



SHADAN COLLEGE OF ENGINEERING & TECHNOLOGY

Established by SHADAN EDUCATIONAL SOCIETY.
Approved by A.I.C.T.E and Affiliated to JNTUH, Hyderabad.
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DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING Date: _____

List of Conferences for EEE Department year wise

| S.No. | Academic Year | No. of Conferences |
|-------|---------------|--------------------|
| 01 | 2019-20 | 09 |
| 02 | 2018-19 | 10 |
| 03 | 2017-18 | 07 |
| 04 | 2016-17 | 00 |
| 05 | 2015-16 | 00 |


HEAD OF THE DEPARTMENT


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3.2.2 Number of books and chapters in edited volumes/books published and papers published in national/international conference proceedings per teacher during last five years (18)

| Sl. No. | Name of the teacher | Title of the book/chapters published | Title of the paper | Title of the proceedings of the conference | Name of the conference | National / International | Year of publication | ISSN/ISSN number of the proceeding | Affiliating Institute at the time of publication | Name of the publisher | Link |
|------------------|---------------------|---|--------------------|---|---|--------------------------|---------------------|------------------------------------|--|-----------------------|---|
| 2019-2020 | | | | | | | | | | | |
| 1 | Pooja Koganti | ENERGY THEFT DETECTION WITH DIGITAL PROTECTIVE RELAY DEPLOYMENT | | INTERNATIONAL CONFERENCE ON TRANSFORMATIONAL EXCELLENCE IN ENGINEERING, SCIENCES AND MANAGEMENT (ICTEESM2020) | INTERNATIONAL RESEARCH JOURNAL GLOBAL ENGINEERING AND SCIENCES (IRJGES) | International | 2019-2020 | 1456-173X | shadan college of engineering & technology | IRJGES | http://irjges.com/Volumes/Issue09/IRJGES%20Special%20Issue%202019-2020.pdf Page to identify the link http://irjges.com/Volumes/Issue09/ |
| 2 | Haidar Shamsi | MONITORING OF INDUSTRIAL PARAMETERS BY USING ZIGBEE | | INTERNATIONAL CONFERENCE ON TRANSFORMATIONAL EXCELLENCE IN ENGINEERING, SCIENCES AND MANAGEMENT (ICTEESM2020) | INTERNATIONAL RESEARCH JOURNAL GLOBAL ENGINEERING AND SCIENCES (IRJGES) | International | 2019-2020 | 1456-173X | shadan college of engineering & technology | IRJGES | http://irjges.com/Volumes/Issue09/IRJGES%20Special%20Issue%202019-2020.pdf Page to identify the link http://irjges.com/Volumes/Issue09/ |
| 3 | Wamees Tanjari | SMART ENERGY METER USING GSM TECHNOLOGY | | INTERNATIONAL CONFERENCE ON TRANSFORMATIONAL EXCELLENCE IN ENGINEERING, SCIENCES AND MANAGEMENT (ICTEESM2020) | INTERNATIONAL RESEARCH JOURNAL GLOBAL ENGINEERING AND SCIENCES (IRJGES) | International | 2019-2020 | 1456-173X | shadan college of engineering & technology | IRJGES | http://irjges.com/Volumes/Issue09/IRJGES%20Special%20Issue%202019-2020.pdf Page to identify the link http://irjges.com/Volumes/Issue09/ |
| 4 | D.Shrestha | MONITORING OF INDUSTRIAL PARAMETERS BY USING ZIGBEE | | INTERNATIONAL CONFERENCE ON TRANSFORMATIONAL EXCELLENCE IN ENGINEERING, SCIENCES AND MANAGEMENT (ICTEESM2020) | INTERNATIONAL RESEARCH JOURNAL GLOBAL ENGINEERING AND SCIENCES (IRJGES) | International | 2019-2020 | 1456-173X | shadan college of engineering & technology | IRJGES | http://irjges.com/Volumes/Issue09/IRJGES%20Special%20Issue%202019-2020.pdf Page to identify the link http://irjges.com/Volumes/Issue09/ |
| 5 | K. Yasoda | SMART ENERGY METER USING GSM TECHNOLOGY | | INTERNATIONAL CONFERENCE ON TRANSFORMATIONAL EXCELLENCE IN ENGINEERING, SCIENCES AND MANAGEMENT (ICTEESM2020) | INTERNATIONAL RESEARCH JOURNAL GLOBAL ENGINEERING AND SCIENCES (IRJGES) | International | 2019-2020 | 1456-173X | shadan college of engineering & technology | IRJGES | http://irjges.com/Volumes/Issue09/IRJGES%20Special%20Issue%202019-2020.pdf Page to identify the link http://irjges.com/Volumes/Issue09/ |
| 6 | D.Shrestha | MONITORING OF INDUSTRIAL PARAMETERS BY USING ZIGBEE | | INTERNATIONAL CONFERENCE ON TRANSFORMATIONAL EXCELLENCE IN ENGINEERING, SCIENCES AND MANAGEMENT (ICTEESM2020) | INTERNATIONAL RESEARCH JOURNAL GLOBAL ENGINEERING AND SCIENCES (IRJGES) | International | 2019-2020 | 1456-173X | shadan college of engineering & technology | IRJGES | http://irjges.com/Volumes/Issue09/IRJGES%20Special%20Issue%202019-2020.pdf Page to identify the link http://irjges.com/Volumes/Issue09/ |
| 7 | D.Sasi Kumar | SMART ENERGY METER USING GSM TECHNOLOGY | | INTERNATIONAL CONFERENCE ON TRANSFORMATIONAL EXCELLENCE IN ENGINEERING, SCIENCES AND MANAGEMENT (ICTEESM2020) | INTERNATIONAL RESEARCH JOURNAL GLOBAL ENGINEERING AND SCIENCES (IRJGES) | International | 2019-2020 | 1456-173X | shadan college of engineering & technology | IRJGES | http://irjges.com/Volumes/Issue09/IRJGES%20Special%20Issue%202019-2020.pdf Page to identify the link http://irjges.com/Volumes/Issue09/ |
| 8 | Amit Ali Khan | ENERGY THEFT DETECTION WITH DIGITAL PROTECTIVE RELAY DEPLOYMENT | | INTERNATIONAL CONFERENCE ON TRANSFORMATIONAL EXCELLENCE IN ENGINEERING, SCIENCES AND MANAGEMENT (ICTEESM2020) | INTERNATIONAL RESEARCH JOURNAL GLOBAL ENGINEERING AND SCIENCES (IRJGES) | International | 2019-2020 | 1456-173X | shadan college of engineering & technology | IRJGES | http://irjges.com/Volumes/Issue09/IRJGES%20Special%20Issue%202019-2020.pdf Page to identify the link http://irjges.com/Volumes/Issue09/ |
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| 2018-2019 | | | | | | | | | | | |
| 1 | Durga Shrestha | PIC MICROCONTROLLER BASED POWER FACTOR CORRECTION | | INTERNATIONAL CONFERENCE ON RECENT ISSUES IN ENGINEERING, SCIENCES AND MANAGEMENT | INTERNATIONAL RESEARCH JOURNAL GLOBAL ENGINEERING AND SCIENCES (IRJGES) | International | 2018-2019 | 1456-173X | shadan college of engineering & technology | IRJGES | http://irjges.com/Volumes/Issue08/IRJGES%20Special%20Issue%202018-2019.pdf Page to identify the link http://irjges.com/Volumes/Issue08/ |




