotion picture so that nobody can acquire the mystery picture from it unless he/she has the right key. Be that as it may, the encoded picture is a trivial record, which can't give extra data before decoding and may stimulate an aggressor's consideration amid transmission because of its irregularity in structure. A distinct option for keep away from this issue is information concealing [8]–[18] that shrouds a mystery message into a spread picture so that nobody can understand the presence of the mystery information, in which the information sort of the mystery message explored in this paper is a picture. Existing information concealing systems predominantly use the strategies of LSB substitution [8], histogram moving[9], distinction development[10]–[11], expectation slip extension[12]–[13], recursive histogram alteration[14],and discrete cosine/wavelet changes[15]-[18].

Notwithstanding, with a specific end goal to lessen the contortion of the subsequent picture, an upper headed for the mutilation worth is normally situated on the payload of the

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PATTERN GENERATION FROM SPATIAL DATABASE FOR THE AUTOMATED INTERPRETATION OF REMOTELY SENSED IMAGERY

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Abstract

In the literature many techniques have been proposed for the digital image analysis, but it is found that not all are suited for the spatial images due to the complexity of spatial data. In order to facilitate the efficient analysis of spatial images, this paper presents a methodology in which different advanced algorithms of spatial image processing are integrated with techniques adapted from data mining to generate an object based system that successfully performs the multi-resolution analysis of spatial images and recognises various regions from spatial images by exploiting their contextual information of shape and texture. In the proposed work, the spatial images are processed and analysed at different levels or scales for efficient extraction of information. The basic idea is to use domain concepts to build generic description of patterns from spatial database, and then utilise structural approaches to identify such patterns in spatial images.

Introduction

With the development of technology and advances in spatial image acquisition and storage technology we are facing with huge and continuously growing spatial images as a result of which it has become impossible to interpret all these images manually. These spatial images, if analysed efficiently can play an important role in the information decision support systems, especially to classify land cover, assist urban planning, hazard prediction, various fields of landscape & regional planning or land system inventories and civil & military intelligence utilities.

Since remotely sensed images consist of rows and columns of pixels, per-pixel approach, either supervised or un-supervised, has been the conventional method for image analysis including land cover mapping (Dean and Smith, 2003). Pixel-based classification methods, by using spectral classification techniques, assign a pixel to a class fundamentally according to the spectral similarities (Gao et al., 2006). Although these methods are well developed and many successful applications (Dean and Smith, 2003; Pierce et al., 1994; Carrasco et al., 2000; Asner et al., 2003; Zhou and Robson, 2001) have been reported, they suffers-from the drawback of ignoring the spatial pattern in classification.

Unlike the conventional pixel-based methods, an object-oriented method treats the image as a set of meaningful objects rather than single pixels (Giada et al., 2003; Zhang et al., 2011). Image objects are contiguous regions which together constitute the spatial image. In image classification, the object based approach allows to explore not only digital value of pixel (defined in spectral domain, as the pixel based method does) but also considers other features associated with size, shape, pattern, texture which is widely as contextual information.

In this paper, a methodology is proposed for performing the efficient analysis of spatial images in which different algorithms of spatial image processing are integrated with techniques adapted from data mining to generate an object based system that successfully performs the multi-resolution analysis of spatial images and recognises various regions from spatial images by exploiting their contextual information of shape and texture. The basic idea is to use domain concepts to build generic description of patterns from spatial database, and then utilise structural approaches to identify such patterns in spatial images.

Aims and Objectives

The system is developed with an aim of recognising the different regions contained in spatial images, classifying them based on their contents, calculating the area occupied by different regions and estimating the dominant region. Among the various regions of geographic system, we have focus on water, terrestrial, mountainous, inhabitant and vegetation regions which constitute

Rumour Detection Models & Tools for Social Networking Sites

Mohammed Mahmood Ali, Mohammad S. Qaseem, Ateeq ur Rahman

Abstract: ***Efficient utilization of social networking sites (SNS) had reduced communication delays, at the same time increased rumour messages. Subsequently, mischievous people started sharing of rumours via social networking sites for gaining personal benefits. This falsified information (i.e., rumour) creates misconception among the people of society influencing socio-economic losses by disrupting the routine businesses of private and government sectors. Communication of rumour information requires rigorous surveillance, before they become viral through social media platforms. Detecting these rumour words in an early stage from messaging applications needs to be predicted using robust Rumour Detection Models (RDM) and succinct tools. RDM are effectively used in detecting the rumours from social media platforms (Twitter, LinkedIn, Instagram, WhatsApp, Weibo sena and others) with the help of bag of words and machine learning approaches to a limited extent. RDM fails in detecting the emerging rumours that contains linguistic words of a specific language during the chatting session. This survey compares the various RDM strategies and Tools that were proposed earlier for identifying the rumour words in social media platforms. It is found that many of earlier RDM make use of Deep learning approaches, Machine learning, Artificial Intelligence, Fuzzy logic technique, Graph theory and Data mining techniques. Finally, an improved RDM model is proposed in Figure 2, efficiency of this proposed RDM models is improved by embedding of Pre-defined rumour rules, WordNet Ontology and NLP/machine learning approach giving the precision rate of 83.33% when compared with other state-of-art systems.***

Keywords **:** ***Social Networking Sites (SNS), Rumour Detection models (RDM), Pre-defined rules, WordNet Ontology.***

I. INTRODUCTION

With the use of Social media platforms there is a tremendous increase in spreading of rumours on various topics and domains. Now-a-days, these social messaging applications are excessively used in promoting of events, Advertisements, New's channels, sharing of market data and business transactions. Sometimes, these microblogs communicate the false information which leads to misunderstanding among the group of people creating mental tensions in the society. Surveillance of falsified information (i.e., rumour) needs to be strictly monitored by e-crime cell. The e-crime cell is authorized to take stringent action against those culprits for sending rumours through SNS. Sending of deceitful and false information named as "rumour", which is one of the serious cybercrimes as per the FISA Act [4]. Spreading of rumours through Websites and Social media platforms, mobile phones, laptops and vice versa may encounter various problems in the society that hinders the development by creating mental tensions among the people [5]. Specifically, many of the electronic rumours spread through mobile messaging applications is very difficult to catch at the initial stages unless it is notified by the users, and these short posts exists for short life span at the server. Similarly, microblogs communicated or shared via various interchangeable social media platform to other social mediums (i.e., WhatsApp to Facebook, Google+ to Instagram, Instagram to WhatsApp, youtube to WhatsApp, Facebook to WhatsApp and vice versa) differs in their messaging architecture and privacy restrictions of storing and retrieving policies that makes it difficult to identify the rumour words when they are encountered in microblogs [6]. Radio agencies and News channels also plays a vital role in sending of rumours through audio, video or conference communication, which becomes impossible to analyze and stop their transmissions at run-time, such contents once viewed in mobile phones are automatically auto-saved in the memory and hence, are transmitted to others at later point of time. Spying of such rumour voice communications and video recordings is still a research issue that requires rigorous surveillance at various instance of timestamps. Every post may not be a rumour, identifying factual microblogs from set of cluster of posts that are sent through social media is predicted using ranking algorithm from various enquiry patterns [7]. Twitter messaging application which is widely used by millions of people for posting, giving reply to specific tweets, forwarding of tweet to other users adversely influence on Health domains by creating mental tension in the society. To overcome, health domain problems from Twitter, few parameters are picked for evaluation such as statistics of users, sentiments of specific tweets, followers of root of tweet along with URLs and fed to classifiers for finding the rumours [3]. A new classification algorithm was proposed using statistical metrics for segregation of rumour and non-rumour twitter posts based on users frequency of interaction, structure & network establishment, temporary connectivity and linguistic features. It is concluded that linguistic features evolved to be on top-priority with good accuracy rate in classification of rumours and non-rumours for tweets that vary for long duration [10]. Another study, suggest that rumours are detected by supervised (well-labelled datasets), unsupervised (unknown labels), and hybrid based (known and unknown keywords) approaches [5].

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Cloud Computing Data Group Distribution as Well as Restricted Distribution with Multi Owner

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Abstract: ***with the quick headway of cloud organizations, monstrous volume of information is shared through distributed computing. But cryptographic strategies have been utilized to give information mystery in distributed computing, current instruments can't approve assurance stresses over ciphertext related with numerous proprietors, which makes co proprietors unfit to reasonably control whether information disseminators can truly disperse their information. In this paper,we propose a sheltered information bunch sharing and prohibitive dispersal plot with multiproprietor in distributed computing, in which information proprietor can grant private information to a gathering of customers by methods for the cloud in a protected way, and information disseminator can spread the information to anothergathering of customers if the characteristics satisfy the passageway approaches in the ciphertext. We further present a multiparty get the chance to control instrument over the dispersed ciphertext, in which the information coproprietors can attach new access ways to deal with the ciphertext due to their security tendencies. Moreover, approach's, proprietor need and lion's offer permit, realized by different access methodologies. The security examination and test outcomes show our arrangements helpful and powerful for secure information offering to multi proprietor in distributed computing.***

Keywords: ***Information sharing, distributed computing, contingent intermediary re-encryption, trait based encryption, security struggle***

I. INTRODUCTION

The predominance of distributed computing is gotten fr om the upsides of rich storing resources and minute get to. It adds up to the advantages of figuring system, and subsequently gives on-demand benefits over the Internet. Various acclaimed association tare as of now giving open cloud organizations, for instance, Amazon, Google, Alibaba. These organizations empower singular customers and undertaking customers to move information (for instance photos, chronicles and reports) to cloud authority association (CSP), to get to the information at whatever point wherever and offering the information to others. In order to verify the insurance of customers, most cloud organizations achieve get the chance to control by keeping up get the chance to control list (ACL). Consequently, customers can choose to either disseminate their information to anyone or grant get to rights essentially to their asserted people. Regardless, the security perils have brought stresses up in people, in view of the information is taken care of in plaintext structure by the CSP. When the information is displayed on the CSP, it is out of the information proprietor's control. Heartbreakingly, the CSP is commonly a semi trusted in server which really seeks after the doled out show, yet may assemble the customers' information and even use them for benefits without customers' consents. On the other hand, the information has enormous uses by various information buyers to get acquainted with the direct of customers. These security issues animate the ground-breaking answers for guarantee information characterization. It is essential to grasp get the chance to control frameworks to achieve secure information participating in distributed computing. At present, cryptographic parts, for instance, quality based encryption (ABE) [5], character based imparts encryption (IBBE), and remote validation has been abused to settle these security and assurance issues. ABE is one of the new cryptographic frameworks used in distributed computing to land at confirm and fine-grained information sharing. It incorporates an instrument that engages a passageway control over encoded information using access draws near and credited characteristics among unscrambling keys and ciphertexts. For whatever time span that the quality set satisfies the passageway methodology that the ciphertext can be unscrambled. IBBE is another unavoidable methodology used in distributed computing, in which customers could bestow their encoded information to various gatherers in a steady progression and the all inclusive community key of the beneficiary can be seen as any considerable strings, for instance, novel character and email. Surely, IBBE can be seen as a phenomenal occurrence of ABE for plans involving an OR gateway. Appeared differently in relation to ABE in which the riddle key and ciphertext are both contrast with a great deal of properties, IBBE achieves ease key organization and minimal consistent technique sizes, which is dynamically sensible for securely conveying information to express beneficiaries in distributed computing. From this time forward, by using characters, information proprietor can give information to a gathering of customers in a secured and capable manner, which rouses more customers to share their private information by methods for cloud. Everything considered, these encryption methodologies can deflect unapproved components (for instance semi-trusted CSP and toxic customers) from getting to the information, yet it may not consider information

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Provide the Safe Environments for Cloud Computing using Authenticated Key Manage Procedure

E. Saikiran, Anubharti, Ateeq-ur-Rahman

Abstract: *with the development of cloud computing innovation regarding unwavering quality & proficiency, countless administrations have relocated to the cloud stage. To advantageous access to the administrations & secure the protection of correspondence in people in general system, 3-factor Mutual Authentication & Key Agreement conventions for multi-server designs increase extensive consideration. Be that as it may, the vast majority of the current 3-factor Mutual Authentication & Key Agreement conventions don't give a proper security verification bringing about different assaults going on associated conventions, or they have high calculation & correspondence expenditure. What's more, the majority of the 3-factor Mutual Authentication & Key Agreement conventions haven't a unique denial instrument, which prompts pernicious clients cannot be expeditiously disavowed. To concentrate on these downsides, we plan a unarguable unique revocable 3-factor Mutual Authentication & Key Agreement convention that accomplishes the client dynamic management utilizing Schnorr marks & gives proper security verification in the irregular prophet. Security examination shows that our convention can fulfill different needs in the multi-server situations. Execution investigation exhibits that the proposed plan is appropriate for computing asset obliged savvy gadgets.*

Key words: *- Safe Environments, Cloud computing, Authenticated Key*

I. INTRODUCTION

In the ongoing decade, cloud computing innovation has been totally marketed. It can improve administration proficiency as well as decrease costs. An ever increasing number of organizations are putting their administrations on the cloud stage for improvement, management & upkeep. This not just lessens the neighborhood upkeep trouble for these ventures, yet in addition gives brought together security & activity management for all administrations on the outsider cloud stage, as appeared in Fig.1. Albeit outsider cloud stages have all the more dominant innovations & increasingly standard specialized determinations to guarantee that the servers run in a moderately secure condition, clients & servers impart in general society arrange. In this manner, confirmation & key understanding are basic for the correspondence security. The utilization of shared verification & key understanding Mutual Authentication & Key Agreement conventions keep aggressors from mishandling server assets, yet in addition anticipate malevolent assailants acting like the server to get the client's data. Consequently, the Mutual Authentication & Key Agreement conventions have been widely contemplated since Lamport proposed a secret key based verification convention [1]. Prior Mutual Authentication & Key Agreement conventions are intended for single-server engineering. As Internet clients develop exponentially, the quantity of cloud servers rendering various administrations has additionally developed fundamentally. For the single-server design, it is hard for clients to keep up an assortment of passwords for every server.

II. LITERATURE REVIEW

In 2001, Li et al. presented the idea of verification convention for multi-server situations & proposed the primary secret key based Mutual Authentication & Key Agreement convention utilizing the neural system. Because of the convoluted neural system, Li et al's. Convention isn't reasonable for keen gadgets with constrained computing power. To improve effectiveness, Juang proposed a Mutual Authentication & Key Agreement convention for multi-server models by utilizing hash capacities & symmetric key cryptosystems. Around the same time, Chang et al. called attention to that Juang's convention is defective as far as effectiveness. They proposed an increasingly proficient Mutual Authentication & Key Agreement conspire for multi-server situations. In any case, in their convention R.C shares framework private key with all servers. This will without a doubt bring about numerous security vulnerabilities. To improve security, some new Mutual Authentication & Key Agreement conventions utilizing hash capacities & symmetric-key cryptosystems had likewise been proposed. In 2013, Liao et al. proposed a multi-server remote client confirmation convention utilizing self-ensured open keys for portable customers. In any case, their plan doesn't set up a mutual session key & the correspondence cost is unsatisfactory. Given the way that remote systems are open condition, the security insurance is likewise considered in such conventions. To give client secrecy, Das et al. proposed the principal dynamic 2-factor validation plot which utilizes dynamic pseudo-characters rather than a client's actual personality.