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| 2 | Amer Ali Khan | ACCIDENT DETECTION AND REGULATION THROUGH INTERNET OF VEHICLES BY USING VANET | INTERNATIONAL CONFERENCE ON RECENT ISSUES IN ENGINEERING SCIENCES AND MANAGEMENT | INTERNATIONAL RESEARCH JOURNAL IN GLOBAL ENGINEERING AND SCIENCES (IRJGES) | International | 2018-2019 | 1456-172X | shadan college of engineering & technology | IRJGES | http://ijges.com/Volumes/Issue478/IRJGES%20Special%20Issue%202018-2019.pdf Page to identify the link: http://ijges.com/volumes/Issue478/ |
| 3 | D. Elumalai Raj | SEGWAY ROAD CLEANING AND WATER SPRINKLE SYSTEM | INTERNATIONAL CONFERENCE ON RECENT ISSUES IN ENGINEERING SCIENCES AND MANAGEMENT | INTERNATIONAL RESEARCH JOURNAL IN GLOBAL ENGINEERING AND SCIENCES (IRJGES) | International | 2018-2019 | 1456-172X | shadan college of engineering & technology | IRJGES | http://ijges.com/Volumes/Issue478/IRJGES%20Special%20Issue%202018-2019.pdf Page to identify the link: http://ijges.com/volumes/Issue478/ |
| 4 | Ashfa Fatima | PIV MICROCONTROLLER BASED POWER FACTOR CORRECTION | INTERNATIONAL CONFERENCE ON RECENT ISSUES IN ENGINEERING SCIENCES AND MANAGEMENT | INTERNATIONAL RESEARCH JOURNAL IN GLOBAL ENGINEERING AND SCIENCES (IRJGES) | International | 2018-2019 | 1456-172X | shadan college of engineering & technology | IRJGES | http://ijges.com/Volumes/Issue478/IRJGES%20Special%20Issue%202018-2019.pdf Page to identify the link: http://ijges.com/volumes/Issue478/ |
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| 6 | Faizal Raeesah | SEGWAY ROAD CLEANING AND WATER SPRINKLE SYSTEM | INTERNATIONAL CONFERENCE ON RECENT ISSUES IN ENGINEERING SCIENCES AND MANAGEMENT | INTERNATIONAL RESEARCH JOURNAL IN GLOBAL ENGINEERING AND SCIENCES (IRJGES) | International | 2018-2019 | 1456-172X | shadan college of engineering & technology | IRJGES | http://ijges.com/Volumes/Issue478/IRJGES%20Special%20Issue%202018-2019.pdf Page to identify the link: http://ijges.com/volumes/Issue478/ |
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| 9 | HAIDER SHARJEET | SEGWAY ROAD CLEANING AND WATER SPRINKLE SYSTEM | INTERNATIONAL CONFERENCE ON RECENT ISSUES IN ENGINEERING SCIENCES AND MANAGEMENT | INTERNATIONAL RESEARCH JOURNAL IN GLOBAL ENGINEERING AND SCIENCES (IRJGES) | International | 2018-2019 | 1456-172X | shadan college of engineering & technology | IRJGES | http://ijges.com/Volumes/Issue478/IRJGES%20Special%20Issue%202018-2019.pdf Page to identify the link: http://ijges.com/volumes/Issue478/ |
| 10 | Amer Ali Khan | Effect of RC Surge Suppressor in Reduction of Over Voltages at Motor Terminal Caused by PWM-Based Inverter | (Lecture Notes in Electrical Engineering 311) Vijay Nand, Indrera Kumar Mandal, Manojkumar, Concepts and Commutative Systems (2019, Springer, Singapore) SCI | Neuroelectronics, Circuits and Communication Systems (2019, Springer, Singapore) SCI | International | 2019 | 978-981-13-0725-1/11876-1100 | Shadan College of Engineering and Technology | Springer | https://doi.org/10.1007/978-981-13-0725-1_11876 https://doi.org/10.1007/978-981-13-0725-1_11876 |

2017-18

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|---|----------------|---|---|--|---------------|-----------|-----------|--|---------|---|
| 1 | Durga Shrinani | MULTIPURPOSE ARCHITECTURE ROBOT | INTERNATIONAL CONFERENCE ON CONTEMPORARY ISSUES IN ENGINEERING AND MANAGEMENT | INTERNATIONAL JOURNALS OF RESEARCH IN MECHANICAL MECHATRONICS AND AUTOMOBILE ENGINEERING | International | 2017-2018 | 1454-1455 | Shadan College of Engineering and Technology | IRAMBAE | http://ijges.com/Volumes/Issue478/IRJGES%20Special%20Issue%202018-2019.pdf Page to identify the link: http://ijges.com/volumes/Issue478/ |
| 2 | Ashraf Yameen | HI-5 POWER GENERATION FROM SOLAR, HYDEL, WIND, MAIN AND FOOT STEP FOR WIRELESS POWER TRANSMISSION | INTERNATIONAL CONFERENCE ON CONTEMPORARY ISSUES IN ENGINEERING AND MANAGEMENT | INTERNATIONAL JOURNALS OF RESEARCH IN MECHANICAL MECHATRONICS AND AUTOMOBILE ENGINEERING | International | 2017-2018 | 1454-1455 | Shadan College of Engineering and Technology | IRAMBAE | http://ijges.com/Volumes/Issue478/IRJGES%20Special%20Issue%202018-2019.pdf Page to identify the link: http://ijges.com/volumes/Issue478/ |




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| 3 | G. Srinivas Reddy | MULTI-BAND AGRICULTURE ROBOT | INTERNATIONAL CONFERENCE ON CONTEMPORARY ISSUES IN ENGINEERING AND MANAGEMENT | INTERNATIONAL JOURNALS OF RESEARCH IN MECHANICAL MECHATRONICS AND AUTOMOBILE ENGINEERING | International | 2017-2018 | 2454-1435 | Shadan College of Engineering and Technology | IJRMMAE | http://www.ijrmmae.in/volume1-issn-4228-0444/vol1issn42280444%202017-2018.pdf Page to identify the link http://www.ijrmmae.in/volume1-issn42280444 |
| 4 | Mohd. Firozshah | HI-5 POWER GENERATION FROM SOLAR, HYDEL, WIND, MAIN AND FOOT STEP FOR WIRELESS POWER TRANSMISSION | INTERNATIONAL CONFERENCE ON CONTEMPORARY ISSUES IN ENGINEERING AND MANAGEMENT | INTERNATIONAL JOURNALS OF RESEARCH IN MECHANICAL MECHATRONICS AND AUTOMOBILE ENGINEERING | International | 2017-2018 | 2454-1435 | Shadan College of Engineering and Technology | IJRMMAE | http://www.ijrmmae.in/volume1-issn-4228-0444/vol1issn42280444%202017-2018.pdf Page to identify the link http://www.ijrmmae.in/volume1-issn42280444 |
| 5 | Pradeep Rajagopal | DESIGN AND FABRICATION OF WIND- SOLAR HYBRID POWER GENERATION | INTERNATIONAL CONFERENCE ON CONTEMPORARY ISSUES IN ENGINEERING AND MANAGEMENT | INTERNATIONAL JOURNALS OF RESEARCH IN MECHANICAL MECHATRONICS AND AUTOMOBILE ENGINEERING | International | 2017-2018 | 2454-1435 | Shadan College of Engineering and Technology | IJRMMAE | http://www.ijrmmae.in/volume1-issn-4228-0444/vol1issn42280444%202017-2018.pdf Page to identify the link http://www.ijrmmae.in/volume1-issn42280444 |
| 6 | Dr. J. Sankar Reddy | HI-5 POWER GENERATION FROM SOLAR, HYDEL, WIND, MAIN AND FOOT STEP FOR WIRELESS POWER TRANSMISSION | INTERNATIONAL CONFERENCE ON CONTEMPORARY ISSUES IN ENGINEERING AND MANAGEMENT | INTERNATIONAL JOURNALS OF RESEARCH IN MECHANICAL MECHATRONICS AND AUTOMOBILE ENGINEERING | International | 2017-2018 | 2454-1435 | Shadan College of Engineering and Technology | IJRMMAE | http://www.ijrmmae.in/volume1-issn-4228-0444/vol1issn42280444%202017-2018.pdf Page to identify the link http://www.ijrmmae.in/volume1-issn42280444 |
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| 2016-17 | | | | | | | | | | |
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ENERGY THEFT DETECTION WITH DIGITAL PROTECTIVE RELAY DEPLOYMENT

¹Amer Ali khan, ²Khadrun Sultana, ³Pandu Rangiah

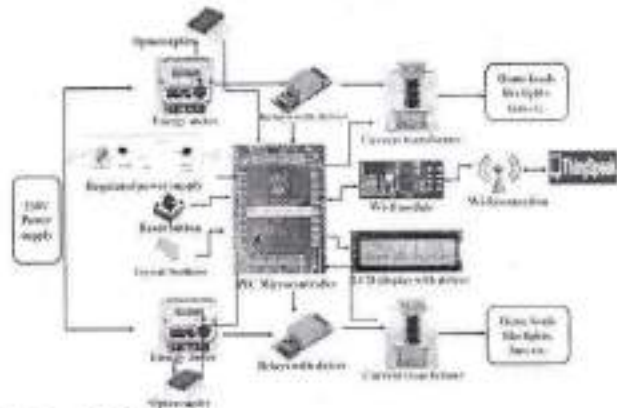
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ABSTRACT:The main purpose of the project is to develop a system to detect the power theft in multi-tenant and send the data to thingspeak through internet. The PIC microcontroller controls the whole project. The project main aim to control the power theft and supply power to multi tenants through one supply. Here to the micro controller two tenants are reconnected. Interfacing the Wi-Fi module, liquid crystal display, buzzer, and meter pulse using PIC microcontroller, here providing 5v to activate and then it displays the IP address which needs to connect the Wi-Fi module to send the data to processor or controller. An optocoupler-isolated power supply is often the safest and most practical way to go when it comes to performance and protection, it is connected to energy meter. Energy meter will read the pulse to calculate the amount of consumed power. Load takes 5v power from the power transformer. The data will be sent to thingspeak through wi-fi module connected to microcontroller. These smart meters will be two blocks corresponding to multiple tenants and those respective meter readings will be uploaded to thingspeak through cloud.

1. PROBLEM DEFINITION

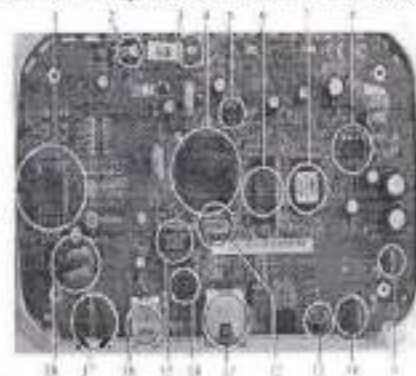
An embedded system is a combination of software and hardware to perform dedicated task. Some of the main devices used in embedded products are Microprocessors and Microcontrollers. Microprocessors are commonly referred to as general purpose processors as they simply accept the inputs, process it and give the output. In contrast, a microcontroller not only accepts the data as inputs but also manipulates it, interfaced the data with various devices, control the data and thus finally gives the result. The project "Energy Theft Detection in Multi-Tenant Data Centers with Digital Protective Relay Deployment" using PIC16F73 Microcontroller is an exclusive project that can detect the power theft in multi-tenant and send the data to thingspeak through internet.

2. BLOCK DIAGRAM



Embedded Systems

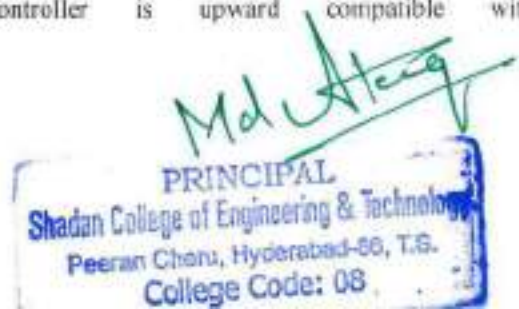
An embedded system is a computer system designed to perform one or a few dedicated functions often with real-time computing constraints. It is embedded as part of a complete device often including hardware and mechanical parts. By contrast, a general-purpose computer, such as a personal computer (PC), is designed to be flexible and to meet a wide range of end-user needs. Embedded systems control many devices in common use today.



3. HARDWARE DESCRIPTION

Microcontroller PIC16F73

The PIC16F73 CMOS FLASH-based 8-bit microcontroller is upward compatible with



MONITORING OF INDUSTRIAL PARAMETERS BY USING ZIGBEE

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Abstract-CPS provides the necessary technological basis to facilitate the realization and corresponding automation of large-scale complex system, such as smart grids, smart buildings, smart transportation, smart healthcare and smart manufacturing, among other applications areas. The cps era is in need of solutions that will support it at device, system, and infrastructure and application level. This includes the whole lifecycle from cradle-to-grave of its cps components and services. This is a scientific, technical, industrial and social challenge that includes a multi-disciplinary engineering approach and the confluence and sometimes fusion of heterogeneous Communication, information and control/automation technologies. This work has presented an overview of key aspects related to industrial cps and key approaches and technologies associated with their engineering and implementation related to industrial automation, such as mas, soa and cloud systems. Based on the results of four European innovation projects (i.e. socrades, lmc-aesop, grace and arum), the progress in the domain has been reported. subsequently, key challenges for the understanding and application of industrial automation based on cps technologies have been identified and some considerations on the difficulties and time horizon are discussed, with the aim to support further the increasing of the current technology readiness levels and lead to a broad utilization of cps-based systems and infrastructures in commercial industrial automation systems

1. TECHNOLOGY USED ZIGBEE

Zigbee modules feature a UART interface, which allows any microcontroller or microprocessor to immediately use the services of the Zigbee protocol. All a Zigbee hardware designer has to do in this as is ensure that the host's serial port logic levels are compatible with the XBee's 2.8- to 3.4-V logic levels. The logic level conversion can be performed using either a standard RS-

232 IC or logic level translators such as the 74LVTH125 when the host is directly connected to the XBeeUART. The below table gives the pin description of transceiver.

Zigbee Applications

1. Manufacturing / Machining
2. Food
3. Metals
4. Power
5. Mining
6. Petrochemical / Chemical

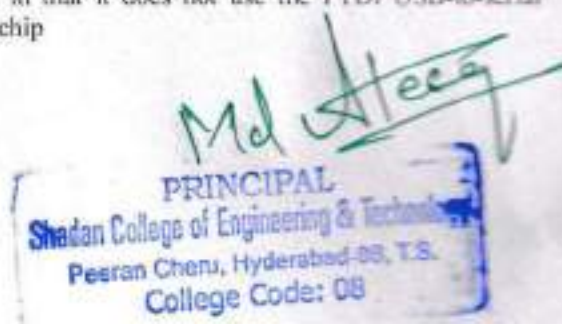
Embedded Systems

Examples of Embedded Systems :

- Avionics, such as inertial guidance systems, flight control hardware/software and other integrated systems in aircraft and missiles
- Cellular telephones and telephone switches
- Engine controllers and antilock brake controllers for automobiles
- Home automation products, such as thermostats, air conditioners, sprinklers, and security monitoring systems
- Handheld calculators

ARDUINO UNO (ATMEGA328P)

The Arduino Uno is a microcontroller board based on the ATmega328 (datasheet). It has 14 digital input/output pins (of which 6 can be used as PWM outputs), 6 analog inputs, a 16 MHz ceramic resonator, a USB connection, a power jack, an ICSP header, and a reset button. It contains everything needed to support the microcontroller; simply connect it to a computer with a USB cable or power it with a AC-to-DC adapter or battery to get started. The Uno differs from all preceding boards in that it does not use the FTDI USB-to-serial driver chip



SMART ENERGY METER USING GSM TECHNOLOGY

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Abstract-The advantages of remote meter reading and spot billing are well recognized by the various electricity boards in the country today. Not only does spot billing lead to much greater revenue-collection efficiency and better decision systems, it also brings intangibles like transparency and better customer service to the system. Though there exist various devices in the market that aid in spot-meter billing, none has become either an industry standard or widely prevalent. The reasons range from limited computing power and lack of customizability to high price and absence of local technical support.

Each consumer is provided with a unique energy meter, which is having a GSM modem, microcontroller unit and a display unit internally. A SIM card is required for communication. Whenever this system receives an SMS from electricity board, it calculates the number of units consumed and billing amount on slab rate, displays on LCD for user interface. This system also sends the same message to the electricity board for departmental information and database.

This project uses regulated 5V, 500mA power supply. 7805 three terminal voltage regulator is used for voltage regulation. Bridge type full wave rectifier is used to rectify the ac out put of secondary of 230/12V step down transformer.

1. INTRODUCTION

In the present system, Electricity bills are generated manually by personnel from the Electricity board. The Electricity board staff visit houses and commercial establishments, once a month and record the electricity consumption. Then based on the tariff the bill payment is done by the consumer.

The aim of the project is to automate the postpaid billing of energy meter. Wireless Control of Energy Meter is useful for billing purpose in Electricity board. Instead of going to every house & taking the readings, in this project by just sending a SMS electricity board can receive the readings of the house.

The amount of consumption is stored in memory authority as SMS. An SMS can be sent through Modem

to that particular number which is assigned by these authorities and wait for the response. On other end the modem will receive the data in the form of a command and informs the controller to do the readings. After the readings the controller will send data to the modem. Modem, in turn sends data to the other end. In the office the GSM unit will receive the data and software will calculate the total consumption. The number assigned by the authorities is unique. Using GSM we can get the response very fast due to which time is saved.

2. TECHNOLOGY USED

Artificial intelligence

Artificial Intelligence is: the field of study that describe the capability of machine learning just like humans and the ability to respond to certain behaviors also known as (A.I.). The need of Artificial Intelligence is increasing every day. Since AI was first introduced to the market, it has been the reason of the quick change in technology and business fields.

3. EMBEDDED SYSTEMS

An embedded system is a system which is going to do a predefined specified task is the embedded system and is even defined as combination of both software and hardware. A general-purpose definition of embedded systems is that they are devices used to control, monitor or assist the operation of equipment, machinery or plant. "Embedded" reflects the fact that they are an integral part of the system. At the other extreme a general-purpose computer may be used to control the operation of a large complex processing plant, and its presence will be obvious.

Applications of embedded systems

- Manufacturing and process control
- Construction industry
- Transport
- Buildings and premises
- Domestic service

Three basic characteristics differentiate microprocessors:

- **Instruction set:** The set of instructions that the microprocessor can execute.