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Keyword Based Search Outcomes with Ranked Verification In Cloud Storage

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ABSTRACT

With the approach of cloud computing, an increasing number of persons have a tendency to outsource their information to the cloud. As a key information use, secure keyword search over encoded cloud information has intent the concern of more investigators. But, many of existing researchers depend on a perfect belief that the cloud server is "interested however legit", where the searched lists are most certainly not tested. In this paper, we consider moreover a difficult model, where the cloud server would most likely carry on deceitfully. In light of this model, we investigate the issue of result validation for the secure ranked keyword search. Not quite the same as past information confirmation plans, we propose a unique constrained based plan. With our precisely expressed verification information, the cloud server can't know which data owners, or what number of data owners trade handle information which will be utilized for confirming the cloud server's misconduct. With our deliberately planned confirmation development, the cloud server can't know which data owners' information are installed in the validation information buffer, or what number of data owners' searched information are really utilized for validation. All the cloud server identifies that, when he carries on deceptively, he would be found with a high possibility, and rejected genuinely once found. Besides, we propose to upgrade the estimation of parameters utilized as a part of the development of the secret validation information buffer. At last, with intensive investigation and broad analyses, we insist the adequacy and productivity of our proposed plans.

Keywords : Dishonest cloud server, data verification, deterrent, top-k search

I. INTRODUCTION

Cloud computing brings a lot of benefits, for privacy concerns, for security concerns, people and endeavor clients are hesitant to outsource their delicate information, including private photographs, individual wellbeing records, and business classified archives, to the cloud. Since once touchy information are outsourced to a remote cloud, the relating data owners specifically loses control of these information. The Apple's iCloud leakage of celebrity photograph in 2014 has furthered our concerned with respect to the cloud's information security. Encryption on touchy information before outsourcing is an option approach to protect information security against enemies.

In cloud computing, data owners might share their outsourced information with various data-users, who may need to just recover the information records they are involved in. some of the most conventional approaches to do as such is through keyword based recovery. Keyword based recovery an information benefit and broadly connected in plaintext situations, in which data-users recover valid records in a document set in view of keywords. Though, it ends up being a hard job in cipher-text situation because of restricted operations on encoded information. In addition, to enhance probability and save money on the cost in the cloud model, it is liked to get the recovery result with the most valid documents that match data-users enthusiasm rather than every one of the records, which shows that the records ought to be ranked in the request of applicability by data-users' benefit and just the records with the most amazing significance are sent back to data-users. A progress of searchable symmetric encryption (SSE) plans have been proposed to

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A Spatial Spectral Filtration (SSF) Based Correlated Coefficients Thresholding Approach for Image Denoising.

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***ABSTRACT*— In this paper, an improvised dynamic noise filtration technique is proposed for the denoising of images which is based on the filtration of spectral content of the image. This developed approach is termed as Spatial Spectral Filtration (SSF). In this denoising method, a spectral decomposition in multi frequency band using multiwavelets is presented and an enhanced thresholding concept is employed for suppression of the additive noise from the extracted frequency band information.**

The proposed method is based on the concept of recovering the spatial dependence of pixels in the noisy image that underwent the multiwavelet decomposition. The resulting decomposed coefficients that are highly correlated are taken as components of a vector and the thresholding operation is applied on the whole vector. In this work we have proposed an enhanced multivariate thresholding scheme which is designed especially for denoising of two dimensional images.

Simulation is performed on images distorted with additive white Gaussian noise at different levels and the obtained results reveal that this method is able to successfully eliminate noise to a reasonable extent and also the performance of this approach significantly surpasses that of conventional denoising techniques both subjectively and visually.

***Keywords*—Denoising, Gaussian Noise, Multiwavelets, Thresholding, Decomposition.**

I. INTRODUCTION

It is found that the image is contaminated with a lot of distortions during its capturing and transmission. These distortions results in noise intensities, blurriness and visual disturbances in the images which in turn leads to major errors in the prediction of bounding regions and estimation of descriptive features of the captured image. Recently, a range of nonlinear median type filtration techniques like weighted median [1] and relaxed median [2] has been proposed for overcoming this drawback. The wiener filtering [3] technique needs the data of the spectra of noise and original signal and is found to filter well only for smooth signals. The wiener filter [3] performs spatial smoothing and its model complexity control depends on selecting the window size. For overcoming the drawbacks of the wiener filtering, the wavelet based denoising approach was proposed in [4].

Filters in wavelet transform processing require a number of desirable features like regularity, symmetry, compact support and orthogonality. However due to implementation constraints, the scalar wavelets [5-7] cannot offer all these features simultaneously leading to less efficient denoising results than multiwavelets [8] which possess all these features simultaneously and offers much efficient processing capabilities than normal wavelets.

A multiwavelet system [8-11] can enhance the performance by offering superior processing at the borders employing linear-phase symmetry, Orthogonality, vanishing moments. Most of the existing methods [8-12] using multiwavelets, works only for one-dimensional signals for denoising of images. The problem in these approaches is that the thresholding technique independently processes the noise on each individual coefficients leading to less accurate denoising results.

For overcoming these drawbacks, an improvised dynamic noise filtration technique is proposed in this paper which is based on the filtration of spectral content of the image. This developed approach is termed as Spatial Spectral Filtration (SSF). In this denoising method, a spectral decomposition in multi frequency band using multiwavelets is presented and a thresholding concept is employed for suppression of the additive noise from the extracted frequency band information.

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Service Quality: A Review in the Context of Online Banking

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Abstract -This study made an attempt to review the antecedents and outcomes of service quality in the context of online banking. The findings of the study reveals that, online banking service quality is determined by six factors namely, ease of use, internet speed, information provision, website design, perceived benefit, and perceived risk. This, study also established links between study variables by proposing a conceptual model. Finally, this study has suggested the practical implications for bank managers.

Keywords: *service quality, online banking, satisfaction, value.*

Introduction

Service quality is said to be the most researched topic in the consumer behavior literature. Almost last three decades entire marketing literature was debated around the service quality, its antecedents and consequences. Service quality refers to the gap between expected service and the perceived performance(Anantharanthan Parasuraman, Zeithaml, & Berry, 1985). More specifically, the customerbuys service with certain prior expectations, once he consumes the product he evaluates the service based on his expectations. If his expectations are high and performance is low, the quality is said to be low(Grönroos, 1984). In contrast, if the performance is more than their expectations, the quality is said to be high.

The arrival of technology has made service delivery as simple as possible. Today majority of the customers are able to use technology for their service consumption or transaction(Yang & Fang, 2004). This usage of technology also widely seen in the banking sector(Pikkarainen, Pikkarainen, Karjaluoto, & Pahnila, 2004). Previously customers use to visit banks physically, but now banks are providing a provision of online services. Thus, the customer can stay home and do his transactions. In the consumer literature majority of the studies have researched the online service quality specifically in the banking sector. However, the antecedents of service quality seem to be not well explored(Ananthanarayanan Parasuraman, Zeithaml, & Malhotra, 2005). Thus this study made an attempt to fill this gap by exploring the service quality antecedents and consequences.

The following paragraphs discuss literature review in which antecedents and outcomes of online banking service quality are discussed, followed by methodology, discussions,and directions for future research.

Literature review

The conceptualization of service quality by(Anantharanthan Parasuraman et al., 1985)has changed the service industries face. The SERVQUAL was used by the majority of the scholars to evaluate the service business models. This service quality was applied in all the sectors including, transportation, retail, tourism, sport, and retail banking(Bahia & Nantel, 2000; Ittamalla, 2017; Spreng & Mackoy, 1996). The arrival of new technologies has challenged the customers as well as managers to get benefit out of usage. Thus, managers started exploring what are the factors that affect the usage of online services and on what base those services are evaluated by the customers(Pikkarainen et al., 2004). In the previous literature, some of the studies have explored various determinants of online service quality.

Ease of use:

Online banking the new phenomena for the Indian customers. Thus most of them are new to the technology. Thus, if the usage of online services is as simple as possible there is more likely that the customer adopts the technology(Loonam & O'loughlin, 2008). In contrast, if the usage of technology is difficult customer may not accept the online services and rate them as low quality(Han & Baek, 2004). Thus, ease of use is one of the critical determinants of online service quality.

Speed:

Another factor that influences the online service quality is the speed of processing. If the online service speed is not adequate, the customer may not show the interest towards technology(Bauer, Falk, & Hammerschmidt, 2006). Majority of the customers use online services because to save their time compared to the direct visit of the banks(Pikkarainen et al., 2004). Thus, the speed of the internet is a key aspect of the online service quality.

Website design:

Website design is the core aspect of online service usage. Specifically, aesthetics play a major role in engaging the customer during the online service delivery(Ittamalla, 2018).

FACTORS INFLUENCING CUSTOMER'S PERCEPTIONS OF SERVICE QUALITY, SATISFACTION AND LOYALTY IN THE BANKING SECTOR

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[2]Department of Management Studies, Osmania University

Abstract-The purpose of the study is to explore the factors influencing service quality, satisfaction,and loyalty in the banking sector. This study found, convenience, reliability, empathy, physical atmosphere, and customer to customer interaction as the critical factors that influence service quality. This study proposed a conceptual model establishing causal paths between service quality factors, customer satisfaction,and loyalty. Finally, this study also proposed that service quality influence loyalty through satisfaction. Theoretical and practical implications are discussed.

***Keywords*: Service quality; Satisfaction; Customer loyalty; Banking sector**

1. Introduction

Service quality is considered as the major determinants of customers' satisfaction and loyalty. Since the pioneering work (Parasuraman, Zeithaml, & Berry, 1985)a wide number of studies have discussed this topic in various service settings. The application of SERVQUALwas found in all the marketing settings. The findings of all those studies revealed that service quality is a key aspect of service consumption(Grönroos, 1984).

Service quality and satisfaction are considered key aspects of any business,scholars studied service quality as antecedent and satisfaction as consequence(Lassar, Manolis, & Winsor, 2000). This study made an attempt to examine the relationship between service quality and satisfaction in the banking sector.

Customer loyalty is a major goal of all the service organizations(Butcher, Sparks, & O'Callaghan, 2001). Literature found that service quality and satisfaction leads to customer loyalty(Bahia & Nantel, 2000). Thus, this study investigated the relationship among service quality, satisfaction,and loyalty.

The following section provides a literature review of service quality factors, satisfaction and customer loyalty, followed by methodology, theoretical contribution, practical implications, and limitations and future research.

2. Literature review

2.1. Service Quality

Service quality refers to the gap between customer expectations of service and perceived service performance. A huge number of studies have discussed the importance of service quality in the marketing literature. Eventhough the roots of service quality appeared long before, (Parasuraman et al., 1985) work is considered as the pioneering work. Before service quality, scholars used to measure customer satisfaction as the tool to measures customers' evaluation of service(Grönroos, 1984). Later studies have clearly differentiated the concepts of service quality and satisfaction(Spreng & Mackoy, 1996). It was contended that service quality is antecedent and satisfaction is the consequence.

Service quality was measured by various scholars in the various service settings. Such as retail, travel, tourism, spots and online(Atilgan, Akinci, & Aksoy, 2003; Dabholkar, Thorpe, & Rentz, 1996). Every study has proposed various factors that influence the service quality. This study explored factors that influence service quality.

2.1.1. Convenience:

Convenience is one of the critical element of service quality(Brown, 1990). Customers prefer to visit banks that are near and convenient to them. Moreover, in the banking sector, customer make frequent visits to do transactions(Arnold, Lampe, Masselli, & Sutton, 2000; Farquhar & Rowley, 2009). Also, the service failure also seems to be high in banks. Even though the online banking options are provided to the customers, still customers visit personally because the risk perceptions of online banking are high(Ittamalla, 2018). Thus, banks that consider the customer's convenience factor can benefit with better service quality evaluations.

2.1.2. Reliability

Reliability is the major aspect of the service consumption (Bahia & Nantel, 2000). Reliability refers to the consistency of the service for the long term(Parasuraman et al., 1985). Customers always observe the service provider that their brand reliable or not. Various studies in the marketing literature have examined the importance of reliability. Specifically, in the banking sector,

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A Framework for Iris Localization based on Greedy Snake Model

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Abstract—This paper proposes a framework for iris localization with greedy snake model to accurately extract iris region and compensate for the accuracy problem caused by the non-standard circle characteristics of the iris. Initially upper eyelashes are detected and removed with mathematical computational basis operators within a windowed eye region. In the proposed scheme, the non circular pupil contour is detected in an iterative fashion with a novel edge based two stage greedy snake model. In the first stage, the pupil-iris edge is coarsely located with mathematical computational gradient detector and in the second stage, the precise pupil contour is detected with greedy snake in which the contour is initialized within the pupil and deformed into new shape in response to the two controlling force models, introduced as internal and external forces to properly activate the contour. The image gradient and the curvature are utilized together to determine the speed and direction of the contour deformation,while for the localization of limbus boundary vertical edges are detected between iris and sclera region with horizontal polynomials coefficient. Then the precise limbus boundary is localized from the two annulus sector area with the detection of radial boundary points in a sequence along angular directions within the specified projection curve radiating from pupil center. The experimental results with standard CASIA database show that the proposed scheme is robust in finding exact noncircular pupil, limbus boundary and eyelids.

Index Terms—*Active contour,* Greedy Snake Model,*Orthogonal Polynomials,Iris Localization, Image Gradient.*

I. INTRODUCTION

Recently, Personal Identification System (PIS) becomes a key factor for safety and secured environments. Iris recognition is a technology to identify individuals based on iris, and is more accurate and reliable than other biometric technologies, such as fingerprint, face recognition. Iris localization is an important step that plays a vital role in the accuracy and efficiency of Personal Identification System since a minute error in, leads to incorrect feature extraction and poor recognition. The goal of localization is to remove the iris region from the surrounding noises [1]. Most of the researchers reported eyelash detection as a post-

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A Review of Adaptive Dynamic with Software Architecture

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Abstract

Enterprises across the world are increasingly depending on software to drive their businesses. It is more so with distributing computing technologies in place that pave way for realization of seamless business integration. On the other hand those complex software systems are expected to adapt changes dynamically without causing administrative overhead. Moreover software systems should exhibit fault tolerance, location transparency, availability, scalability self-adaptive capabilities to fit into present enterprise business use cases. To cope with such expectations software systems are to be built with a dynamic and self-adaptive software architecture which drives home quality of services perfectly. The point made here is that software systems are facing unprecedented level of complexity and aware of self-adaptation. Therefore it is essential to have technical knowhow pertaining to self adaptive dynamic software architecture. Towards this end, we explore present state-of-the-art of this area in software engineering domain. It throws light into dynamic software architectures, distributed component technologies for realizing such architectures, besides dynamic software composition and metrics to evaluate the quality of dynamic adaptation.

Keywords: Software engineering, dynamic software architecture, self-adaptation, metrics

INTRODUCTION

Software development process has undergone tremendous changes since its inception. These changes are in tune with the ever increasing needs of clients and machine critical applications. Software architectures utilize rich set of abstractions and idioms. These abstractions and idioms can represent different scenarios of the system besides the nature of interactions among the components [6]. Allen et al. [7] opined that the most challenging factor of complex software architecture is the need for dynamic adaptation at runtime to the changing needs. They also conceived the possibilities of building such architectures that are robust to changes. According to Shaw and Clements [9] in 1980s software architecture emerged prominent in software engineering discipline. Later on the self-adaptive and dynamic software architectures were conceived. Towards self adaptive dynamic software architecture distributed computing technologies contributed in the recent past. Distributed Component Object Model (DCOM) and Windows Communication Foundation (WCF) are technologies from Microsoft for realizing dynamic software- composition. Common Object Request Broker Architecture (CORBA) is from Object Management Group (OMG) which is another such technology. In Java platform distributed technologies include Enterprise Java Beans (EJB), Java Messaging Service (JMS), Remote Method Invocation (RMI) and Web Services. These technologies are being used to realize dynamic software architectures that can self-adapt to the runtime needs of complex software systems.

Since changes to software frequently are a costly affair, there should be an architecture that can dynamically adapt to changes. Therefore architectural design needs to be made keeping this need in mind. Moreover an architectural design should have structure, design constraints, style, behaviour, and refinement [22]. Towards realizing this some architectural design decisions are to be made. Jansen & Bosch [10] proposed a model for design decisions at architecture level. The architectural design decisions involve motivation, problem, decision, trade-off, cause, and architectural modification that lead to satisfactory solutions. A Domain Specific Software Architecture (DSSA) was proposed by Hayes-Roth et al. [11] for adaptive intelligent systems. The reference model they proposed contains architecture styles pertaining to blackboard, pipe and filter. Software architecture styles were also represented using graph grammars as explored in [12]. Taylor et al. [15] proposed an architecture that involves both component and message-based style of functionality. Distributed computing architectures were defined for wearable devices as well [18]. Architectural compatibility also required dynamic compilation as discussed in [19]. Some researchers focused on dynamic software architectures in the presence of cloud computing [16], [20], [23], [28]. As software architecture is linked to business goals in the recent past there is ever growing need for self-adaptive dynamic software architecture [44].

Dynamic Structure in Software Architectures

Software architectures are defined by using Architecture Description Languages (ADLs) [3]. Architecture of a system refers to a set of organized components, their relationships, design principles and other aspects that govern the design and implementation of the system. Dynamic software architecture, as the name implies, is the architecture that will undergo changes while the system is under execution. ADL is used to describe the architecture of a system. One such language is Darwin which involves components and services, instantiation and binding, configurations, lazy instantiation, direct dynamic instantiation, and dynamic binding [2]. Muccini et al. [1] used

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Leveraging Self-Adaptive Dynamic Software Architecture

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Abstract:- Software systems are growing complex due to the technological innovations and integration of businesses. There is ever increasing need for changes in the software systems. However, incorporating changes is time consuming and costly. Self-adaptation is therefore is the desirable feature of any software that can have ability to adapt to changes without the need for manual reengineering and software update. To state it differently robust, self adaptive dynamic software architecture is the need of the hour. Unfortunately, the existing solutions available for self-adaptation need human intervention and have limitations. The architecture like Rainbow achieved self-adaptation. However, it needs to be improves in terms of quality of service analysis and mining knowledge and reusing it for making well informed decisions in choosing adaptation strategies. In this paper we proposed and implemented Enhanced Self-Adaptive Dynamic Software Architecture (ESADSA) which provides automatic self-adaptation based on the runtime requirements of the system. It decouples self-adaptation from target system with loosely coupled approach while preserves cohesion of the target system. We built a prototype application that runs in distributed environment for proof of concept. The empirical results reveal significance leap forward in improving dynamic self-adaptive software architecture.

Index terms – Self-adaptation, dynamic software architecture, reusability, maintainability

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I. INTRODUCTION

Software systems drive the business in this age of digital world. The modern software systems should be equipped with highly desired features in a distributed environment. Therefore software systems must become more versatile, flexible, resilient, dependable, service-oriented, mashable, inter-operable, continuously available, robust, decentralized, energy-efficient, recoverable, customizable, configurable, self-healing, configurable and self-optimizing by adapting to changing operational contexts and environments. Traditional software is implemented under static decisions in analysis and design time based on assumptions about the requirements and runtime environment. Therefore any unanticipated changes to the requirements or runtime environment will lead to a manual maintenance process, which is unacceptable in critical systems. The existing self-adaptive software architectures are utility based and making them quality-aware is a challenging problem to be addressed. Self-adaptive software modifies its own behavior at runtime in response to changes in its operating environment. By operating environment, we mean anything observable by the software system, such as end-user input, external hardware devices and sensors, or program instrumentation. Application developers must answer several questions when developing a self-adaptive software system. Under what conditions does the system undergo adaptation? Should the system be open-adaptive or closed-adaptive? What type of autonomy must be supported? How often is adaptation considered? Under what circumstances is adaptation cost-effective?

A system might, for example, modify itself to improve system response time, recover from a subsystem failure, or incorporate additional behavior during runtime. A system is open-adaptive if new application behaviors and adaptation plans can be introduced during runtime. A system is closed-adaptive if it is self-contained and not able to support the addition of new behaviors. A wide range of autonomy might be needed, from fully automatic, self-contained adaptation to human-in-the-loop. A wide range of policies can be used, from opportunistic, continuous adaptation to lazy, as-needed adaptation. The benefits gained from a change must outweigh the costs associated with making the change. Costs include the performance and memory overhead of monitoring system behavior, determining if a change would improve the system, and paying the associated costs of updating the system configuration. A wide range of strategies can be used, from continuous, precise, recent observations to sampled, approximate, historical observations.

II. RELATED WORK

Many researchers contributed towards dynamic self-adaptive software architectures. For instance architecture-based solutions [7], [24], [29] and self-healing systems [35] were explored by characterizing the style requirements of systems. The following sub sections provide more details of the review.

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A Review on Present State-of-the-Art of Self Adaptive Dynamic Software Architecture

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Abstract— Enterprises across the world are increasingly depending on software to drive their businesses. It is more so with distributing computing technologies in place that pave way for realization of seamless business integration. On the other hand those complex software systems are expected to adapt changes dynamically without causing administrative overhead. Moreover software systems should exhibit fault tolerance, location transparency, availability, scalability self-adaptive capabilities to fit into present enterprise business use cases. To cope with such expectations software systems are to be built with a dynamic and self-adaptive software architecture which drives home quality of services perfectly. The point made here is that software systems are facing unprecedented level of complexity and aware of self-adaptation. Therefore it is essential to have technical knowhow pertaining to self adaptive dynamic software architecture. Towards this end, we explore present state-of-the-art of this area in software engineering domain. It throws light into dynamic software architectures, distributed component technologies for realizing such architectures, besides dynamic software composition and metrics to evaluate the quality of dynamic adaptation.

Keywords *– Software engineering, dynamic software architecture, self-adaptation, metrics*

*****

I. INTRODUCTION

Software development process has undergone tremendous changes since its inception. These changes are in tune with the ever increasing needs of clients and machine critical applications. Software architectures utilize rich set of abstractions and idioms. These abstractions and idioms can represent different scenarios of the system besides the nature of interactions among the components [6]. Allen *et al.* [7] opined that the most challenging factor of complex software architecture is the need for dynamic adaptation at runtime to the changing needs. They also conceived the possibilities of building such architectures that are robust to changes. According to Shaw and Clements [9] in 1980s software architecture emerged prominent in software engineering discipline. Later on the self-adaptive and dynamic software architectures were conceived. Towards self adaptive dynamic software architecture distributed computing technologies contributed in the recent past. Distributed Component Object Model (DCOM) and Windows Communication Foundation (WCF) are technologies from Microsoft for realizing dynamic software composition. Common Object Request Broker Architecture (CORBA) is from Object Management Group (OMG) which is another such technology. In Java platform distributed technologies include Enterprise Java Beans (EJB), Java Messaging Service (JMS), Remote Method Invocation (RMI) and Web Services. These technologies are being used to realize dynamic software architectures that can self-adapt to the runtime needs of complex software systems.

TABLE 1 – Acronyms/Abbreviations

ACRONYM/ABBREVIATION	DESCRIPTION
(RMI)	Remote Method Invocation
(JMS)	Java Messaging Service
(EJB)	Enterprise Java Beans
(OMG)	Object Management Group
(CORBA)	CommonObject Request Broker Architecture
(WCF)	Windows Communication Foundation
(DCOM)	Distributed Component Object Model
pIA	Performance Influence on
pQoR	Performance Quality of Response
pLatency	Performance Latency
UiAI	User interaction adaptivity index
AiAI	Administrator Interaction Adaptivity Index
SDG	Storage Dimension Growth
IALFL	Influence of the Adaptive Logic on the Functional Logic
IFLAL	Influence of the Functional Logic on the Adaptive Logic
MaAC	Minimum Architectural Adaptive Cost
aSCI	Architectural Separation of Concerns Index
UML	
ADLs	Architecture Description Languages
DSSA	A Domain Specific Software

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Enhanced Self Adaptive Dynamic Software Architecture with Heuristic Approach

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Abstract

The Enhanced Self-Adaptive Dynamic Software Architecture (ESA-DSA) proposed by us in our prior work is enhanced in this paper with heuristic based approach that makes use of both historical data and QoS needs in order to have knowledge based self-adaptation. An algorithm by name Heuristic Self-Adaptation (HAS) is proposed and implemented. AWS cloud is used to have experiments on real time target system that serve millions of users with Service Level Agreements (SLAs). Influenced by Rainbow framework, the enhanced self-adaptive framework performs QoS and knowledge based approach to save heuristics that help in making well informed decisions from time to time. We built a prototype application to demonstrate proof of the concept. The experimental results revealed that the ESADSA is effective in distributed computing

Index Terms – Software architecture, Dynamic Software Architecture, self-adaptation

1. Introduction

Software systems tend to change from time to time. Based on the specified objectives, changed requirements and criteria for change and the necessity of self-adaptation software engineers need to work towards fulfilling the system right from the beginning. However systems are generally built in the real world without considering self-

A Verifiable and Secure Access Control Scheme with Storing Big Data

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Abstract - Because of the many-sided quality and volume, outsourcing ciphertexts to a cloud is esteemed to be a standout amongst the best methodologies for enormous information stockpiling and access. All things considered, confirming the entrance authenticity of a client and safely refreshing a ciphertext in the cloud in view of another entrance approach assigned by the information proprietor are two basic difficulties to make cloud-based huge information stockpiling down to earth and powerful. Customary methodologies either totally overlook the issue of access approach refresh or designate the refresh to an outsider expert; yet by and by, get to arrangement refresh is imperative for upgrading security and managing the dynamism caused by client join and leave exercises. In this paper, we propose a safe and evident access control plot in light of the NTRU cryptosystem for huge information stockpiling in mists. We initially propose another NTRU unscrambling calculation to beat the decoding disappointments of the first NTRU, and after that detail our plan and investigate its rightness, security qualities, and computational effectiveness. Our plan enables the cloud server to proficiently refresh the ciphertext when another entrance strategy is determined by the information proprietor, who is additionally ready to approve the refresh to counter against duping practices of the cloud. It additionally empowers (I) the information proprietor and qualified clients to viably confirm the authenticity of a client for getting to the information, and (ii) a client to approve the data gave by different clients to remedy plaintext recuperation. Thorough investigation shows that our plan can keep qualified clients from bamboozling and oppose different assaults, for example, the plot assault.

I. INTRODUCTION

The distributed computing is the idea of conveyance of registering as an administration as opposed to item, the PC assets, programming and data shared rather than different gadgets. In distributed computing the client of cloud outsources its information on to the cloud, and after that the outsider inspector is going to check approval of that client to get to the cloud [3]. Information stockpiling worldview in "cloud" brings numerous testing issues which have significant effect on the ease of use, unwavering quality, versatility, security, and execution of the general framework. One of the greatest worries with remote information stockpiling is that of information respectability confirmation at un-trusted servers [1]. The distributed storage has a considerable measure of issues about the security and information Integrity. So we have to keep the all issues. In distributed storage customers can remotely store their data and welcome the on-ask for brilliant applications and organizations from shared resources, without the heaviness of neighborhood data accumulating and upkeep. Customers are not prepared to look at his data and over from the dispersed stockpiling it is secure or not. Also, clients ought to be able to simply utilize the appropriated storing as though it is neighborhood, without stressing over the need to confirm its uprightness. Thus, enabling open auditability for dispersed capacity is of fundamental hugeness with the objective that customers can rely upon a pariah inspector to check the uprightness of outsourced data and be easy [4]. In Cloud Computing, the remotely put away electronic information may be gotten to as well as refreshed by the customers, e.g., through square adjustment, cancellation, inclusion, and so on. Lamentably, the cutting edge with regards to remote information stockpiling for the most part center around static information documents and the significance of this dynamic data revives has become compelled thought [2].According to the piece of the verifier in the model, each one of the plans available fall into two orders: private conspicuousness and open irrefutable nature. Achieving higher capability, plans with private conspicuousness drive computational weight on clients. Then again, open certainty reduces customers from playing out a considerable measure of calculation for guaranteeing the honesty of information stockpiling. To be particular, customers can appoint an outsider to play out the check without dedication of their calculation resources [1]. To guarantee cloud information stockpiling security, it is basic to empower a TPA to assess the administration quality from a target and free viewpoint. Open auditability likewise enables customers to designate the respectability confirmation undertakings to TPA while they themselves can be inconsistent or not have the capacity to confer essential calculation assets performing constant checks. This sort of auditability permits anybody, not only the customer, to challenge the server and perform information confirmation check. This is the place a Third Party Auditor (TPA) becomes possibly the most important factor. Open review permits Third Party Auditor alongside client to look at the honesty of the contracted points of interest saved money on thinking and Privacy Preserving enables Third Party Auditor to do review without inquisitive for nearby copy of the subtle elements. Through this

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Empirical Analysis and Validation of Security Alerts Filtering Techniques

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Abstract: System administrators deal with security incidents via a diffusion of video display units ,together with intrusion detection structures, event logs, protection information and occasion control systems. Monitors generate large volumes of signals that crush the operations crew and make forensics time-ingesting. Filtering is a consolidated method to reduce the quantity of alerts. In spite of the number of filtering proposals, few research have addressed the validation of filtering outcomes in actual production datasets. This paper analyzes a number of trendy filtering strategies which are used to cope with protection datasets. We use 14 months of alerts generated in a SaaS Cloud. Our analysis aims to measure and evaluate the reduction of the alerts quantity obtained by using the filters. The evaluation highlights professionals and cons of each clear out and presents insights into the sensible implications of filtering as affected by the characteristic of a dataset. We supplement the analysis with a way to validate the output of a filter out in absence of ground truth, i.e., the expertise of the incidents took place in the machine on the time the alerts had been generated. The analysis addresses blacklist, conceptual clustering and by test strategies, and our filtering notion based totally on term weighting.