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Abstract-CPS provides the necessary technological basis to facilitate the realization and corresponding automation of large-scale complex system, such as smart grids, smart buildings, smart transportation, smart healthcare and smart manufacturing, among other applications areas. The cps era is in need of solutions that will support it at device, system, and infrastructure and application level. This includes the whole lifecycle from cradle-to-grave of its cps components and services. This is a scientific, technical, industrial and social challenge that includes a multi-disciplinary engineering approach and the confluence and sometimes fusion of heterogeneous Communication, information and control/automation technologies. This work has presented an overview of key aspects related to industrial cps and key approaches and technologies associated with their engineering and implementation related to industrial automation, such as mas, soa and cloud systems. Based on the results of four European innovation projects (i.e. socrates, imc-aesop, grace and arum), the progress in the domain has been reported. subsequently, key challenges for the understanding and application of industrial automation based on cps technologies have been identified and some considerations on the difficulties and time horizon are discussed, with the aim to support further the increasing of the current technology readiness levels and lead to a broad utilization of cps-based systems and infrastructures in commercial industrial automation systems

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Zigbee Applications

1. Manufacturing / Machining
2. Food
3. Metals
4. Power
5. Mining
6. Petrochemical / Chemical

Embedded Systems

Examples of Embedded Systems :

- Avionics, such as inertial guidance systems, flight control hardware/software and other integrated systems in aircraft and missiles
- Cellular telephones and telephone switches
- Engine controllers and antilock brake controllers for automobiles
- Home automation products, such as thermostats, air conditioners, sprinklers, and security monitoring systems
- Handheld calculators

ARDUINO UNO (ATMEGA328P)

The Arduino Uno is a microcontroller board based on the ATmega328 (datasheet). It has 14 digital input/output pins (of which 6 can be used as PWM outputs), 6 analog inputs, a 16 MHz ceramic resonator, a USB connection, a power jack, an ICSP header, and a reset button. It contains everything needed to support the microcontroller; simply connect it to a computer with a USB cable or power it with a AC-to-DC adapter or battery to get started. The Uno differs from all preceding boards in that it does not use the FTDI USB-to-serial driver chip



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SMART ENERGY METER USING GSM TECHNOLOGY

¹D.Sunil kumara,²K. Vamshi,³Waseem Tarique

^{1,2,3}Assistant Professor, Department of Electronics and Electronics Engineering,
^{1,2,3}Shadan college of Engineering and Technology, Hyderabad Telangana, India

Abstract-The advantages of remote meter reading and spot billing are well recognized by the various electricity boards in the country today. Not only does spot billing lead to much greater revenue-collection efficiency and better decision systems, it also brings intangibles like transparency and better customer service to the system. Though there exist various devices in the market that aid in spot-meter billing, none has become either an industry standard or widely prevalent. The reasons range from limited computing power and lack of customizability to high price and absence of local technical support.

Each consumer is provided with a unique energy meter, which is having a GSM modem, microcontroller unit and a display unit internally. A SIM card is required for communication. Whenever this system receives an SMS from electricity board, it calculates the number of units consumed and billing amount on slab rate, displays on LCD for user interface. This system also sends the same message to the electricity board for departmental information and database.

This project uses regulated 5V, 500mA power supply. 7805 three terminal voltage regulator is used for voltage regulation. Bridge type full wave rectifier is used to rectify the ac out put of secondary of 230/12V step down transformer.

1. INTRODUCTION

In the present system, Electricity bills are generated manually by personnel from the Electricity board. The Electricity board staff visit houses and commercial establishments, once a month and record the electricity consumption. Then based on the tariff the bill payment is done by the consumer.

The aim of the project is to automate the postpaid billing of energy meter. Wireless Control of Energy Meter is useful for billing purpose in Electricity board. Instead of going to every house & taking the readings, in this project by just sending a SMS electricity board can receive the readings of the house.

The amount of consumption is stored in memory authority as SMS. An SMS can be sent through Modem

to that particular number which is assigned by these authorities and wait for the response. On other end the modem will receive the data in the form of a command and informs the controller to do the readings. After the readings the controller will send data to the modem.

Modem, in turn sends data to the other end. In the office the GSM unit will receive the data and software will calculate the total consumption. The number assigned by the authorities is unique. Using GSM we can get the response very fast due to which time is saved.

2. TECHNOLOGY USED

Artificial intelligence

Artificial Intelligence is: the field of study that describe the capability of machine learning just like humans and the ability to respond to certain behaviors also known as (A.I.). The need of Artificial Intelligence is increasing every day. Since AI was first introduced to the market, it has been the reason of the quick change in technology and business fields.

3. EMBEDDED SYSTEMS

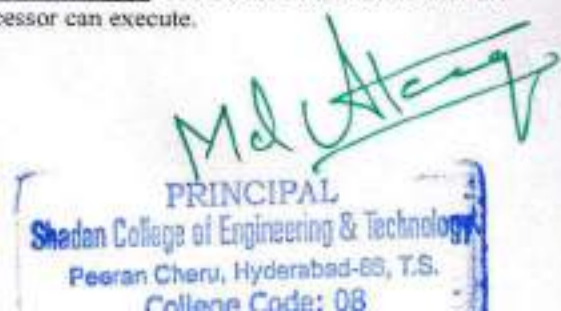
An embedded system is a system which is going to do a predefined specified task is the embedded system and is even defined as combination of both software and hardware. A general-purpose definition of embedded systems is that they are devices used to control, monitor or assist the operation of equipment, machinery or plant. "Embedded" reflects the fact that they are an integral part of the system. At the other extreme a general-purpose computer may be used to control the operation of a large complex processing plant, and its presence will be obvious.

Applications of embedded systems

- Manufacturing and process control
- Construction industry
- Transport
- Buildings and premises
- Domestic service

Three basic characteristics differentiate microprocessors:

- **Instruction set:** The set of instructions that the microprocessor can execute.



MONITORING OF INDUSTRIAL PARAMETERS BY USING ZIGBEE

¹D.Shamaanthrao, ²D.Shivadas, ³HaiderShareef

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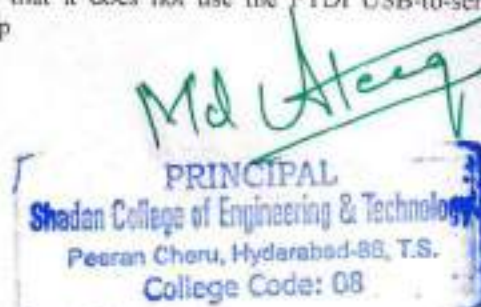
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ENERGY THEFT DETECTION WITH DIGITAL PROTECTIVE RELAY DEPLOYMENT

¹Amer Ali Khan, ²Khadrun Sultana, ³Pandu Rangaiah

¹Associate Professor, Shadan college of Engineering and Technology, Peerancheru, Telangana, India

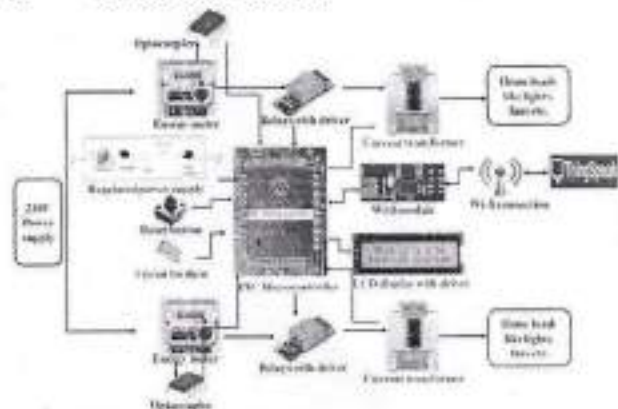
²Assistant Professor, Shadan college of Engineering and Technology, Peerancheru, Telangana, India

ABSTRACT: The main purpose of the project is to develop a system to detect the power theft in multi-tenant and send the data to thingspeak through internet. The PIC microcontroller controls the whole project. The project main aim to control the power theft and supply power to multi tenants through one supply. Here to the micro controller two tenants are connected. Interfacing the Wi-Fi module, liquid crystal display, buzzer, and meter pulse using PIC microcontroller, here providing 5v to activate and then it displays the IP address which needs to connect the Wi-Fi module to send the data to processor or controller. An optocoupler-isolated power supply is often the safest and most practical way to go when it comes to performance and protection, it is connected to energy meter. Energy meter will read the pulse to calculate the amount of consumed power. Load takes 5v power from the power transformer. The data will be sent to thingspeak through wi-fi module connected to microcontroller. These smart meters will be two blocks corresponding to multiple tenants and those respective meter readings will be uploaded to thingspeak through cloud.

1. PROBLEM DEFINITION

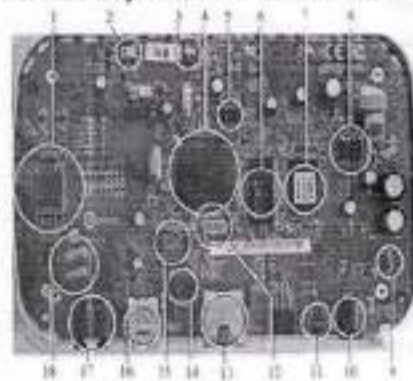
An embedded system is a combination of software and hardware to perform dedicated task. Some of the main devices used in embedded products are Microprocessors and Microcontrollers. Microprocessors are commonly referred to as general purpose processors as they simply accept the inputs, process it and give the output. In contrast, a microcontroller not only accepts the data as inputs but also manipulates it, interfaced the data with various devices, control the data and thus finally give the result. The project "Energy Theft Detection in Multi-Tenant Data Centers with Digital Protective Relay Deployment" using PIC16F73 Microcontroller is an exclusive project that can detect the power theft in multi-tenant and send the data to thingspeak through internet.

2. BLOCK DIAGRAM



Embedded Systems

An embedded system is a computer system designed to perform one or a few dedicated functions often with real-time computing constraints. It is embedded as part of a complete device often including hardware and mechanical parts. By contrast, a general-purpose computer, such as a personal computer (PC), is designed to be flexible and to meet a wider range of end-user needs. Embedded systems control many devices in common use today.