I. INTRODUCTION

With the ever growing integration of digital nonlinear signal processing as used in our everyday world, the acceptance of this new technology should be readily accepted by the main stream. This technology is being used in applications in the everyday world in ways such as microwave technology, cellular technology, heart monitors, mind checks and ultracloud screenings, MRI examines ECG/EKG filters, EEG outputs, and high recurrence surgical tools. The MRI examine or the attractive reverberation imaging check utilizes attraction alongside radio waves and a nonlinear PC preparing project to paint a picture of the inward state of the human body. High frequency scalpels which are used to make precise incisions in the skin, X-beam imaging gadgets that peer inside the body utilizing high recurrence to demonstrate the inner state of the human body and also different things utilizing a system that includes making a concentrated light emission and crushing them into some kind of metal film. The aftereffect of that crash between the metallic film and the very charged electrons is a grouping of high-vitality electromagnetic radiation. This radiation is what is typically named X-beams. Alongside the sheet of metallic film, a moment sheet fills in as a channel that keeps the shaft from diffusing or making the picture delivered by the activity, foggy or generally hard to see. As the picture shows up, the segments of the body that contain metals, for example, calcium enhanced bones will seem plot. Other mineral stores help to distinguish the nearness of developments, for example, tumors and furthermore recognize softens up the bones or remote questions in the body, for example, cut cutting edges or slugs. In a few examples, the patient may ingest what is referred to as a differentiating operator, for example, barium or iodine that makes the nearness of veins and supply routes and organs seem all the more noticeably on the X-beam.Positron Emission Tomography (PET) is an intense imaging strategy, it is a non-intrusive test. PET outputs precisely picture the cell capacity of the human body. The PET (Positron Emission Tomography) and CT (Computed Tomography) filters are both standard imaging instruments that doctors use to pinpoint infection states in the body. A PET sweep demonstrates the organic capacity of the body before anatomical changes happen, while the CT check gives data about the body's life systems, for example, size, shape and area. By joining these two filtering innovations, a PET/CT check empowers doctors to all the more precisely analyze and recognize tumor, coronary illness and mind issue with analytical processes using the application of CLOUD to analytical methods. ECG/EKG or the electrocardiogram are used to record and analyze the electrical condition and wave patterns of the heart, EEG or electroencephalograph that is used to give a measurement of the brains electrical activity, ultrasonic imaging is another application of high frequency nonlinear signal processing used to gain a picture of the internal organs and systems of the body. Then there is GSR monitoring or galvanic skin resistance monitoring most commonly used in the infamous lie detector. We as a general public are OK with the utilization of equipment and programming based explanatory projects for human natural and hormonal framework examination like the previously mentioned applications. Fire spectra, curve spectra, mass spectrometry, gas chromatography, light assimilation and diffraction, visual and neurological flag handling programs are additionally acknowledged uses of CLOUD investigation techniques. These are only a couple of the effective uses of nonlinear flag investigation on the planet on the loose.The utilization and use of CLOUD or (computerized flag handling) as a regarded and acknowledged philosophy of nonlinear PC improved advanced flag investigation of the human natural and hormonal frameworks, has been developing increasingly with the presentation of new innovations.

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Personal Devices for Practical Authentication Scheme

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Abstract- Validation assumes a basic part in securing any internet managing an account framework, and numerous banks and different administrations have since quite a while ago depended on username/secret key combos to confirm clients. Retaining usernames and passwords for a great deal of records turns into a lumbering and wasteful undertaking. Besides, heritage validation strategies have bombed again and again, and they are not insusceptible against a wide assortment of assaults that can be propelled against clients, systems, or verification servers. Throughout the years, information break reports stress that assailants have made various cutting edge systems to take clients' accreditations, which can represent a genuine danger. In this paper, we propose a productive and functional client confirmation plot utilizing individual gadgets that use diverse cryptographic natives, for example, encryption, computerized signature, and hashing. The system profits by the far reaching utilization of universal processing and different canny compact and wearable gadgets that can empower clients to execute a protected validation convention. Our proposed plot does not require a confirmation server to keep up static username and secret word tables for recognizing and checking the authenticity of the login clients. It is secure against secret key related assaults, as well as can oppose replay assaults, bear surfing assaults, phishing assaults, and information break occurrences

I. INTRODUCTION

Keeping in mind the end goal to be more secure than the current Android design secret key with entropy 18:57 bits against beast drive assaults, clients need to set two pass-pictures and utilize the graphical strategy to get the one-time login pointers. Like the greater part of other graphical secret key verification frameworks, Pass Matrix is helpless against arbitrary figure assaults in light of problem area dissecting. Literary passwords have been the most generally utilized verification technique for a considerable length of time. Included numbers and upper-and lower-case letters, printed passwords are seen as adequately strong to contradict against mammoth oblige attacks. According to an article in Computer world, a security amass at a generous association ran a framework mystery key wafer and shockingly broke approximately 80% of the agents' passwords inside 30 seconds [3]. Printed passwords are as often as possible insecure as a result of the inconvenience of keeping up strong ones. Textual passwords are powerless against eves dropping, word reference assaults, social designing and bear surfing. Graphical passwords are acquainted as elective procedures with literary passwords. A large portion of the graphical plans are powerless against bear surfing. To address this issue, content can be joined with pictures or hues to produce session passwords for confirmation.

II. PROPOSED SYSTEM

his advancement brings awesome comfort yet in addition expands the likelihood of presenting passwords to bear surfing assaults. Aggressors can watch straightforwardly or utilize external record devices to accumulate customers' capabilities. To crush this issue, we proposed a novel affirmation system Pass Matrix, in light of graphical passwords to restrict hold up under surfing attacks. With a one-time generous login pointer and circulative level and vertical bars covering the entire degree of pass-pictures, Pass Matrix offers no understanding for aggressors to comprehend or restrain the mystery word even they coordinate distinctive camera-based ambushes. an extensive measure of research on mystery word approval has been done in the written work. Among these proposed plans, this paper bases basically on the graphical-based approval structures. To keep this paper reduced, we will give a short overview of the most related plans that were said in the past region. The precision point of view centers around the effective login rates in the two sessions, including the training logins. The ease of use point of view is estimated by the measure of time clients spent in each Pass Matrix stage.

How methods are proposed to create session passwords utilizing content and hues which are impervious to bear surfing. The ongoing developments and the inclination of clients that the assailant may exploit to make sense of the potential passwords.

1) Any correspondence between the customer gadget and the server is ensured by SSL with the goal that parcels or data won't be listened stealthily or captured by assailants amid transmission.

2) The server and the customer gadgets in our validation framework are dependable.

3) The console and the whole screen of cell phones are hard to secure, yet a little territory (around 1:5 cm2) is anything but difficult to be shielded from malignant individuals who may bear surf passwords.

A REVIEW OF INTERNET OF THINGS-IOT BASED ON AVR MICROCONTROLLER

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Abstract **-internet of things is an upcoming technology that allows us to control hardware devices through the internet. Here we propose to use IOT in order to control home appliances, thus automating modern homes through the internet. This system uses three loads to demonstrate as house lighting and a fan. Our user friendly interface allows a user to easily control these home appliances through the internet. For this system we use an AVR family microcontroller. This microcontroller is interfaced with a wifi modem to get user commands over the internet. Also we have an LCD display to display system status. Relays are used to switch loads. The entire system is powered by a 12 V transformer. After receiving user commands over the internet, microcontroller processes these instructions to operate these loads accordingly and display the system status on an LCD display. Thus this system allows for efficient home automation over the internet**

1. INTRODUCTION

In today's fast changing world, everything is becoming compact, portable and mobile. The mobile handsets for communication are the biggest advancement in the area. These have made our lives much simpler and connected. Today almost everyone is familiar with it's usage, and is able to draw advantage from it. The technologies for mobile communication have been ever evolving. Each had there share of pro's and con's. The WIFI esp 8266 represents the second generation of mobile communications. It is a digital telephony system, used in most parts of the world, starting from Finland in 1991 till now, with more than 690 mobile networks providing WIFI services across 213 countries. The project aims at designing an advanced home automation system using normal web server and Wi-Fi technology. The devices can be switched ON/OFF and sensors can be read using a Personal Computer (PC) through Wi-Fi. Automation is the most frequently spelled term in the field of electronics. The hunger for automation brought many revolutions in the existing technologies. These had greater importance than any other technologies due to its user-friendly nature. These can be used as a replacement of the existing switches in home which produces sparks and also results in fire accidents in few situations. Considering the advantages of Wi-Fi an advanced automation system was developed to control the appliances in the house. Wi-Fi (Short for Wireless Fidelity) is a wireless technology that uses radio frequency to transmit data through the air. Wi-Fi has initial speeds of 1mbps to 2mbps. Wi-Fi transmits data in the frequency band of 2.4 GHz. It implements the concept of frequency division multiplexing technology. Range of Wi-Fi technology is 40-300 feet. The controlling device for the automation in the project is a Arduino UNO. The data sent from PC over Wi-Fi will be received by Wi-Fi module connected to Arduino UNO. Arduino UNO reads the data and decides the switching action of electrical devices connected to it through Relays.

1. The goal of this project is to develop a home automation system that gives the user complete control over all remotely controllable aspects of his or her home.

A SIMPLE SYSTEM FOR MONITOR OF DRIVER DROWSINESS BASED MACHINE LEARNING

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Abstract-**Drowsy driving is one of the major causes of road accidents and death. Hence, detection of driver's fatigue and its indication is an active research area. Most of the conventional methods are either vehicle based, or behavioral based or physiological based. Few methods are intrusive and distract the driver, some require expensive sensors and data handling. Therefore, in this study, a low cost, real time driver's drowsiness detection system is developed with acceptable accuracy. In the developed system, a webcam records the video and driver's face is detected in each frame employing image processing techniques. Facial landmarks on the detected face are pointed and subsequently the eye aspect ratio, mouth opening ratio and nose length ratio are computed and depending on their values, drowsiness is detected based on developed adaptive thresholding. Machine learning algorithms have been implemented as well in an offline manner. A sensitivity of 95.58% and specificity of 100% has been achieved in Support Vector Machine based classification.**

I.INTRODUCTION

Drowsy driving is one of the major causes of deaths occurring in road accidents. The truck drivers who drive for continuous long hours (especially at night), bus drivers of long-distance route or overnight buses are more susceptible to this problem. Driver drowsiness is an overcast nightmare to passengers in every country. Every year, a large number of injuries and deaths occur due to fatigue related road accidents. Hence, detection of driver's fatigue and its indication is an active area of research due to its immense practical applicability. The basic drowsiness detection system has three blocks/modules; acquisition system, processing system and warning system. Here, the video of the driver's frontal face is captured in acquisition system and transferred to the processing block where it is processed online to detect drowsiness. If drowsiness is detected, a warning or alarm is sent to the driver from the warning system.

Generally, the methods to detect drowsy drivers are classified in three types; vehicle based, behavioural based and physiological based. In vehicle-based method, a number of metrics like steering wheel movement, accelerator or brake pattern, vehicle speed, lateral acceleration, deviations from lane position etc. are monitored continuously. Detection of any abnormal change in these values is considered as driver drowsiness. This is a nonintrusive measurement as the sensors are not attached on the driver. In behavioural based method , the visual behaviour of the driver i.e., eye blinking, eye closing, yawn, head bending etc. are analysed to detect drowsiness. This is also nonintrusive measurement as simple camera is used to detect these features. In physiological based method, the physiological signals like Electrocardiogram (ECG), Electrooculogram (EOG), Electroencephalogram (EEG), heartbeat, pulse rate etc. are monitored and from these metrics, drowsiness or fatigue level is detected. This is intrusive measurement as the sensors are attached on the driver which will distract the driver. Depending on the sensors used in the system, system cost as well as size will increase. However, inclusion of more parameters/features will increase the accuracy of the system to a certain extent. These factors motivate us to develop a low-cost, real time driver's drowsiness detection system with acceptable accuracy. Hence, we

SECURED AND ENERGY CONSTRAINED OPTIMAL ROUTING IN THE WIRELESS SENSOR NETWORK

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Abstract-In this paper, an Edge Disjoint Routing Algorithm, the vitality can be preserved and after that clog is decreased. This calculation will upgrade the briefest way steering with coordinate dissemination component for effective power administration in remote sensor systems which are created to expand the lifetime of the hubs. For expanding the lifetime of the sensor hubs vitality productive directing is one arrangement which limits support cost and amplifies the general execution of the hubs. Late improvements in the zone of smaller scale sensor gadgets have quickened progresses in the sensor systems field prompting numerous new conventions particularly intended for remote sensor systems (WSNs). Remote sensor systems with hundreds to thousands of sensor hubs can assemble data from an unattended area and transmit the accumulated information to a specific client, contingent upon the application. These sensor hubs have a few limitations because of their restricted vitality, stockpiling limit and registering power. Information are directed from one hub to other utilizing diverse steering conventions. There are various steering conventions for remote sensor systems. In this audit article, we talk about the engineering of remote sensor systems. Further, we order the steering conventions as per some key factors and outline their method of activity. At long last, we give a near report on these different conventions.

Keyword---Routing; Energy Efficiency; Clustering, Edge Disjoint Algorithm, Wireless Sensors; Protocols; Sensor Nodes, Energy Efficiency.

I. INTRODUCTION

A remote sensor organize (WSN) comprises of hundreds to thousands of low-control multi-useful sensor hubs, working in an unattended domain, and having detecting, calculation and correspondence capacities. The fundamental parts [1] of a hub are a sensor unit, an ADC (Analog to Digital Converter), a CPU (Central preparing unit), a power unit and a communication unit. Sensor hubs are smaller scale electro-mechanical frameworks [2] (MEMS) that deliver a quantifiable reaction to an adjustment in some physical condition like temperature and weight. Sensor hubs sense or measure physical information of the territory to be observed. The consistent simple flag detected by the sensors is digitized by a simple to-advanced converter and sent to controllers for additionally handling. Sensor hubs are of little size, expend amazingly low vitality, are worked in high volumetric densities, and can be independent and versatile to the earth. The spatial thickness of sensor hubs in the field might be as high as 20 hubs/m3.As remote sensor hubs are normally little electronic gadgets, they must be outfitted with a constrained power source [3]. Every sensor hub has a specific region of inclusion for which it can dependably and precisely report the specific amount that it is watching. A few wellsprings of intensity utilization in sensors are: (a) flag inspecting and transformation of physical signs to electrical ones; (b) flag molding, and (c) simple to-advanced change.

There are three classifications of sensor hubs:

(i) Omni Directional Sensors Passive: latent sensor hubs sense the earth without controlling it by dynamic testing. For this situation, the vitality is required just to enhance their simple signs. There is no idea of "heading" in estimating nature.

(ii) limited shaft sensors Passive: these sensors are detached and they are worried about the heading when detecting the earth.

(iii) Sensors Active: these sensors effectively test nature.

ADAPTIVE CLUSTER DISTANCE BOUNDING METHODS FOR CLUSTERING ON NON-LINEAR DATA

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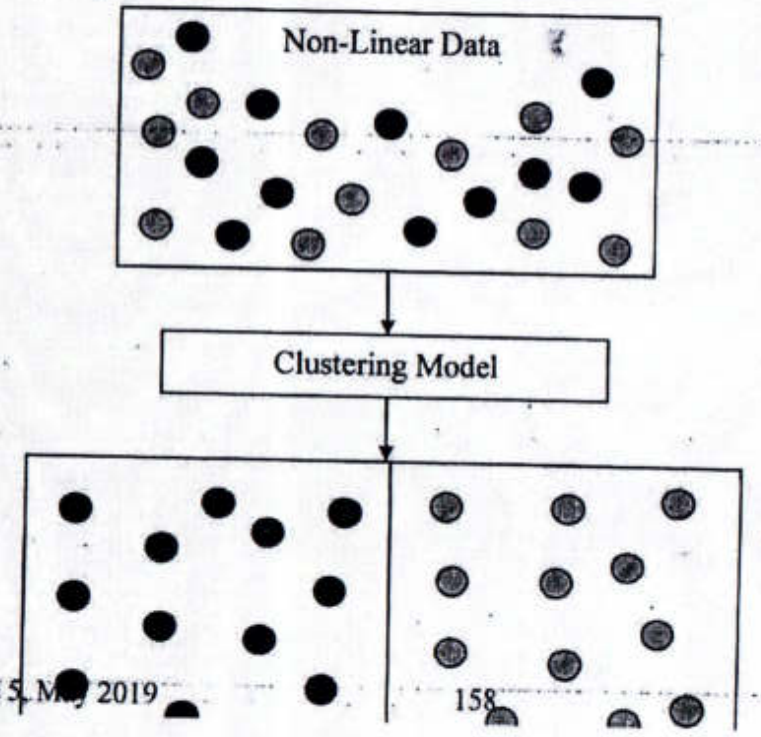
Abstract: ***High-dimensional data takes place in many areas and common tasks which are engaged in processing non-linear types of data. Frequently, real-world non-linear data contains a normal demonstration with a set of high-dimensional points. The non-linear data objects refers to the collection of non-linear attributes which are used for quantifying the result. The relationship of the non-linear variables has to be examined broadly to fetch the higher regression rate on the larger dataset. Clustering is an effective technique for analyzing the patterns of high dimensional non-linear data.***

I. INTRODUCTION

Nowadays, it is a very demanding job to cluster the non-linear objects. The performance on huge amounts of high-dimensional data such as images, contents and gene expression outline are examined. Examining and controlling these types of high dimensional data is turned into an important problem. Explaining the patterns that are unseen in high-dimensional data requires a bigger challenge on clustering analysis. Non-linear data variables are shown in Figure 1.5 achieves approximation to identify rough estimation level on chosen variables. The difficulty in the high dimensional data clustering is essentially caused by the existence of miss clustering rate percentage (%). The attribute selection has been stressed on the larger non-linear data objects.



CLUSTERING HIGH DIMENSIONAL DATA WITH ITS TECHNIQUES

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Abstract: ***Clustering is one among the data mining technique for diversity range of applications. One of the main advantages is the capability to work on datasets with minimum or with no prior knowledge and therefore builds clustering realistic for real world applications. Nowadays, high dimensional data has increased the interest of database researchers because of its new demanding brought to the community. Clustering involves high dimensional spaces and produces detail to its adjacent neighbor which in turn move towards its space to the outermost reports. In this type of clustering, issues resulting in the space between two reports of the same cluster have to approach the space between the two reports of different clusters. Traditional clustering methods may not proceed in a way that distinguish the exact clusters and provide the accuracy during the process of retrieval of data. The results of clustering have to be evaluated by discovering the optimal number of clusters that fits the given data set. Clustering objects in high dimensional spaces controls the grouping of objects in subspaces that are of different dimensions. The trial-and-error method may fail due to the complexities ranging from predefining number of clusters during the initial stage is found difficult. Re-initialization at every phase raises the computational cost and the sparsity called as 'curse of dimensionality' is not addressed in a well defined manner.***

1. INTRODUCTION

In view of the above flaws observed, a new algorithm called fuzzy subspace clustering algorithm was developed for grouping high-dimensional datasets and additionally an algorithm is designed for detecting the attacks based on Mahalanobis distance. Fuzzy techniques are employed for controlling and managing the indistinct boundaries of randomly oriented clusters. Though, traditional clustering algorithms have a tendency to decrease the high dimensional spaces because of inherent sparsity of data. [1] presented a modification in the function of Gustafson-Kessel clustering algorithm for planned. The clustering algorithm also demonstrated the convergence of the resulting UCI data sets. Finally, it advised a method of enlarging a rough set based algorithm.

Sharadh Ramaswamy&Kenneth Rose (2011) proposed an Adaptive Cluster Distance Bounding for High-Dimensional Indexing. In this paper, the author considered the solution for the problem related to similarity search in correlated and high-dimensional data sets, which was obtained using a clustering framework. With the introduction of clustering and inter-dimensional form of correlations, the author provided the most compact form for high-dimensional data set. The author presented a different form of cluster-adaptive distance using the hyperplane boundaries of Voronoi clusters that provided a solution to the cluster based index which enabled spatial type of filtering. The advantage of the method was its minimal preprocessing storage overhead and its application to the euclidean and Mahalanobis similarity measures. But, optimizing the cluster bounds remained an open issue.

In case of traditional clustering, the purpose of discrete dimensional projected clustering algorithms is to combine the objects results in formation of clusters with increasing quality. Though, the traditional functions are employed for calculating the cluster quality which may fail to suit in expected case. So, the

A STUDY OF ADAPTIVE CLUSTER DISTANCE BOUNDING FOR HIGH-DIMENSIONAL INDEXING

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Abstract *-Clustering is an important technique for examining data analysis and concentric effort has been taken in different domains including statistics, pattern recognition and data mining for decades. High Dimensional Information retrieval provides significant way to manage the use of various data sources for efficient learning and feature selection. Clustering high-dimensional mathematical data remains a challenging issue. When clustering high dimensional data, the efficiency and accuracy of clustering are very poor. To improve the quality and incorporate machine learning tasks hubness mechanism is used. Hubness is a mechanism related to vector-space data deliberated by the propensity of certain data points also referred to as the hubs with a small expanse to numerous added data points in high dimensional spaces which is associated to the phenomenon of distance concentration. The performance of hubness on high dimensional data unable to cope with many machine learning tasks namely classification, nearest neighbor, outlier detection and clustering. Hubness is a newly unknown problem of machine learning in high dimensional data spaces, which is unsuccessful in automatically determining the number of clusters in the data*

I. INTRODUCTION

Clustering in high-dimensional spaces is a repeated problem in many domains like pattern recognition and data mining. Later, clustering analysis also helps in gaining the deep knowledge from the distribution of data. Clustering is the process of combining the similar objects together while objects in different groups are dissimilar to the objects of other clusters depending on the predefined similarity measurement. It is an effective technique for analyzing the patterns of high dimensional non-linear data.Clustering real-world data sets have regulardis advantages which are known as curse of dimensionality. Many real-world data sets are comprised of high dimensional feature space. Normally, many algorithms do not produce significant results due to the inherent sparsity of the data space.

Clustering on high dimensional data have low accuracy and quality of the clustering algorithm is poor because of the data objects from a variety of clusters in various subspaces containing dissimilar groupings of dimensions. To improve the quality and to incorporate the machine learning tasks, hubness mechanism is used. Hubness is one of the new issues of machine learning in high dimensional data spaces that could not find out the number of clusters in the data. Nowadays, it is a very challenging job to cluster the non-linear objects. In this research, the above issues are solved. The objective of the proposed work is to improve the efficiency and quality of the cluster in the search retrieval.And also overcomes the clustering based hubness problem and handles the non-linear relationships in high dimensional data variables.

II CLUSTERING ON HIGH DIMENSIONAL DATA

Clustering is one of the data mining techniques for diversity range of applications. Cluster analysis help in combining the items together which appears as similar one. Clustering is an unverified learning process that partitions the data such that similar data items grouped together in sets referred as clusters which are in a way that they are highly important for identifying the patterns in data. Clustering is the efficient technique for examining the

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An Efficient Defect Estimation and Inpainting Based on Sparse Representation

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Abstract- In this paper, a simple defect identification followed by efficient inpainting that compensates the missing details in defect images, with transform coefficients is presented. This proposed scheme initially decomposes the given defect image, coefficient-wise based on geometrical and textural primitives present in the difference between original and its Gaussian smoothed images. Then simple defect estimation is carried out based on (i) strengthening the edge coefficients, and (ii) location of transition between edge and texture primitives. The basic concept behind these procedures is the contribution of orthogonal polynomials model (OPM) coefficients as a sparse representation, towards low level primitives edge and texture. A simple structure inpainting is then employed with edge magnitude and orientation, for the defected edge coefficients. With homogeneity among orthogonal polynomials texture coefficients, a texture inpainting is then proposed with statistical analysis. The proposed inpainting scheme is evaluated with standard performance measures and compared with recent inpainting methods.

Keyword: *Defect Estimation, Image Decomposition, texture coefficients, Structure Filling, Texture Inpainting.*

1. Introduction

Image inpainting is a process of compensating missing details in image regions or repairing damaged portions in a digital image. In recent years, inpainting in digital images has gained significant attraction, due to its need in variety of applications such as restoration, editing, computer graphics, film post production etc. Based on the technique involved, image inpainting can be classified into four categories: (i) Partial Differential Equation based algorithms (ii) Exemplar based inpainting and Texture Synthesis, (iii) Sparse representation based algorithms and (iv) Hybrid Approach. The partial differential equation (PDE) based inpainting works to fill the missing regions with a diffusion process and propagates the low level image information from the border to the interior, via simulation process by solving PDE of higher order. Notable works with PDE can be referred to [1-5]. The PDE based

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Parallel and Nearest Neighbor Search for High-Dimensional Index Structure of Cbir System Using Dva-Tree

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Abstract-

The System proposed similarity measure on multimedia data to retrieve content-based information. Parallel Similarity search focus on research in the field of adaptable similarity search which considers the adaptation of the proposed similarity measure to different user preferences. In order to improve the retrieval quality of content-based similarity search, they plan to examine the properties of the underlying similarity matrix to capture those user preferences. The content-based retrieval of heavily sized databases. As information retrieval is generally not restricted to a fixed size of the databases, this investigate on techniques to query voluminous data in an efficient way. To support the retrieval process, distributed vector (DVA) approximation and indexing techniques of the proposed similarity measure.
Keywords: *Distributed Vector Approximation (DVA), multimedia data*

I. Introduction:

The need to manage various types of large scale datastored in web environments has drastically increased andresulted in the development of index mechanism for highdimensionalfeature vector data about such a kinds ofmultimedia data. Recent search engine for the multimediadata in web location may collect billions ofimages, text and video data, which makes the performancebottleneck to get a suitable web documents andcontents. Given large image and video data collections, abasic problem is to find objects that cover given informationneed. Due to the huge amount of data, keywordbasedtechniques are too expensive, requiring too muchmanual intervention. In contrast, a content-based informationretrieval(CBIR) system identifies the images mostsimilar to a given query image or video clip.

A REVIEW OF DISBANDED CONTEMPORIZE SELF ACCESS TO INSCRIBE IN CLOUD DATABASES SECURITY

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ABSTRACT

In this review, a basic information in the hands of a cloud supplier should accompany the assurance of security and accessibility for information very still, in movement is presented. A few choices exist for capacity administrations, while information classification answers for the database as an administration worldview are as yet youthful. We propose a novel engineering that incorporates cloud database administrations with information classification and the likelihood of executing simultaneous tasks on encoded information. This is first arrangement supporting geologically appropriated customers to associate specifically to a scrambled cloud database, and to execute simultaneous and free activities including those changing the database structure. The proposed engineering has the further preferred standpoint of dispensing with middle intermediaries that point of confinement the versatility, accessibility, and adaptability properties that are inborn in cloud-based arrangements. The viability of the proposed engineering is assessed through hypothetical investigations and broad trial results in light of a model usage subject to the TPC-C standard benchmark for various quantities of customers and system latencies

I. INTRODUCTION

Distributed computing is perceived as an option in contrast to customary data innovation because of its natural asset sharing and low-upkeep qualities. In distributed computing, the cloud benefit provider (CBPs),such as Amazon, can convey different administrations to cloud clients with the assistance of intense datacenters. By moving the neighbourhood information administration frameworks into cloud servers, clients can appreciate fantastic administrations and spare huge speculations on their nearby foundations. A standout amongst the most central administrations offered by cloud suppliers is information stockpiling. By using the cloud, the clients can be totally discharged from the troublesome neighborhood information stockpiling and upkeep. In any case, it likewise represents a noteworthy hazard to the secrecy of those put away documents. In particular, the cloud servers overseen by cloud suppliers are not completely trusted by clients while the information documents put away in cloud might be touchy and secret, for example, strategies for success. To save information protection, as fundamental arrangement is to scrambled information documents, and afterward transfer the encoded information into the cloud. Sadly. Outlining a productive and secure information sharing mapping for bunches in the cloud isn't a simple assignment because of the accompanying testing issues.

To start with, personality security is a standout amongst the most noteworthy hindrances is one the wide organization of distributed computing . Without the certification of personality security, clients might be unwilling to participate in distributed computing frameworks in light of the fact that their characters could be effortlessly uncovered to cloud suppliers and aggressors.

Second it is profoundly prescribed that any part in a gathering ought to have the capacity to completely appreciate the information putting away and sharing administrations given by the cloud, which is characterized as the multi-proprietor way. Contrasted and the single-proprietor way, where just the gathering supervisor can store and change information in the cloud, the various proprietor way is more adaptable in useful applications. All the more solidly, every client in the gathering can read information, as well as adjust their piece of information in the whole information document shared by the organization. Bunches are ordinarily powerful by and by, e.g., new staff support and current worker denial in an organization. The progressions of enrollment make secure information sharing greatly troublesome. On one hand , the unknown framework challenges new allowed clients to take in the substance of information documents put away before their cooperation, since it is outlandish for new fumed clients to contact with mysterious information proprietors, and get the relating

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Optimal Design of Helical Torsion Spring for Engine Valve Timing Mechanism

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Abstract - **A design methodology is evolved and arrived at optimal configuration with respect to geometry for helical torsion spring for engine valve timing mechanism. Within the space constraint maximum working stress experienced by the spring should be within acceptable value. Optimal geometry is chozen for meeting this requirement. Two geometries (Round and square) are considered for carrying out the intended study. Outcome of the exercise is molded in a form that replicate a hand calculator for using which, designers need not possess expertise in any software. This GUI based software developed in MATLAB facilitates an 'exe' file which can be executed from any computer for which neither computer nor the designer should possess software. Working with this software will be as comfortable and similar to that of calculator in a typical computer. Using this software optimal design parameters of the intended spring are worked out. This software will be extremely useful for quickly arriving at optimal configuration for any combination of input design parameters. For running this software designer has to key in the input values in empty boxes corresponding input parameters. Maximum working stress values experienced by the helical torsion spring with round wire and square wire are compared with maximum allowable stress. In addition to this angular deflection values experienced by the spring with round and square wires are also compared. Based on these observations square wire is recommended for configuring helical torsion spring for engine valve timing mechanism.**

Keywords – Helical torsion spring, round wire, square wire, GUI, MATLAB, etc.

1. INTRODUCTION

In a piston engine, valve timing mechanism takes care of precise timing of the opening and closing of the valves. Helical torsion spring used in engine valve timing mechanism works between the frame and the valve and is used to close the valve and also to maintain the contact between the valve stem and the rocker arm.