3. HARDWARE DESCRIPTION

Microcontroller PIC16F73

The PIC16F73 CMOS FLASH-based 8-bit microcontroller is upward compatible with



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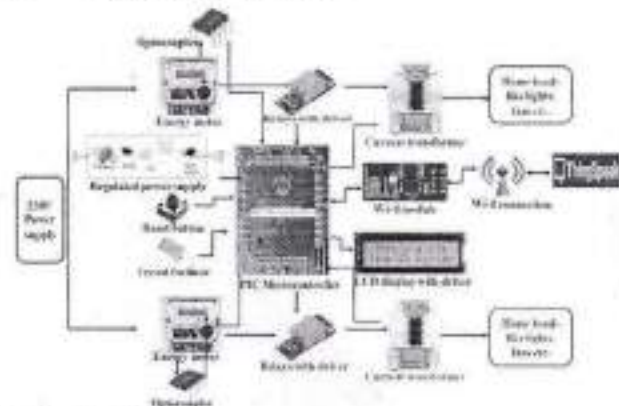
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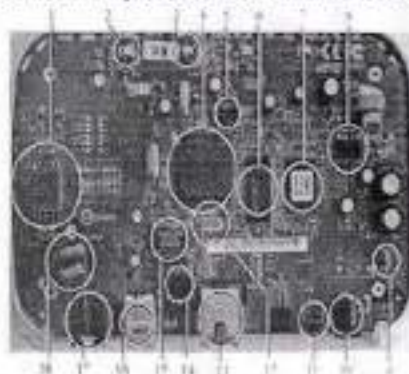
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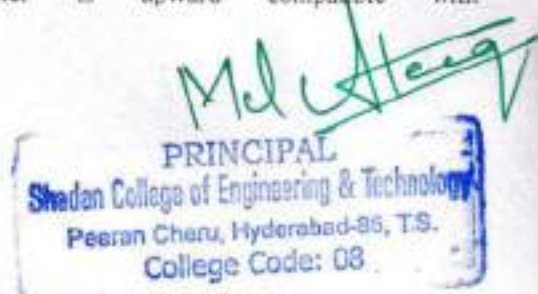
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PIC MICROCONTROLLER BASED POWER FACTOR CORRECTION

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Abstract- This project includes a new implementation method to improve power factor for both leading and lagging loads using PIC Microcontroller after determining their zero crossing locations of voltage and current waveforms by zero cross detectors (ZCD). Capacitive and inductive banks are used for the compensation of power factor according to nature of load which is determined based on microcontroller algorithm.

To design this project microcontroller plays a major role. The interfaced devices to the microcontroller are node cu, Zero cross detector, Potentiometer, Current Transformer, Voltage Transformer, Capacitive Bank and Inductive Bank. The main purpose is to detect the zero crossing of the voltage and current and then switching of capacitive and inductive banks based on microcontroller algorithm. The voltage is first stepped down using potential transformers and the current is stepped down using current transformer whose rating is decided based on maximum rating of your load. These two waves of voltage and current are passed through zero cross detectors (ZCD). The waves that appear across the output of the ZCD are the square waves and their amplitude approaches almost to the biasing of the operational amplifier. These two waves are then fed to microcontroller so that it can measure the phase delay between the voltage and current waveforms and then show the power factor accordingly based on the proposed algorithm. The microcontroller then based on number of counts decides the power factor and displays it on LCD.

Keywords: PIC Microcontroller, zero cross detectors (ZCD).

1. INTRODUCTION

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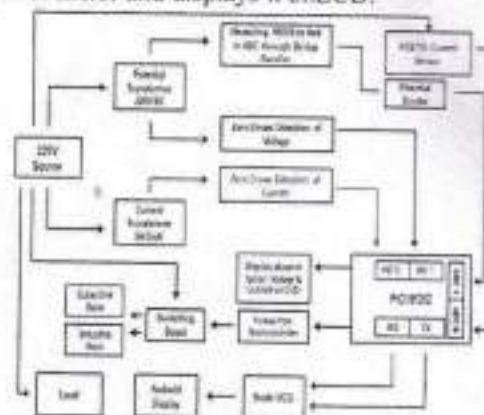
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ACCIDENT DETECTION AND REGULATION THROUGH INTERNET OF VEHICLES BY USING VANET

¹Amer Ali Khan, ²Waseem tarique, ³Amina Yasmeen

¹Associate Professor, Shadan college of Engineering and Technology, Peerancheru, Telangana, India

^{2,3}Assistant Professor, Shadan college of Engineering and Technology, Peerancheru, Telangana, India

Abstract: The dramatic increase of urban motorcycle road fatalities has led to significant issues in contemporary traffic management systems. The impact of synergetic paradigms of VANET envisages sustainable solutions for smart transportation. Furthermore, Internet of Vehicle (IoV) the fastest growing extension module of VANET builds highly compatible cloud-based collaboration among heterogeneous entities like vehicles, human and internet services.

The proliferation of such IoV enabled device configuration provides scalable, efficient and quality driven applications for smart city ecosystem. This project focusses on identifying and examining the adoption of wearable embedded smart helmet technology among the motorcyclist that reduces the potential injuries to the head and prevention of accidents due to drunken drive for safe riding.

In addition, this project critically evaluated the existing best practices of smart helmet management and issues in terms of software and hardware aspects.

Keywords – ARDUIN, ZIBGEE, InternetofVehicle(IoV)

1. PROBLEM DEFINITION

A traffic accident is defined as any vehicle accident occurring on a public highway (i.e. originating on, terminating on, or involving a vehicle partially on the highway). These accidents therefore include collisions between vehicles and animals, vehicles and pedestrians, or vehicles and fixed obstacles. In higher-income countries, road traffic [1] accidents are already among the top ten leading causes of disease burden in 1998 as measured in DALYs (disability-adjusted life years). In less developed countries, road traffic accidents were the most significant cause of injuries, ranking eleventh among the most important causes of lost years of healthy life. In Indian road system, widening of the road is not an alternative solution to avoid traffic in such a cities.

As per Section 129 of Motor Vehicles Act, 1988 makes it compulsory for every individual riding a two-wheeler

to wear protective headgear conforming to standards of the Bureau of Indian Standards. Despite creating much awareness, people don't wear helmets. Traffic police monitoring for helmets is not permanent solution. As traffic police cannot be present at all places. Also they do not have adequate manpower to implement the rule as manning traffic is also a priority.

2. BLOCK DIAGRAM

Transmitter and Receiver sections are designed as below

3. TRANSMITTER



4. RECEIVER



5. HARDWARE IMPLEMENTATION

This chapter briefly explains about the Hardware implementation of authentication of design & implementation of a smart helmet based on iot. It discusses the circuit diagram of each module in detail.

SEGWAY ROAD CLEANING AND WATER SPRINKLE SYSTEM

¹D Shyamnath Rao, ²Pandu Rangaiah, ³HAIDER SHAREEF

¹Associate Professor, Department of Electrical and Electronics Engineering,

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Abstract- The uses of alternative sources of energies are becoming widely spread in all over the world. Our sun is also a very good source of different energies; the light energy has a very remarkable value. The Solar panel converts the light energy into the electrical energy.

The efficiency of solar panel can be maximized by aligning the solar panel with the sun. The sun tracking system is designed in this project, offers a reliable and affordable method of aligning a solar panel with the sun on single axis. This project is based on microcontroller 8051 with a simple circuit and sun tracking software.

In the recent years, the energy sources like fossil fuel, gas, crude oil, coal, nuclear fuel etc. are becoming scared due to excessive use of it for domestic as well as commercial purpose. These are non-renewal sources of energy.

The situation was energy resources are scared, it is vital to use renewable source of energy for example solar energy, Wind power, Tides, Hydroelectricity, Geothermal power. This paper gives the design and construction of 8051 microcontroller for solar panel tracking system to produce solar energy. Solar tracking system produces more energy since the solar panel remains aligned to the sun.

"Solar Tracking System" is a power generating method from sunlight. This method of power generation is simple and is taken from natural resource. This needs only maximum sunlight to generate power. This paper helps for power generation by setting the equipment to get maximum sunlight automatically.

This system is tracking for maximum intensity of light. When there is decrease in intensity of light, this system automatically changes its direction to get maximum intensity of light.

Keywords: Solar Tracking System, Arduino, Intermittency

1. INTRODUCTION

The Segway PT (referred to at the time as the Segway

HT) was developed from the self-balancing iBOT wheelchair which was initially developed at University of Plymouth, in conjunction with BAE Systems and Sumitomo Precision Products. Segway's first patent was filed in 1994 and granted in 1997 followed by others including one submitted in June 1999 and granted in October 2001.

The invention, development, and financing of the Segway was the subject of a book, and a leak of information prior to publication of the book and the launch of the product led to excited speculation about the device and its importance. John Doerr speculated that it would be more important than the Internet. South Park devoted an episode to making fun of the hype before the product was released. Steve Jobs was quoted as saying that it was "as big a deal as the PC". (but later retracted that saying that it "sucked", presumably referring to "the design" but commenting about the boutique price, asking, "You're sure your market is upscale consumers for transportation?") The device was unveiled on 3 December 2001, following months of public speculation, in Bryant Park, New York City, on the ABC News morning program Good Morning America with the first units delivered to customers in early 2002.