Helical torsion spring in a typical valve timing mechanism is shown in Fig. 1.

Fig. 1. Helical torsion spring in valve timing mechanism

Helical torsion springs are identical to that of helical compression/tension with respect to basic shape. However its ends will be shaped such that the spring can be loaded by a twisting moment (Torque) about the axis of the spring coil. Due to the pattern of stressing, main

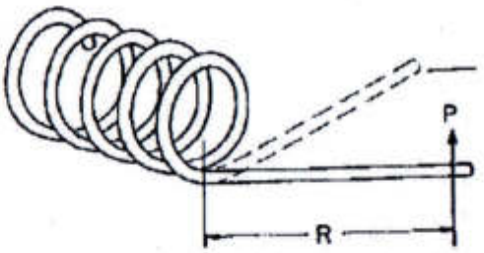

Fig. 2. Typical way of loading helical torsion spring stress will be flexural against helical tension/compression spring in which main stress will be shear. Typical way of loading helical torsion spring is shown in Fig. 2.

Experimental analysis of orthotropic cylindrical shell subjected to Internal Pressure

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Abstract —Experimental Analysis of an orthotropic cylindrical shell with helically wound fiber reinforcement has been carried out in the present paper when the shell is subjected to internal pressure p. Carbon/Epoxy composite materials have been chosen with different stacking sequence. Data is generated by measuring the mechanical behavior like strains in hoop direction, maximum hoop stresses that are formed during internal pressure loading. In order to determine these parameters, internal pressure tests are done on the filament wound composite tube specimens according to ASTM D 1599-99 standard. Pressure tests revealed that the carbon fiber reinforced composite tubes exhibited a better burst performance, and the maximum burst performance is achieved at a winding angle configuration of [90°][±55°][90°].The results obtained from this work are useful in the design of orthotropic cylindrical shells and design of robotic actuators where light weight considerations with high strength are of prime importance.

I. INTRODUCTION

Composite materials have several advantages over traditional engineering materials, which make them attractive for many industrial applications. Composite materials have superior mechanical properties like high specific stiffness, high fatigue strength, and good impact properties and offer high corrosion and chemical resistance. Besides, composite materials provide good dimensional stability and design flexibility, they are appropriate for near-net-shape processing. Improvement in the mechanical performance of cylindrical shell-type structures may be achieved by using reinforcements or by making small modifications in the structural geometry. In other cases, the buckling load to the longitudinal loading of thin-walled cylindrical columns can be greatly improved by the use of a fluted design, the periodic variation of the radius around the circumference. Many papers appeared in the analysis of cylindrical composite shells and Wilkins and Love [1] analyzed the combined compression and shear buckling behavior of laminated composite cylindrical shells characteristic of fuselage structures. Waltz and Vinson [2] presented the method of analysis for the determination of inter laminar stresses in laminated cylindrical shells of composite materials. El Naschie [3] investigated the large deflection behavior of composite materials shells in determining the lower limit of the asymmetric buckling load. Fujczak [4] studied the torsional fatigue behavior of graphite-epoxy cylindrical shells. Bootan [5] investigated the buckling of imperfect composite material cylinders under the combined loading involving axial compression external pressure and torsion. The objective of this paper is to assess the mechanical behavior of the filament wound composite tubes working under internal pressure by experimental techniques to develop a database for design of filament wound pressure vessels and determination of their useful life cycle. To find Maximum hoop stresses formed during loading, Strains in hoop direction, Elastic constants in hoop direction, will be determined, and thus the necessary data is to be used in the design applications.

II. METHODOLOGY

Manufacturing Method:

To fabricate continuous fiber-reinforced PMCs, the very important point is that the fibers should be oriented all in the same direction and should be distributed uniformly throughout the plastic matrix. Filament winding is used for the present investigation. Filament winding is a process where the continuous fibers are accurately positioned in a prearranged pattern to form a cylindrical shape. A number of fiber rovings are pulled from a series of creels and tensioners that control the tension of the fibers into a liquid resin bath that contains the resin itself, the hardeners and the accelerators. At the end of the resin tank, the rovings are pulled through a wiping device where the excess resin is removed from the rovings. Once the rovings are thoroughly impregnated and wiped, they are collected together in a flat band, pass through the carriage and located on the mandrel. The traversing speed of carriage

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PERFORMANCE ANALYSIS OF SOLAR FLAT PLATE COLLECTOR

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Abstract: Now a days the usage of natural resources are highly in progress because artificial resources such as electricity, gasoline, fuel etc are in declination stage and are very expensive. Solar radiation from sun is emitted and falls on earth surface this radiation is collected by using solar collectors. The present work is aimed to predict the performance of flat plate collector tested for 3different days, using an application of water heating. The material used in the work is absorber plate, tube or pipe made of GI, casing and glass. The absorber plate material is mild steel and tube or pipe material is galvanized iron. Mild steel material have absorbility is about 0.8 with black paint coated. The tube material is galvanized iron which is mild steel with coated with zinc for corrosion resistance. For this selection of material the maximum efficiency obtained was 9.75% at temperature 67^0 c

Keywords: Flat Plate Collector (FPC), T_{out}(Outlet temperature), T_{in}(Inlet Temperature), Glazing cover, Glazing frame, absorber plate

I. INTRODUCTION

Solar energy is the energy that sustains life on earth for all plants, animals and people. It provides a compelling solution for society to meet their needs for clean and abundant sources of energy in the future. Energy has played a key role in bringing about our modern civilization. In the era of modern civilization, energy demands are likely to increase for power generation for industrial and domestic usage. Solar radiation is primarily transmitted to the earth and is collected by using collectors. Solar radiation provides enormous amount energy. Solar radiation has been utilized for centuries by peoples for heating and drying. Solar water heating is one of the most successful applications of solar energy.

Solar collectors domestic applications are flat plate, evacuated tube, or concentrating collectors. Flat plate collector (FPC) is a special kind of heat exchanger that transforms solar radiation energy to internal energy which is transferred through a working liquid. This is commonly found in domestic home.

The principles involve in FPC is to gain as much as possible the radiation energy from the sun by heat absorption. The energy which has been collected is transferred through conduit tubes by working fluids (usually water) which are integrated with heat absorber plate. Then, the warm water carries the heat to the hot water system or to storage subsystem which can be used during low sun radiation.

In FPC, the ability to absorb more energy is most important in its thermal performance. The heat absorber plate serves as the central component of the flat plate collector. When the absorber plate absorbs more heat from the Sun, the outlet temperature (T out) should have higher value from inlet temperature (T in) Thus, from the temperature values, efficiency of the FPC can be obtained. For domestic water heating, the FPC can heat the water up to 50°C.

The most common collector types are evacuated tubular collectors (ETC) and flat plate collectors (FPC) without vacuum. Different types of these collectors are described below. Concentrating collectors (Parabolic trough, Fresnel etc.) may also be used, but since a large part of the annual irradiation is diffuse – especially in the northern part Europe – and of these types do not utilize the diffuse part, they are not described further in this fact sheet.

A. PROBLEM STATEMENT

The ability of the heat absorber plate to absorb more heat from the sun and maintain the heat is the main key in FPC performance. The efficiency of the FPC is defined as the ratio of the useful gain over some specified time period to the incident solar energy over the same period of time .Heat absorbed by FPC depends on thermal properties as well as on the design of the heat absorber plate. Material of the heat absorber plate plays a crucial role in the heat absorbing ability due to the thermal properties. Moreover, the correct thickness important in absorber plate selection. In this project, mild steel and galvanized iron is used for absorber plate and tube respectively.

The optimization of thickness and material used in the design of the
FPC will yield the desired effect to maximize its efficiency.

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Performance and emission characteristics of a diesel engine with varying injection pressure and fueled with hydrogen and cottonseed oil methyl ester blends

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Abstract

The influence of injection opening pressure (IOP) for 20% blend (B20) of cottonseed oil methyl ester and 15 liters per minute (lpm) of hydrogen dual fuel mode was investigated based on performance and emission characteristics of a single cylinder, four stroke, diesel engine with a rated power of 3.5 kW, rated compression ratio of 17.5 at a rated speed of 1500 rpm. The experiments were carried out at three different IOP of 200, 220 and 240 bar respectively. The results depict the maximum brake thermal efficiency, minimum brake specific fuel consumption, and lowest HC and CO and while the concentration of NOx slightly increased. It has been found that the combustion characteristics of cottonseed oil methyl ester and its diesel blends closely followed those of standard diesel. Present investigations revealed that IOP of 220 bars for 15 lpm hydrogen with B20 dual fuel mode is optimum compared to other blends of cottonseed biodiesel and hydrogen, but it causes higher levels of exhaust emissions.

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Keywords: Alternate fuels, Cottonseed oil methyl ester, Combustion, Hydrogen and Performance.

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OPTIMIZATION OF A SINGLE CYLINDER, 4-STROKE DIESEL ENGINE PERFORMANCE PARAMETERS USING DIESEL/COTTON SEED OIL BLEND WITH HYDROGEN INDUCTION BY TAGUCHI METHOD

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ABSTRACT

The performance of a diesel engine by blending cottonseed oil with the diesel and suction is enriched with hydrogen inducting through port in the suction stroke. The process parameters identified are injection operating pressure (IOP), compression ratio (CR) and amount of hydrogen each at three levels. Taguchi L_9 OA is chosen for the experimentation and two responses have been recorded namely brake thermal efficiency (BTE) and brake specific fuel consumption (BSFC). The contribution of these parameters on these parameters on those responses has computed by signal to noise (S/N) analysis.

Key words: Injection Operating Pressure, Compression Ratio, Hydrogen, Taguchi, Parameters, Optimized Condition.

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Review Article

An Experimental Investigation of Magnetically Impelled Arc Butt Welding of Pipes: A Review

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Abstract

This paper describes a new development of circumferential welding of pipes. Circumferential butt welds are commonly used to join pipes in various industries, including power plants and automobile industries. Magnetically impelled arc butt welding process is a hybrid welding technique. It uses a rotating electric arc as its heat source and is known as efficient method for pipe welding. In this process heat is evolved prior to forging by an arc generated between two coaxially aligned pipes, this arc rapidly rotates along the circumferential edges of the pipes to be welded due to the electromagnetic force exerted by the interaction of arc current and magnetic field generated by the external magnetic system. The entire weld over the full joint thickness is made in one single operation, instead of using several passes as in conventional welding. The main emphasis of this review is to describe the different works carried out in the past which help full for providing the information for the future development of research work. Present study exposes the different works that has been done in the past for improving the weld quality.

Keywords: MIAB welding, Rotating Electric Arc, Upsetting and Magnetic flux.

1. Introduction

Magnetically impelled arc butt (MIAB) welding is a special electric arc welding process falls under the category of pressure welding method, which is used for welding of hollow circular sections.

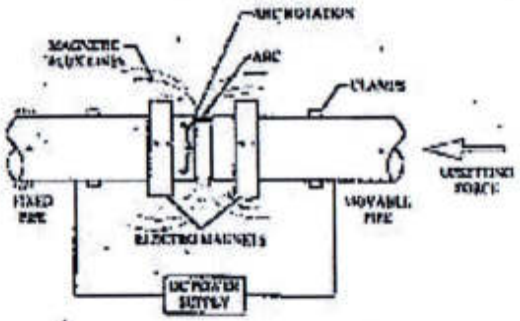

Fig.1 Schematic Diagram of MIAB Process

This process utilizes the rotating electric arc as a source of heat. In this process two tubes or pipe edges are well secured and clamped coaxially, one pipe is fixed and another pipe is movable. A magnetic field is generated either with permanent magnet or electromagnet is wound near butted edges of the pipe and DC arc is struck between the end of the pipes separated by a fixed small gap. The initiated arc on circumferential point will start rotating around the peripheral edges with a very high speed due to the interaction with radial magnetic field generated by magnets according to the Fleming's left hand rule. After the arc rotted for some time, both pipe ends will be heated up sufficiently, at the end heavy upset pressure is applied to get the welding.

The radial component of the magnetic flux density Br and the axial component of the welding arc current Ia interact with each other exerting a force on the arc. The mathematical expression of this electromagnetic force is given in equation (1). This force impels the arc along the peripheral edges of the tubes.

$$F_{Br} = K.\, Ia \times Br \qquad (1)$$

Coefficient K depends on the value of the arc gap between the two tubes to be welded. The force exerted on the arc current influences the speed of the rotating arc. Therefore, it is clear that adjusting the strength of the magnetic field, the magnitude of the arc current, or the width of the arc by changing arc current plays an important role on the speed of arc. In particular, by sharply increasing the welding current for a short time just prior to upset, a rapid expulsion of molten metal occur which enables cleaning action.

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DESIGN ANALYSIS AND EXPERIMENTAL EVALUATION OF SANDWICH COMPOSITES SUBJECTED TO FATIGUE

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Abstract— The fatigue response of sandwich composite panels with an improved structure and different orientations to increase their fatigue resistance is investigated herein. In order to compare the fatigue performance of sandwich structures, a specific and instrumented ball drop tester was designed and developed. Different sandwich structures are analyzed. Composite materials here compose of E-Glass fibre matrix composite skin and a foam core. Usually the foam core is Polyurethane (P.U) and Polyphenolic .The latter structure is specially designed to improve crashworthiness for transport applications, aeronautical and space structures.

The main results of this study are evaluation of the absorbing energy performance of the sandwich structures, subjected to a repeated impact of the sandwich panels up to fatigue, and the development of criteria useful for materials selection. These sandwich panels have shown a better performance in terms of impact energy absorbing properties and strength respect to traditional sandwich structures. The predicted fatigue behavior of sandwich panel compared fairly well with results from finite element analysis. Analytical predictions of these were also found to be in good agreement with experimental data. Specimen deformation behavior and fracture features are correlated to deformation curves obtained during the testing. Extensive experiments are carried out to characterize different oriented sandwich panels for the mechanical behavior as well.

KeyWords— composites, sandwich, fatigue, deformation.

I. Introduction

Increasing performance demands for modern technology applications make it necessary to look for new materials. It is difficult to achieve high and strict performance standards using any one material, hence new materials are fabricated by combining two or more conventional materials. These materials named as composite materials give unique combination of properties, which cannot be obtained from any single conventional material. A formal definition of composite materials give by ASM Handbook [4] is macroscopic combination of two or more distinct materials, having a recognizable interface between them.. Composites are normally made by incorporating some reinforcement such as fibres in a bulk material known as matrix. Some of the main advantages of composite materials are high strength, modulus, bending stiffness and chemical resistance. Properties of composites can also be tailored according to specific design requirements, directional and spatial properties.

Defining a composite material needs information on three aspects

- Matrix material: e.g. metal, polymer or ceramic
- Reinforcements: e.g. continuous or discontinuous fibres or particles
- Structure: e.g. laminated or sandwich

The matrix holds the reinforcements in an orderly pattern. Because the reinforcements are usually discontinuous, the matrix also helps to transfer load among the reinforcements. Matrix materials are usually some type of plastic, and these composites are often called reinforced plastics. There are other types of matrices, such as metal or ceramic, but plastics are by far the most common. There are also many types of plastics, but a discussion of them is beyond the scope of this week's column. Suffice it to say for now that the two most common plastic matrices are epoxy resins and polyester resins.