1.1 Energy Resources

The world's energy resources can be divided into fossil fuel, nuclear fuel and renewable resources. Renewable energy resources and significant opportunities for energy efficiency exist over wide geographical areas, in contrast to other energy sources, which are concentrated in a limited number of countries. Rapid deployment of renewable energy and energy efficiency, and technological diversification of energy sources, would result in significant energy security and economic benefits. Solar energy and wind energy are chosen here for hybrid power generation

2. HARDWARE IMPLEMENTATION

1. Memes
2. Arduino
3. 4 channel relay



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ACCIDENT DETECTION AND REGULATION THROUGH INTERNET OF VEHICLES BY USING VANET

¹Amer Ali Khan, ²Waseem tarique, ³Amina Yasmeen

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The proliferation of such IoV enabled device configuration provides scalable, efficient and quality driven applications for smart city ecosystem. This project focusses on identifying and examining the adoption of wearable embedded smart helmet technology among the motorcyclist that reduces the potential injuries to the head and prevention of accidents due to drunken drive for safe riding.

In addition, this project critically evaluated the existing best practices of smart helmet management and issues in terms of software and hardware aspects.

Keywords – ARDUIN, ZIBGEE, InternetofVehicle(IoV)

1. PROBLEM DEFINITION

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Transmitter and Receiver sections are designed as below

3. TRANSMITTER



4. RECEIVER



5. HARDWARE IMPLEMENTATION

This chapter briefly explains about the Hardware implementation of authentication of design & implementation of a smart helmet based on iot. It discusses the circuit diagram of each module in detail.

SEGWAY ROAD CLEANING AND WATER SPRINKLE SYSTEM

¹D Shyamnath Rao, ²Pandu Rangaiah, ³HAIDER SHAREEF

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Abstract- The uses of alternative sources of energies are becoming widely spread in all over the world. Our sun is also a very good source of different energies; the light energy has a very remarkable value. The Solar panel converts the light energy into the electrical energy.

The efficiency of solar panel can be maximized by aligning the solar panel with the sun. The sun tracking system is designed in this project, offers a reliable and affordable method of aligning a solar panel with the sun on single axis. This project is based on microcontroller 8051 with a simple circuit and sun tracking software.

In the recent years, the energy sources like fossil fuel, gas, crude oil, coal, nuclear fuel etc. are becoming scared due to excessive use of it for domestic as well as commercial purpose. These are non-renewal sources of energy.

The situation was energy resources are scared, it is vital to use renewable source of energy for example solar energy, Wind power, Tides, Hydroelectricity, Geothermal power. This paper gives the design and construction of 8051 microcontroller for solar panel tracking system to produce solar energy. Solar tracking system produces more energy since the solar panel remains aligned to the sun.

"Solar Tracking System" is a power generating method from sunlight. This method of power generation is simple and is taken from natural resource. This needs only maximum sunlight to generate power. This paper helps for power generation by setting the equipment to get maximum sunlight automatically.

This system is tracking for maximum intensity of light. When there is decrease in intensity of light, this system automatically changes its direction to get maximum intensity of light.

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2. HARDWARE IMPLEMENTATION

1. Memes
2. Arduino
3. 4 channel relay



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PIC MICROCONTROLLER BASED POWER FACTOR CORRECTION

¹DargaShivadas, ²D Sunil Kumar, ³Arifa Fatima

¹Associate Professor, Department of Electrical and Electronics Engineering,

^{2,3}Assistant Professor, Department of Electrical and Electronics Engineering,

^{1,2,3}Shadan college of Engineering and Technology, Peerancheru 500086 Telangana India

Abstract- This project includes a new implementation method to improve power factor for both leading and lagging loads using PIC Microcontroller after determining their zero crossing locations of voltage and current waveforms by zero cross detectors (ZCD). Capacitive and inductive banks are used for the compensation of power factor according to nature of load which is determined based on microcontroller algorithm.

To design this project microcontroller plays a major role. The interfaced devices to the microcontroller are node cu, Zero cross detector, Potentiometer, Current Transformer, Voltage Transformer, Capacitive Bank and Inductive Bank. The main purpose is to detect the zero crossing of the voltage and current and then switching of capacitive and inductive banks based on microcontroller algorithm. The voltage is first stepped down using potential transformers and the current is stepped down using current transformer whose rating is decided based on maximum rating of your load. These two waves of voltage and current are passed through zero cross detectors (ZCD). The waves that appear across the output of the ZCD are the square waves and their amplitude approaches almost to the biasing of the operational amplifier. These two waves are then fed to microcontroller so that it can measure the phase delay between the voltage and current waveforms and then show the power factor accordingly based on the proposed algorithm. The microcontroller then based on number of counts decides the power factor and displays it on LCD.

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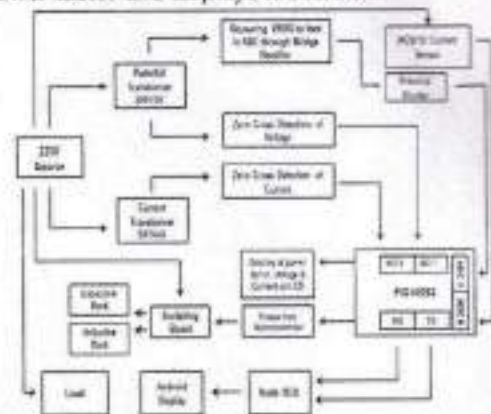
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Effect of RC Surge Suppressor in Reduction of Over Voltages at Motor Terminal Caused by PWM-Based Inverter



Md Sajid, Amer Ali Khan, M. Suryakalavathi and B. P. Singh

Abstract Problems relating to the achievement of protection for inter-turn insulation in multi-turn coils in PWM-based induction motors have currently aroused the interest of system designers and are being studied in great detail. However, such methods are impracticable to be carried out at every installation. A system designer should have prior knowledge of the transient overvoltages which are likely to occur in a proposed installation. For this, determination of transient overvoltage is essential. Present paper deals with the investigation of transient overvoltages in 5 HP synchronous motor caused by PWM-based inverter as well as the reduction of transient overvoltages at motor terminal by connecting appropriate RC suppressors. The simulation results show the effect of placing RC suppressor in the system to reduce the overvoltages at motor end. For this, a Simulink model is developed and implemented in MATLAB.

Keywords MATLAB · PWM inverter · RC suppressor
Characteristic impedance · Reflected wave

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MULTIPURPOSE AGRICULTURE ROBOT

¹Darga Shivadas, ²D Sunil Kumar, ³G Srinivas Reddy

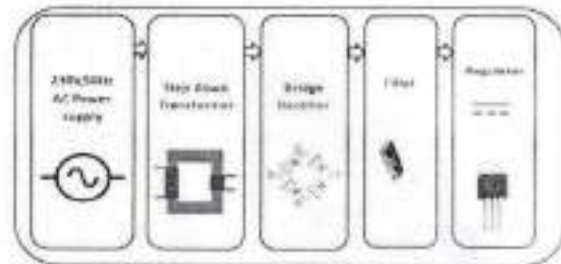
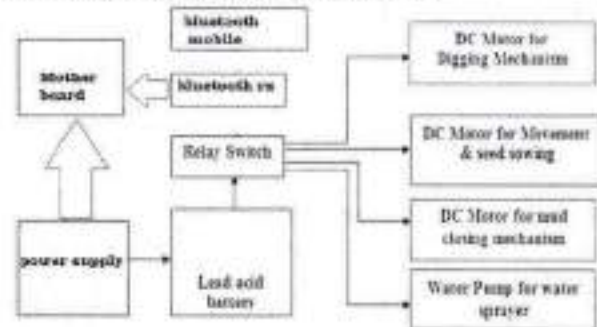
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Abstract; The paper aims on the design, development and the fabrication of the robot which can dig the soil, put the seeds, leveler to close the mud and sprayer to spray water, these whole systems of the robot works with the battery and the solar power. More than 40% of the population in the world chooses agriculture as the primary occupation, in recent years the development of the autonomous vehicles in the agriculture has experienced increased interest. The vehicle is controlled by Relay switch through IR sensor input. The language input allows a user to interact with the robot which is familiar to most of the people. The advantages of these robots are hands-free and fast data input operations. In the field of agricultural autonomous vehicle, a concept is been developed to investigate if multiple small autonomous machine could be more efficient than traditional large tractors and human forces. Keeping the above ideology in mind, a unit with the following feature is designed. Our project focuses on remote controlling and slight automating the tractor with sensors so as to get daily farming tasks done with ease. Here we try to automate some farming tasks such as remote controlled tractor and water spraying

etc., with Android OS, upon a GUI (Graphical User Interface) based touch screen operation.



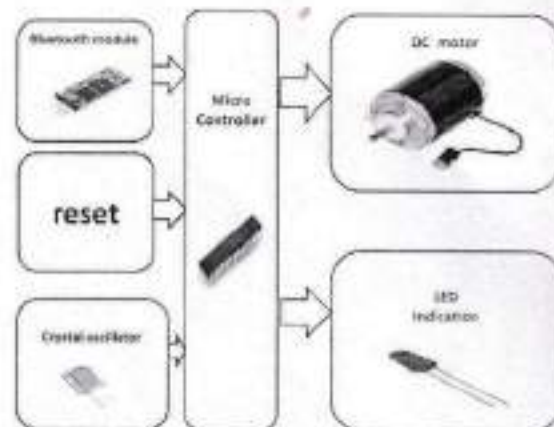
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1. INTRODUCTION

The project aims in designing a Robot that can be operated using Android mobile phone. The controlling of the Robot is done wirelessly through Android smart phone using the Bluetooth feature present in it. Here in the project the Android smart phone is used as a remote control for operating the Robot. The robot in the project can be made to move in all the four directions using the Android phone. The direction of the robot is indicated using LED indicators of the Robot system. In achieving the task the controller is loaded with a program written using Embedded 'C' language.

1.1 Block Diagram

Bluetooth device is interfaced to the control unit on the robot for sensing the signals transmitted by the android application. This data is conveyed to the control unit which moves the robot as desired. An AVR microcontroller is used in this project as control device. Remote operation is achieved by any smart-phone/Tablet



A HI-5 POWER GENERATION FROM SOLAR, HYDEL, WIND, MAIN AND FOOT STEP FOR WIRELESS POWER TRANSMISSION

¹T. Ashok Kumar, ²Mohd Ferozuddin, ³Syed Saaduddin Asad

^{1,2,3} Assistant Professor, Shadan college of Engineering and Technology, Peerancheru, Telangana, India

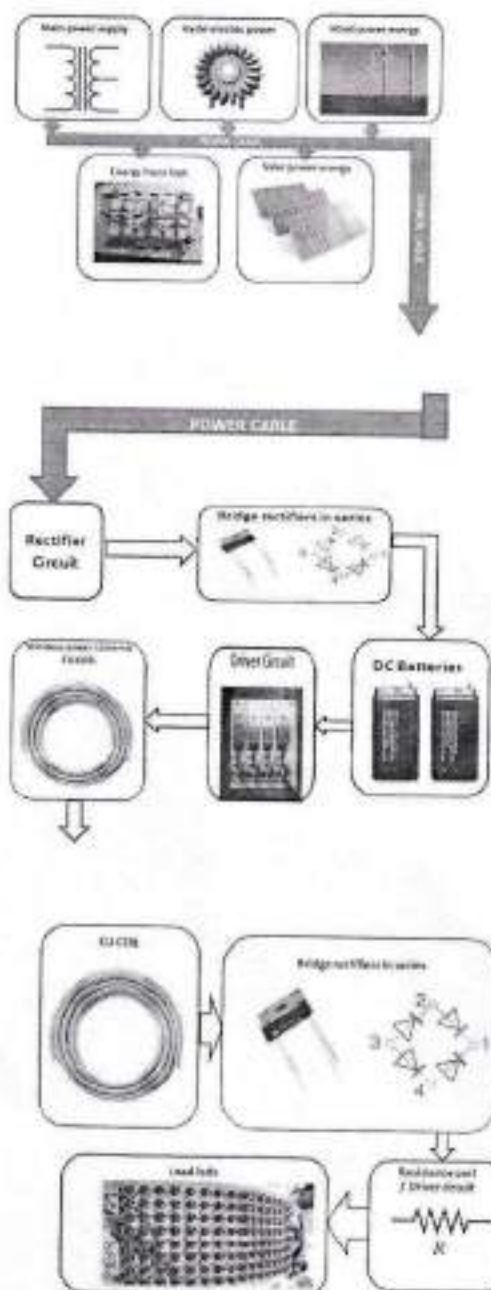
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1. PROBLEM DEFINITION

The main idea of this project producing power from different types of parameter sources which can available in India like Solar, Hydel, Wind, Main & foot step powers can boost from boosting voltage circuits and charges storage energy, from battery we are converting voltage in to wireless current. Generating electrical power from different parameters these voltages are need to boost to give charging capacity for battery Now we are converting this power as wireless power transmission by using CU coils Wireless Electricity transmission is based on strong coupling between electromagnetic resonant objects to transfer energy wirelessly between them. This differs from other methods like simple induction, microwaves, or air ionization.

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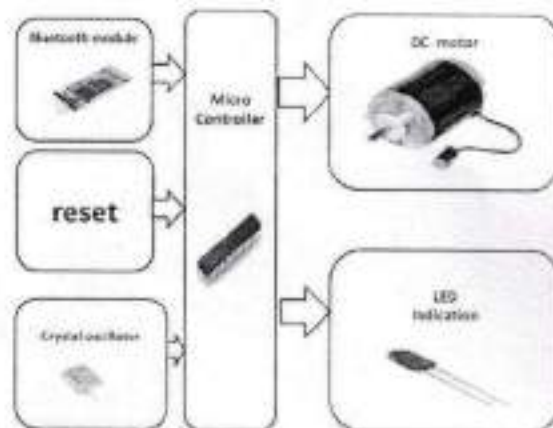
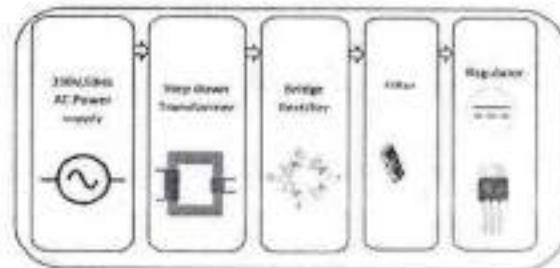
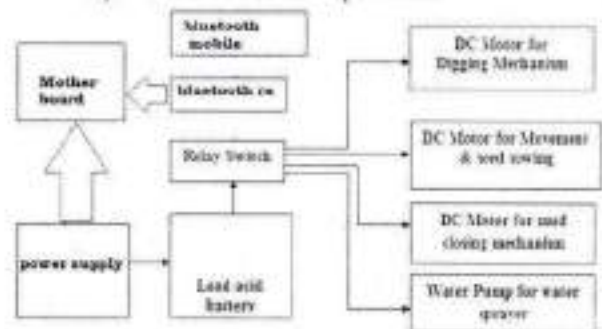
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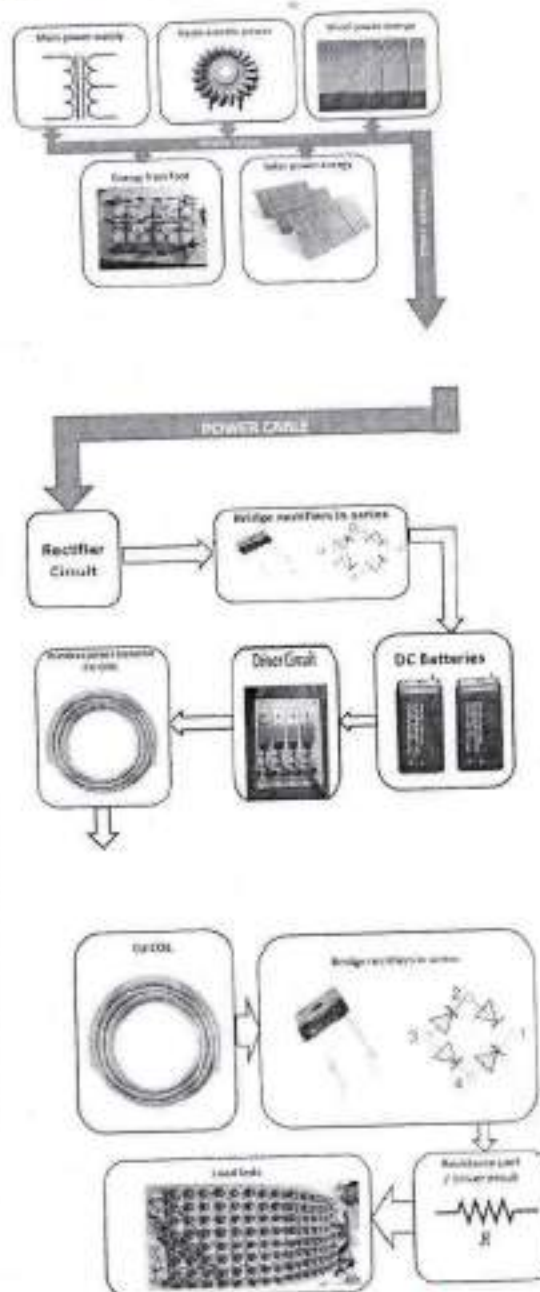
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DESIGN AND FABRICATION OF WIND-SOLAR HYBRID POWER GENERATION

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Abstract The idea is appealing: A two in one system for green power generation; a photovoltaic sub-system for the times when the wind isn't blowing or is blowing at a slow speed, and a wind powered sub-system for nighttime and periods without sunlight. Hybrid systems can minimize the intermittency problem of renewable systems. A typical hybrid solar-wind power system comprises photovoltaic modules, a small wind electric turbine, electronic controllers, a battery bank of 8v connected in series the end outputs are a fan, LED lights, and a mobile charger

Keywords: Photovoltaic, Hybrid system, Intermittency

1. INTRODUCTION

Electricity is most needed for our day to day life. There are two ways of electricity generation either by conventional energy resources or by non-conventional energy resources. Electrical energy demand increases in word so to fulfill demand we have to generate electrical energy. Now a day's electrical energy is generated by the conventional energy resources like coal, diesel, and nuclear etc. The main drawback of these sources is that it produces waste like ash in coal power plant, nuclear waste in nuclear power plant and taking care of this wastage is very costly. And it also damages he nature. The nuclear waste is very harmful to human being also. As the most conventional source of energies are solar and wind, we are combining the solar and wind power to generate electricity hence making it a hybrid power generation system.