Metal Matrix Composites (MMCs) - mixtures of ceramics and metals, such as cemented carbides and other cermets

Polymer Matrix Composites (PMCs) - Thermosetting resins are widely used in PMCs

Examples: epoxy and polyester with fibre reinforcement, and phenolic with powders

Ceramic Matrix Composites (CMCs) - Al_2O_3 and SiC imbedded with fibres to improve properties, especially in high temperature applications

II. Literature Survey

A. Russo, B. Zuccarello worked on the analysis of the mechanical behaviour of a class of sandwich structures widely employed in marine constructions, constituted by fibre-glass laminate skins over PVC foam or polyester mat cores. In detail, a systematic experimental study and numerical simulations have shown that the theoretical prediction of the strength and the actual fatigue mechanism of these sandwich structures can be affected by significant errors, especially in the presence of prevalent shear loading. Moreover, because of the low shear stiffness and the elastic constants mismatch of the skins and core

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EXPERIMENTAL INVESTIGATION OF PRESSURE DROP CHARACTERISTICS ACROSS RECTANGULAR CHANNEL USING DETACHED RIBS

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Abstract

In the present day it is very necessary to find heat transfer characteristics of heat exchanger, heat exchanger as an important appliances widely used in day to day life, like in industry, home appliances, gas turbine, transportation, power production, in aircraft etc. the improvement of heat transfer performance of heat exchanger can be done by using insertion of vortex generators across rectangular channel. The experimental study is conducted to examine the pressure drop characteristics across rectangular duct with different geometrical configuration of detached ribs, Detached Ribs as vortex generators are inserted 90° in a rectangular duct having different aspect ratio (AR) of 1.4,1.8, 3,3.6. The effect of width, pitch ratio (P/H) of inserting vortex generator, flow direction and aspect ratio of duct are examined for Reynolds numbers (Re) based on hydraulic diameter of rectangular duct D_h and it is in the range of 8000 to 24000. The results shows if pitch to height increases friction factor ratio decreases by 28.98% , if Reynolds number increases , 8.34% time friction factor ratio increases , if aspect ratio increases friction factor ratio decrease by 80.03%. The experiment is repeated for different AR of vortex generators 1.4,1.8, 3,3.6. pitch ratio (P/h), width 16.07mm, 12.5mm, 7.5mm,6.25mm, for different Re = 8000, 12000, 16000, 20000, 24000.

Keywords: *Rectangular Duct, Detached Ribs, Pressure Drop, Vortex Generator, Aspect Ratio, Friction Factor Ratio*

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1. INTRODUCTION

Heat exchangers are used in almost all the industrial plants, transfer of hot fluid to cold and vice versa , use of heat exchanger is there from olden days to till date and it will be continued, the principle is same from olden days to till today but there are changes in the use of techniques. and in future for better heat transfer enhancement and to improve pressure drop vortex generators as an obstacle in heat exchanger will be used. Most industrial engineers and researchers focus on investigating the heat exchangers because of their wide use in industry, channel flow has got more importance in engineering industry because of their application, the channels may be rectangular, square, triangular, circular, non circular, trapezoid, and polygonal. In this paper, we are using rectangular channel to achieve effective cooling and more compactness, detached ribs are used as vortex generators, the experimental result for detached ribs for different configurations are shown, the influence of pitch to height ratio, aspect ratio of vortex generator for different Reynolds number and pressure are discussed.

K. Yongsiri, p .Eeiamsa-ard, k. wongchare, S. eiamsa-ard **(2013)**: In this paper researcher have taken the incline detached-ribs with different angle of attacks(θ) 0°, 15°, 30°, 45°, 60°, 75°, 105°, 120°, 135°, 150°, 165° with different Reynolds range from 4000 to 24000 for heat transfer, pressure loss, thermal performance and compare with the attached ribs of θ = 90°. In CFD results at inclined ribs at θ = 60°and 120° heat transfer, thermal performance factors are high than the other inclined ribs. In flow structure and temperature field for Reynolds number 4000, inclined detached ribs of angles 45°, 60°, 75°, 90°, 105°, 120°, 135° 150° create more recirculation zone after the ribs and also at the angles 0°, 15°, 30° and 165° we can't find recirculation zone, result include that medium angle of attack give better mixing of fluid.AmnartBoonloi**(2014)**: Researcher use the 30° V-shaped baffles as the vortex generator placed on the double side of the thin with plate and without plate to perform heat transfer and thermal performance in a square duct, here 30°V-shaped vortex generator are inserted diagonal to the square for different Reynolds number based on the hydraulic diameter square duct D_h, he find effect of the flow direction (V-Downstream and V-Upstream), pitch ratio, blockage ratio .G.V.Phadtare, Dr.A.A.Pawar, Dr.S.L.Brose, and S.V.channapattana**(2013)**: They used vortex generator of preformatted aluminum plate with thickness 7mm and different dimensions of 3mm X 3mm, 5mm X 5mm, 7mm X 7mm, upstream and downstream for various Reynolds number between 45000 to 80000 with aspect ratio 1. Here they made test section with wooden they examined thermal and hydraulic action were investigate experimentally for the stationary square 180° degree bend change. In this experiment they find heat transfer co-efficient of the winglet vortex generator might have 108 times higher than the smooth tip. They examined that if with Reynolds number than Nusselt number also increases for both upstream and downstream. For heat transfer upstream shows good results than downstream for different shapes of vortex generator. Plate 7mm X 7mm vortex generator produces good heat transfer than the other two shapes of

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A Study on Strengthening the Operational Efficiency of Dairy Supply Chain in Tamilnadu, India

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Abstract

The main objective of this paper is to study the issues in improving the operational efficiency of the dairy supply chain in Tamil Nadu, India. Dairy Farming is a major occupation of the people of Tamil Nadu, India and it contributes a significant amount to the growth of our country. In this paper, Tamil Nadu dairy development department's objectives and its three-tier structure were studied. Through SWOT analysis its strengths, weaknesses, opportunities and threats were analyzed. In our study Tamil Nadu Cooperative Milk Producers Federation is compared with Gujarat Cooperative Milk Producers Federation (AMUL). The major issues influencing the dairy farming are studied through literature survey, field study and researchers experience. They are presented in this paper. There were three major important field studies conducted at various time periods. The data has been collected through a questionnaire method and these interactions were recorded by a video camera. Based on the research work carried out on dairy supply chain in Tamil Nadu, India, some key recommendations are made for the attention of policy makers to strengthen the operational efficiency. There are five areas of focus. They are, creation of special dairy zone, implementing dynamic milk procurement method, strengthening cooperative societies, creation of feed bank and increasing fodder productivity, integrated animal health plan and information technology.

Keywords: Dairy farmer's issues; Dairy supply chain; Co-operative system; Milk procurement price.
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1. Introduction

Dairying plays a significant role in strengthen rural economy in Tamil Nadu. It has brought about socio-economic transformation in Tamil Nadu. Small farmers, marginal farmers and downtrodden constitute majority of milk producers. Dairying has vast potential to generate employment and has helped in poverty

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RESEARCH ARTICLE

Retinal Blood Vessels and Optical Disc Segmentation in Branch Retinal Vein Occluded Fundus Images Using Digital Image Processing Techniques

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ABSTRACT:
The segmentation of retinal blood vessels and optical disc is the most vital and challenging task to investigate the rigorousness of the various retinal diseases such as branch retinal vein occlusion. There are lot of methods and algorithms are developed to address this issue i.e., for the precise segmentation of optical disc and blood vessels. However, every method has its own pros and cons. Retinal vein occlusion (RVO) happens due to the obstruction (blockage) of veins transporting blood with required nutrients and oxygen to the nerve cells in the eye's retina. An obstruction in any one of the four smaller branch veins is referred to as a branch retinal vein occlusion (BRVO). It is one of the main retinal illnesses next only to diabetic retinopathy. Our proposed approach is a simple image processing based detection of optical disc and retinal blood vessels of branch retinal vein occluded fundus images.

KEYWORDS: Branch Retinal Vein Occlusion, Mathematical Morphology, Retinal Blood Vessel Segmentation, Optical Disc, Contrast Enhanced Adaptive Histogram Equalization, Median Filtering.

1. INTRODUCTION:

The retina is a very thin film of light sensitive nerve tissue that positions the third inner layer of the eye[1]. When light fall on the eye, it penetrates through the iris to the retina. In retina, image is focused and there is a conversion of chemical substances into electrical impulses that eventually activate the nerve impulses[2-3]. These impulses are transmitted to the brain through the optic nerve to the brain resulting in sight. The function of the retina is same as the photographic film in a camera[5-8]. So a scene of the visual is created in retina through the lens and cornea. Retinal vein occlusion (RVO) happens due to the obstruction (blockage) of veins transporting blood with required nutrients and oxygen to the nerve cells in the eye's retina[4].

If the obstruction is due to the main vein of the retina, it is termed as central retinal vein occlusion (CRVO), whereas an obstruction in any one of the four smaller branch veins is referred to as a branch retinal vein occlusion (BRVO) [19-22].

Branch retinal vein occlusion (BRVO) is one of the main retinal illnesses next only to diabetic retinopathy[23]. Approximately one percentage of population suffering from BRVO. BRVO could cause macular edema, intra retinal haemorrhage and vitreous haemorrhage etc., which would finally lead to vision impairment or even blindness[24]. There is a lot of possibility for elderly people with cardiovascular disease and /or hypertension to endure from BRVO. BRVO is not properly diagnosed and well treated; it could severely impair the patient's vision. It could cause a potential damages as retinal edema, blurred vision, or blindness.

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The Impact of Distance Measures in *K*-Means Clustering Algorithm for Natural Color Images

P. Ganesan, B. S. Sathish, L. M. I. Leo Joseph, K. M. Subramanian, and R. Murugesan

Abstract In image processing, clustering algorithms applied to the segmentation of images. Image segmentation is the practice of clustering a complete image into many meaningful non-overlapped clusters. This is a vital step in computer vision and data analytics because the result of the segmentation process has an impact on other subsequent processes. In image processing, distance is expressed as distance in pixels or shortest path between two data points on the grid, two centers of pixels. Most clustering algorithms utilize distance measures to cluster alike data points (pixels in the case of image) into the same group, while unalike data points are clustered into different groups according to image attributes. The proposed work evaluates the efficiency of the *K*-means clustering with three distinct distance measures.

Keywords *K*-means clustering · Distance measure · Color model · CIELAB · Euclidean · City block

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A Framework for Evaluating Medical Blog and Camera Opinions Based on Opinion Mining and Sentiment Analysis

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RESEARCH ARTICLE

Opinion mining also called sentiment analysis is a process of finding users opinion about particular topic. The key challenge faced in opinion mining is that the natural language is highly unstructured in nature and interpretation of the meaning of a particular word, phrase or sentence by a machine is cumbersome. But the usefulness of the sentiment analysis is increasing day by day as large source of user generated contents (in the form of blogs, comments, reviews, wikis) act as important source for web mining which can be used for product feedback analysis, and for decision making to users. In this work, the efficiency of the feature extraction methods and classification algorithms for classifying cameras reviews were investigated. Opinions expressed on cameras are taken from Amazon website. TDF × IDF is utilized for the extraction of features from camera reviews. Features transformation is undertaken by using PCA and kernel PCA. Three classification algorithms Naïve Bayes, K Nearest Neighbour and Classification and Regression Trees (CART) algorithms were used to investigate the quality of the extracted features. Experimental results demonstrate that features extracted using TDF × IDF with kernel PCA enhances the classification precision of the classifiers. Outcomes reveal that CART algorithm has higher classification accuracy than other classifiers.

Keywords: Opinion Mining, Sentiment Analysis, Web Mining, Naïve Bayes, K-Nearest Neighbor, Classification, Regression Trees.

1. INTRODUCTION

Opinion Mining (OM) is a kind of natural language processing for the purpose of recording attitudes and sentiments of the common people regarding certain topics, products or service. OM recognizes subjectivities as well as objectivities of texts and classifies them with regard to the opinions orientation of subjective texts.[6] Cameras are popular in social as well as computing landscapes and implanted in customer gadgets such as smart phones, tablets, laptops as well as wearable gadgets like Google Glass, Narrative Clips and Aerographers. They are on the fringe of becoming a ubiquitous device. Opinion holders are persons or enterprises holding a particular opinion. In product review sites, forums or blog posts, opinion holders are the writers of those posts. Online reviews express opinions about a product or service and users evaluate a product or service based on these opinions before buying or using the product. Due to the huge amount of reviews available in different websites, it is hard to comprehend all the opinions. Opinion mining summarizes and the polarity of the various reviews which helps in gaining a overall picture about a product or service. The Sentiment is classified as negative, neutral or positive on retrieving the information from the review. Various techniques such as clustering, supervised learning methods classify sentiment polarity. Sentiment classification has been widely researched and several approaches are surveyed in literature.[7] The efficacy of the feature extraction methods and classification algorithms for classifying cameras reviews were investigated. Opinions expressed on cameras are taken from Amazon website. TDF × IDF is utilized for the extraction of features from camera reviews. Features transformation is undertaken by using PCA and kernel PCA. Naïve Bayes, K-Nearest Neighbour classifiers and CART algorithms performance evaluations are investigated.

2. LITERATURE SURVEY

Vo et al. proposed method to extort and sum up product features and related opinions from a huge amount of

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RESEARCH ARTICLE

A Modified Method for High Dimensional Data Clustering Based on the Combined Approach of Shared Nearest Neighbor Clustering and Unscented Transform

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This paper presents a novel approach to lessen the hubness dilemma and identify the curse of dimensionality present in the high dimensional data by means of the shared nearest neighbor clustering (SNNC) based on unscented transform (SNNC-UT). The main function of SNNC is to determine the cluster points such that the points inside a cluster are almost related to each with respect to any one of the characteristics other than to other points in a different cluster. SNNC based on unscented transform (SNNC-UT) is utilized to compute the probability (relative) to achieve a superior clarification of density. In addition, Unscented Transform estimation achieves the best results on distance measure utilizing the performance improvement with Gaussians model. The experimental result clearly shows that SNNC-UT method attains the improved cluster quality, minimal time consumption for clustering and decreases the consumption of energy compared to other existing methods.

Keywords: Shared Nearest Neighbor Clustering, Unscented Transform, Hubness, High Dimensional Data, Clustering.