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The world's energy resources can be divided into fossil fuel, nuclear fuel and renewable resources. Renewable energy resources and significant opportunities for energy efficiency exist over wide geographical areas, in contrast to other energy sources, which are concentrated in a limited number of countries. Rapid deployment of renewable energy and energy efficiency, and technological diversification of energy sources, would result in significant energy security and economic benefits. Solar energy and wind energy are chosen here for hybrid power generation

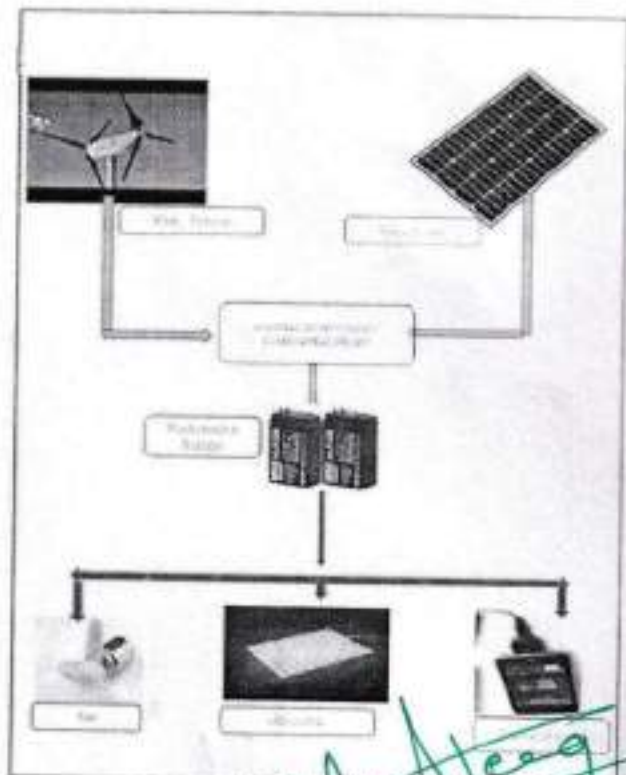
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The components include solar panel, PMDC motor, Rechargeable lead acid battery, LED, 7806 and LM 317 Voltage regulator IC, IN 4007 Diode, Resistor, variable resistor 5k Ω

2.1 Block diagram

The aim of this work is design and implementation of a solar-wind hybrid energy system. This work is expected to help to understand the basics of solar-wind hybrid power generation. A small part of the daily electricity consumption with an efficient utilization of solar and wind power.

Here we made a hybrid system where the solar power is stored in a battery and the combination of battery output and wind power output fed to the load. Because of the availability of wind is throughout the day & night whereas solar power is only available in daylight and for a limited time, here we are not storing the wind power



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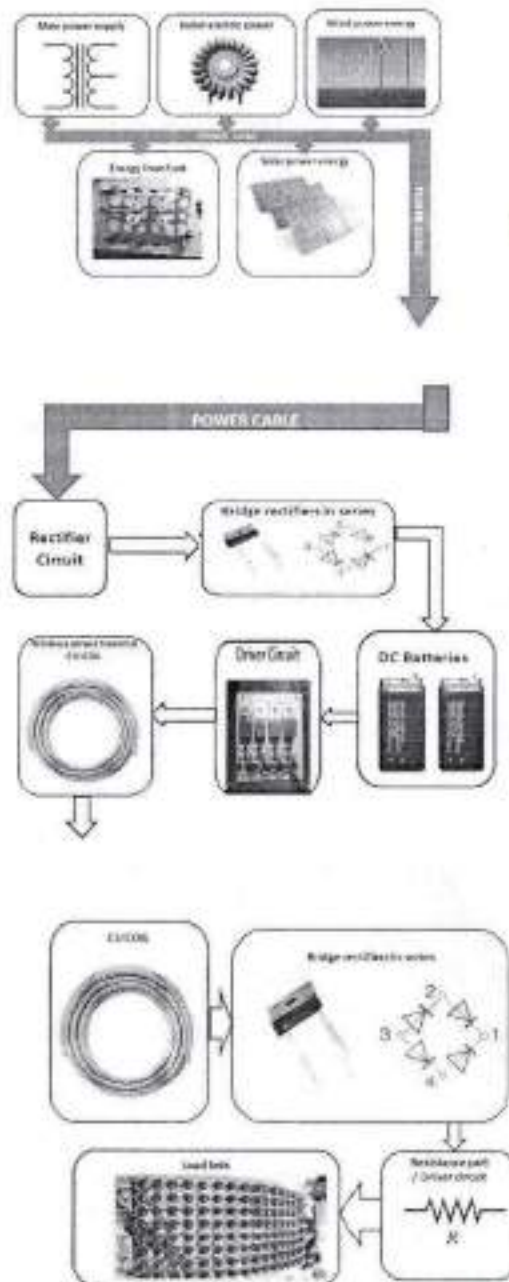
Abstract: Generating electrical power from different parameters these voltages are need to boost to give charging capacity for battery. Now we are converting this power as wireless power transmission by using CU coils. Wireless Electricity transmission is based on strong coupling between electromagnetic resonant objects to transfer energy wirelessly between them. This differs from other methods like simple induction, microwaves, or air ionization. The system consists of transmitters and receivers that contain magnetic loop antennas critically tuned to the same frequency. Due to operating in the electromagnetic near field, the receiving devices must be no more than about a quarter wavelengths from the transmitter. Unlike the far field wireless power transmission systems based on traveling electro-magnetic waves, Wireless Electricity employs near field inductive coupling through magnetic fields similar to those found in transformers except that the primary coil and secondary winding are physically separated, and tuned to resonate to increase their magnetic coupling.

1. PROBLEM DEFINITION

The main idea of this project producing power from different types of parameter sources which can available in India like Solar, Hydel, Wind, Main & foot step powers can boost from boosting voltage circuits and charges storage energy, from battery we are converting voltage in to wireless current. Generating electrical power from different parameters these voltages are need to boost to give charging capacity for battery Now we are converting this power as wireless power transmission by using CU coils Wireless Electricity transmission is based on strong coupling between electromagnetic resonant objects to transfer energy wirelessly between them. This differs from other methods like simple induction, microwaves, or air ionization.

2. BLOCK DIAGRAM

Transmitter and Receiver sections are designed as below



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DESIGN AND FABRICATION OF WIND-SOLAR HYBRID POWER GENERATION

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Abstract The idea is appealing: A two in one system for green power generation; a photovoltaic sub-system for the times when the wind isn't blowing or is blowing at a slow speed, and a wind powered sub-system for nighttime and periods without sunlight. Hybrid systems can minimize the intermittency problem of renewable systems. A typical hybrid solar-wind power system comprises photovoltaic modules, a small wind electric turbine, electronic controllers, a battery bank of 8v connected in series the end outputs are a fan, LED lights, and a mobile charger

Keywords: Photovoltaic, Hybrid system, Intermittency

1. INTRODUCTION

Electricity is most needed for our day to day life. There are two ways of electricity generation either by conventional energy resources or by non-conventional energy resources. Electrical energy demand increases in word so to fulfill demand we have to generate electrical energy. Now a day's electrical energy is generated by the conventional energy resources like coal, diesel, and nuclear etc. The main drawback of these sources is that it produces waste like ash in coal power plant, nuclear waste in nuclear power plant and taking care of this wastage is very costly. And it also damages the nature. The nuclear waste is very harmful to human being also. As the most conventional source of energies are solar and wind, we are combining the solar and wind power to generate electricity hence making it a hybrid power generation system.

1.1 Energy Resources

The world's energy resources can be divided into fossil fuel, nuclear fuel and renewable resources. Renewable energy resources and significant opportunities for energy efficiency exist over wide geographical areas, in contrast to other energy sources, which are concentrated in a limited number of countries. Rapid deployment of renewable energy and energy efficiency, and technological diversification of energy sources, would result in significant energy security and economic benefits. Solar energy and wind energy are chosen here for hybrid power generation

2. HARDWARE IMPLEMENTATION

The components include solar panel, PMDC motor, Rechargeable lead acid battery, LED, 7806 and LM 317 Voltage regulator IC, IN 4007 Diode, Resistor, variable resistor 5k Ω

2.1 Block diagram

The aim of this work is design and implementation of a solar-wind hybrid energy system. This work is expected to help to understand the basics of solar-wind hybrid power generation. A small part of the daily electricity consumption with an efficient utilization of solar and wind power.

Here we made a hybrid system where the solar power is stored in a battery and the combination of battery output and wind power output fed to the load. Because of the availability of wind is throughout the day & night whereas solar power is only available in daylight and for a limited time, here we are not storing the wind power