1. INTRODUCTION

A Shared nearest neighbor clustering algorithm is used to identify the core points and effectively removed the noise present in the point data set. The merits of SNN similarity is, it cannot handle the direct similarity and resolves some of the problems.[1] In this similarity, an object is close with another object and these objects belong to the different cluster. In addition, the SNN similarity is comparatively less sensitive to the changes of density and spatial dimensions since it reveals the local structure of data. SNN is applied to control the large multidimensional and dynamic databases. Subspace clustering determines the efficient cluster validation except the problem of hubness is not discussed.[3] But Shared Nearest Neighbor Clustering based on Unscented Transform (SNNC-UT) method to conquer the draw backs present in the traditional clustering approaches especially on high dimensionality, hubness problem with determination of cluster data and metric limitations. The quality measures such as clustering quality, clustering time, distance measurement ratio, and energy consumption are utilized to evaluate the recital of SNNC-UT and k-nearest neighbor hubness in clustering. It is relatively not sensitive to variations in normal density and high dimensionality. The border, core and noise points are determined by using the SNN density. The SNN method is used in different applications namely Earth science data and word clustering. The nearest-neighbor algorithm method is used to perform different types of agglomerative hierarchical clustering in cluster analysis.[4] Nearest neighbor search is an accumulation problem for determining the most similar or closest points. It is otherwise recognized as proximity search, similarity search or closest point search. Closeness is specified in conditions of dissimilarity function as the fewer related points are the objects and the larger similar points are conveyed in terms of function values. The SNN method decreases the hubness and also improves the accuracy of the clustering.[5] A shared nearest neighbor is handled by different densities and other difficult situations. The SNN scheme is suited to deal with data complexity, heterogeneity and high dimensional.[6]

Figure 1 illustrates the SNN method. The shared nearest neighbors clustering methods is a graph based method. By using different parameters, the similarity makes less sensitive graph based on the shared nearest neighbors.[7] For clustering, the distance or a measure of similarity is needed

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RJPT

RESEARCH ARTICLE

Detection and Segmentation of Retinal Blood Vessel in Digital RGB and CIELUV color space Fundus Images

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ABSTRACT:
The identification of retinal blood vessels is very important but crucial task to analyze the severity of the retinal diseases such as diabetic retinopathy, macular degeneration, central retinal vein occlusion, central retinal artery occlusion, retinal detachment and branch retinal vein occlusion. It is evident that huge number of computer based automated algorithms are developed for the accurate detection of blood vessels and optical disc. Most of the work utilizes the retinal fundus images in RGB color space. The proposed work implements the detection and segmentation of retinal blood vessel in RGB and device independent CIELUV color space. The proposed work for the segmentation retinal blood vessel is based on adaptive histogram equalization, median filtering and morphological operations.

KEYWORDS: Segmentation, Retinal Blood Vessel, Adaptive Histogram Equalization, Median Filtering, Mathematical Morphology

1. INTRODUCTION:

Retinal blood vessel detection and segmentation is a vital process for the precise illustration, analysis, diagnosis, planning of early treatment and surgery for retinal diseases such as diabetic retinopathy, macular degeneration, central retinal vein occlusion, central retinal artery occlusion, retinal detachment and branch retinal vein occlusion[1-3]. Recent years, due to the advancement of latest technologies, a huge number of automated methods developed for the segmentation of blood vessels from retinal color fundus images[4-6]. However, identification and segmentation of retinal blood vessels still remains an exigent assignment due to the abnormalities, non-uniform illumination, varying shape and size of the vessels, and anatomical variability between subjects[5].

Number of works presented innovative methods[21-27] for the automatic detection and segmentation of retinal vessels ns in color fundus images. The proposed work implements the detection and segmentation of retinal blood vessel in RGB and device independent CIELUV color space. A color space is nothing but a method or way of creating and visualizing colors[9]. Human eye describes color as three important attributes of hue, brightness and colorfulness[10]. But a computer monitor define color as the percentage of red (R), green (G), and blue (B) phosphor emissions[11]. Various color spaces had developed for different applications[13]. The input image taken from image sensor is usually in RGB color space. However, this device dependent and non uniform color space is not suitable for objects identification and recognition of colors[12]. Moreover, it is very difficult to find out an exact color in RGB color space. So it is very important to transform RGB color image into other color spaces such as CIELuv[14]. The main advantage of CIELuv color space is that it is device independent. i.e., the same color information is displayed irrespective of equipment[18]. CIELuv color space is uniformly derived from CIEXYZ color space[17]. In perceptual uniform

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SPECTRAL-CLUSTER BASED DECISION TREE DATA MINING TECHNIQUE FOR ANALYZING STUDENT PERFORMANCE IN HIGHER EDUCATION INSTITUTIONS

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ABSTRACT

Data mining is the method of determining patterns in large datasets with artificial intelligence, machine learning, statistics and database systems. The main goal of higher education institution is to employ data mining methodologies for learning student's performance in the educations. Data mining offers many tasks that are used to analysis the student performance. The classification task is designed applied to calculate student's performance. In addition to, many approaches are used for data classification to support decision tree method. The decision tree technique is employed to accurately predict the student performance. The existing work presented a SVM Prediction technique for evaluating the student Grade Point Average (GPA) in computer education and instructional technology at the end of first, second, and third-year courses.

Three kinds of procedures are involved in SVM prediction data mining technique, that are data preparation, formulation of prediction model and evaluation of the SVM prediction model. By using linear arithmetic, the SVM prediction model performs tasks of classification and regression using linear combination of features based on variables. However, the SVM technique does not provide suggestive methods for enhancing the student GPA. This technique fails to determine the exact recollect values and does not carried out subjective analysis. To overcome these drawbacks, the proposed work presents Spectral Cluster based Decision Tree Data Mining Technique for analyzing Student Performance in Higher Education Institutions.

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Framework for Evaluating Camera Opinions

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Abstract: Opinion mining plays a most important role in text mining applications in brand and product positioning, customer relationship management, consumer attitude detection and market research. The applications lead to new generation of companies/products meant for online market perception, online content monitoring and reputation management. Expansion of the web inspires users to contribute/express opinions via blogs, videos and social networking sites. Such platforms provide valuable information for analysis of sentiment pertaining a product or service. This study investigates the performance of various feature extraction methods and classification algorithm for opinion mining. Opinions expressed in Amazon website for cameras are collected and used for evaluation. Features are extracted from the opinions using Term Document Frequency and Inverse Document Frequency (TDF×IDF). Feature transformation is achieved through Principal Component Analysis (PCA) and kernel PCA. Naïve Bayes, K Nearest Neighbor and Classification and Regression Trees (CART) classification algorithms classify the features extracted.

Keywords: K nearest neighbor and Classification and Regression Trees (CART), naïve bayes, opinion mining, Principal Component Analysis (PCA) and kernel PCA, TDF×IDF

INTRODUCTION

Opinion mining in textual materials like Weblogs is another technologies dimension facilitating search and summarization. Opinion mining identifies author's viewpoint on a subject instead of just identifying subject alone. Present approaches divide problem space into sub-problems. For example, creating a useful features lexicon classifies sentences into positive, negative or neutral categories. Present techniques identify words, phrases and patterns indicating viewpoints (Conrad and Schilder, 2007). This was difficult, as it is not just a keyword which matters, but the context. For example, this is a great decision, reveals clear sentiment and but that the decision announcement produced much media attention is neutral.

Opinion mining is also termed as sentiment analysis/sentiment classification. Opinion mining emphasis is not on topic of the text, but the author's attitude to the topic. Recently, opinion mining was applied to movie reviews, commercial products and services reviews, to Weblogs and to News. Such subtasks include.

Subjectivity analysis: Involves determining if a text is objective or subjective; this is also a binary classification task.

Polarity analysis: Includes predicting whether a text established as subjective is positive or negative in polarity.

Polarity degree: Measures polarity degree, positive/negative in subjective text.

Generally, opinions are expressed on anything, e.g., a product, service, topic, individual, organization, or event. The term object denotes the entity commented on. An object has components (or parts) and attributes. Each component also has sub-components and attributes. Thus, based on part-of relationship an object can be hierarchically decomposed.

Definition (object): An object O is a unit which is a product, event, person, organization or topic. It is connected with a pair, O: (T, A), where T is components (or parts) hierarchy or taxonomy and O's sub-components and A an attributes set of O. Each component has own sub-components and attributes sets.

Definition (opinion passage on a feature): A feature f opinion passage of object O evaluated in d is a consecutive sentences group in d expressing positive/negative opinion on f. It is possible that a single sentence states opinions on more than one feature, e.g., "This camera's picture quality is good, but has a short battery life".

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PERFORMANCE EVALUATION OF FEATURE EXTRACTION AND CLASSIFICATION ALGORITHM FOR OPINION MINING

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Abstract

In brand and product positioning, consumer attitude detection, customer relationship management, and market research, opinion mining has an important role in text mining applications. Applications lead to new generation companies/products for online content monitoring, online market perception, and reputation management. Web expansion inspires users to contribute/express opinions through blogs, videos, and social networking sites. These platforms ensure information for sentiment analysis regarding a product or service. This study investigates performance of varied feature extraction methods and classification algorithms for opinion mining. Opinions expressed in Amazon website for cameras are collected and evaluated. Features are from opinions using feature selection based on information gain and are classified using kNN Boosting algorithm.

Keywords: *Opinion mining, Feature Extraction, Feature Selection, Classification, K Nearest Neighbour and Boosting Algorithm.*

1. INTRODUCTION

Opinion Mining (OM) is a sub-discipline of computational linguistics focusing on extracting people's opinion from the web. It is a Natural Language Processing (NLP) and Information Extraction (IE) task to get a writer's feelings expressed in positive / negative comments, questions/requests, by analysing documents. Generally, sentiment analysis determines a speaker's or a writer's attitude regarding some topic or a document's overall tonality. The recent huge increase in internet usage and exchange of public opinion is the force behind OM now [1].

OM operates at the level of documents, text pieces of varying size/formats, e.g., web pages, comments, product reviews, or blog posts. Definition 1 (Document) Document D is text in natural language. Assuming that every document discusses one topic, not all topics discussed in same document are to be related. Definition 2 (Topic) Topic T is a event, abstract concept, or named entity, mentioned in a document D. Definition 3 (Sentiment) Sentiment S is an author's attitude, opinion, or emotion expressed on topic T. Definition 4 (Sentiment Polarity) sentiment polarity is a point on an evaluation scale corresponding to positive or negative evaluation of the sentiment's meaning [2].

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SPECIAL ISSUE ON RECENT RESEARCH CHALLENGES IN BIO-MEDICAL APPLICATIONS

Fish Swarm Optimization for Feature Subset Selection in Medical Information Blog Opinion Mining

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With search for health related information increasing in the web and availability of various blogs for medical information, analysis of subjective information is challenging. Opinion Mining is an emerging area, which labels an opinion as positive or negative. Opinion mining has been extensively used in product / movie reviews and to the best of our knowledge has not been investigated on data collected from medical question and answer blogs. Feature selection for labelling is challenging, due to the various medical terminology used. For example, the common cold is also called rhino pharyngitis, upper respiratory tract infection or naso-pharyngitis. This work investigates a novel feature selection technique using Fish Swarm Optimization, which identifies key medical concepts found in blogs and labels whether the opinion of the patient is positive or negative for the treatment undertaken.Three classification algorithms Naïve Bayes, K Nearest Neighbour and Classification and Regression Trees (CART) algorithms were used to investigate the quality of the extracted features.

Key words: Opinion Mining, Principal Component Analysis (PCA), Kernel PCA, Fish Swarm Optimization (FSO).

Opinion is what a person thinks about something. It detects and extracts subjective information in text documents[1]. Opinions are subjective expressions describing people's sentiments/appraisal/feelings to entities/events/ properties[2].Opinion mining studies opinions at word level, sentence level and document level[3].It is a new discipline, which attracted attention in fields like marketing, personal affective profiling and financial market prediction.

Opinion mining (OM), also called Sentiment classification or Polarity classification, is a binary classification task labelling an opinionated document expressing either overall positive or overall negative opinion. A technique to analyze subjective information in many texts and studies is sentiment classification. An approach to sentiment classification is using machine learning algorithms. Sentiment analysis tasks include classifying a text polarity at document, sentence or feature/aspect level expressing opinions, which are positive, negative or neutral. Sentiment analysis is performed at document, sentence and feature levels[4].

Feature extraction identifies/selects sufficient features set to characterize a texture. Image coding provides a compact texture description from chosen features. By representing a complex texture with limited measurable features/ parameters, texture analysis achieves dimension-reduction enabling automated texture processing[5].

Feature Selection (FS) identifies significant features and eliminates irrelevant/ dispensable ones. FS, also called feature subset

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A Novel Integrity Auditing and Secure Redundant Data Elimination Approach for Clouds

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Abstract: Cloud storage provides customers with benefits, ranging from cost saving and simplified convenience, to mobility opportunities and scalable service. Even though cloud storage system has been widely adopted, it fails to accommodate some important emerging needs such as the abilities of auditing integrity of cloud files by cloud clients and detecting duplicated files by cloud servers. In this paper, aiming at getting data integrity and redundant data elimination in cloud, we present two secure systems namely SecCloud and SecCloud+. SecCloud introduces an auditing entity with maintenance of a MapReduce cloud, which helps clients create data tags before uploading as well as audit the integrity of data having been saved in cloud. This design shows the issue of previous work that the computational load at user or auditor is too large for tag creation. For completeness of fine-grained, the functionality of auditing designed in SecCoud is supported on both block level and sector level. In addition, SecCoud also enables secure redundant data elimination. Besides supporting integrity auditing and secure redundant data elimination, SecCloud+ enables the guarantee of file confidentiality. By utilising the property of deterministic encryption in convergent encryption, we presented a technique of directly auditing integrity on encrypted data.

Keywords: Cloud Storage, Encryption, Redundant Data Elimination, Integrity Auditing.

I. INTRODUCTION

Cloud storage is a model of networked enterprise storage where data is stored in virtualized pools of storage which are generally hosted by third parties. Cloud storage provides customers with benefits, ranging from cost saving and simplified convenience, To mobility opportunities and scalable service. These great features attract more and more customers to utilize and storage their personal data to the cloud storage: according to the analysis report, the volume of data in cloud is expected to achieve 40 trillion gigabytes in 2020.Even though cloud storage system has been widely adopted, it fails to accommodate some important emerging needs such as the abilities of auditing integrity of cloud files by cloud clients and detecting duplicated files by cloud servers. Even though cloud storage system has been widely adopted, it fails to accommodate some main emerging needs such as the abilities of auditing integrity of cloud files by cloud clients and detecting duplicated files by cloud servers. The first problem is integrity auditing. The cloud server is able to relieve clients from the heavy burden of storage management and maintenance. The main difference of cloud storage from traditional in-house storage is that the data is transferred via Internet and stored in an uncertain domain, not under control of the clients at all, which inevitably raises clients great concerns on the integrity of their data. These concerns originate from the fact that the cloud storage is susceptible to security threats from both outside and inside of the cloud [1], and the uncontrolled cloud servers may passively hide some data loss incidents from the clients to maintain their reputation.

What is more serious is that for saving money and space, the cloud servers might even actively and deliberately discard rarely accessed data files belonging to an ordinary client. Considering the large size of the outsourced data files and the clients' constrained resource capabilities, the first problem is generalized as how can the client efficiently perform periodical integrity verifications even without the local copy of data files. The second problem is secure redundant data elimination. The rapid adoption of cloud services is accompanied by increasing volumes of data stored at remote cloud servers. Among these remote stored files, most of them are duplicated: according to a last survey by EMC [2], 75% of recent digital data is duplicated copies. This fact raises a technology namely redundant data elimination, in which the cloud servers would like to redundant data elimination by keeping only a single copy for each file and make a link to the file for every client who owns or asks to store the same file. Unfortunately, this action of redundant data elimination would lead to a number of threats potentially affecting the storage system [3][2], for example, a server telling a client that it (i.e., the client) does not need to send the file reveals that some other client has the same file, which could be sensitive Page 650 sometimes.