

### 1. Development of pedestrian-to-vehicle communication system prototype for pedestrian safety using both wide-area and direct communication

We propose a prototype pedestrian-to-vehicle communication system which uses a cellular phone and wireless communication to improve the safety of pedestrians. One of the effectual measures against pedestrian-to-vehicle accidents is to make each of pedestrians and drivers find the others and recognize the risk from out of sight and with time to spare for avoidance of accidents. A pedestrian-to-vehicle communication system was developed by using a cellular phone and a car navigation system equipped with GPS and wireless communication function. We focused on intersections as a traffic scene to be covered by the system. After data was exchanged via FOMA in a wide area, information could be exchanged between a pedestrian and a vehicle via WLAN 20 m, 100 m away from an intersection to different directions in about 20 ms. And, the system could give an alarm to pedestrians and cars with collision risk.

### 02. Non Intrusive Monitoring & Diagnostics in Power Systems

This paper describes a transient event classification scheme, system identification techniques, and implementation for use in non-intrusive load monitoring. Together, these techniques form a system that can determine the operating schedule and find parameters of physical models of loads that are connected to an AC or DC power distribution system. The monitoring system requires only off-the-shelf hardware and recognizes individual transients by disaggregating the signal from a minimal number of sensors that are installed at a central location in the distribution system. Implementation details and field tests for AC and DC systems are presented.

### 3. Designing Fingerprint-Recognition-Based Access Control for Electronic Medical Records Systems

"Medical information" implies all information related with treatment of the patient, and is, by its

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nature, the most sensitive and important information in terms of the privacy of the individual. Recently, laws, policies, and technological standards are rapidly developing to safely protect the medical information of the individual. This paper proposes a model that applies fingerprint recognition technology to the medical information system, to guarantee a reliable electronic medical record system. The proposed model provides an identification and denial prevention function, by applying fingerprint recognition to the access of doctors, nurses, and other medical staff. The EMR authentication system based on the proposed fingerprint recognition technology enables the user to eliminate the inconvenience of private key management, and provides security authentication that is most suitable for private networks, as external communication is not required. In particular, the reliability of the EMR system can be enhanced through disabling delegation of the private key, which is the most serious problem of electronic signature authentication.

#### 4. A remote-control Engineering laboratory

In this paper, a networked control-system laboratory for the remote control of processes is presented. The laboratory allows the students to develop network-based control systems with the use of an architecture consisting of I/O devices, communication modules, and server-client applications implemented with supervisory control and data acquisition environment facilities, and to operate on real pilot plants through an intranet and the Internet. Three examples were presented, demonstrating the potentiality of the laboratory to remotely control the processes and to develop new network-based control-system structures.

#### 5 Assurance Evaluations for Test of Communication-Based Train Control System

This paper proposes an autonomous train control system based on inter-train communication. In this new system, there is no logical central device and trains can communicate with each other autonomously. The train itself produces the position and calculates the permitted track speed. Therefore, the distance between trains can be shortened and a smooth brake pattern can be obtained. For

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building this system without hindering the current system operations, the gateway-based replacement technology and its test methods are explained. The assurance of test methods has been evaluated by comparing the on-line/off-line properties of the proposed technology.

## 6 Automatic power meter reading system using GSM network

The development of a GSM automatic power meter reading (GAPMR) system is presented in this paper. The GAPMR system consists of GSM digital power meters installed in every consumer unit and an electricity billing system at the energy provider side. The GSM digital power meter (GPM) is a single phase IEC61036 standard compliance digital kWh power meter with embedded GSM modem which utilizes the GSM network to send its power usage reading using short messaging system (SMS) back to the energy provider wirelessly. At the power provider side an billing system is used to manage all received SMS meter reading, compute the billing cost, update the database, and to publish billing notification to its respective consumer through SMS, email, Web portal and printed postage mailing. A working prototype of the GAPMR system was built to demonstrate the effectiveness and efficiency of automatic meter reading, billing and notification through the use of GSM network.

## 7. Ultra Low power Wireless Weather Station

Currently the appearance of really low power wireless transceivers at very low prices is motivating the development of many wireless applications out of the industrial field, which up to now turn to be large in size and expensive. We present the design of a tiny and low cost Wireless Weather Station to measure accurate temperature ( $\pm 0.1^{\circ}\text{C}$ ), relative humidity ( $\pm 3\%$ ), light intensity and atmospheric pressure ( $\pm 0.8\text{hPa}$ ). These direct climatic variables and others indirectly attainable, like the dew-point, wind chill, etc, are readable through a web page. The chosen sensors are factory calibrated and have a digital interface. The Weather Sensor Nodes are able to achieve ultra low power consumption ( $40\mu\text{A}$  average), allowing a single super capacitor to power them for 52 days.

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## 8. An Integrated Vision-based Architecture for Home Security System

Automated security systems are a useful addition to today's home where safety is an important issue. Vision-based security systems have the advantage of being easy to set up, inexpensive and non-obtrusive. This paper proposes an integrated dual-level vision-based home security system, which consists of two subsystems - a face recognition module and a motion detection module. The primary face recognition module functions as a user authentication device. On an event of a failure in the primary system, the secondary motion detection module acts as a reliable backup to detect human-related motions within certain locations inside the home. Novel algorithms have been proposed for both subsystems. Several experiments and field tests conducted have shown good performance and feasible implementation in both subsystems. 2007

## 9. Design of Streetlight Monitoring and Control System Based on Wireless Sensor Networks

The remote streetlight monitoring and control system has been applied in urban streetlight. In general, this system monitoring and control scope only reaches the streetlight transformer station. In this work, an experimental system of wireless sensor network was developed to study the feasibility for streetlight monitoring and control system. This system consists of the sensor node, the remote terminal unit and the control center. The sensor node was installed at each lamp pole and used to detect and control lamp. The remote terminal unit serves as relay station between the control center and the sensor nodes. The control center monitors and control all streetlight real time. The hardware of sensor node and remote terminal unit was design. The software was developed for sensor node, remote terminal unit and the control center. The multi-hop used in nodes. The test results show that the system can be used for the streetlight control. The system application in streetlight can extend control scope to each lamp; reduce in streetlight electricity and maintenance cost, and increase availability of streetlight. 2007

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## 10. A Wireless Vending Machine System Based on GSM

A wireless vending machine system based on the GSM network is developed in this paper. First of all, several methods by which we may realize wireless data communication of GSM network are analyzed and compared, the overall structure of vending machine system based on USSD is given an in-depth introduction. Furthermore, control modules which realize data transmission and control function of terminal device, middleware which connects application and BOSS (business operation support system), and transaction software embedded in USSD platform, are also developed respectively. Finally, the operating support system of wireless vending machine system is formed, which can not only integrate vending machines, USSD platform and payment system together, but also manage sale information, logistic information and consumer information on-line. The vending machine system presented in the paper has been put into use in several provinces and cities for more than two years. All performance indexes of the system are satisfying.

## 11. Bluetooth Based Wireless Remote Device Controlling and Data Acquisition

IrDA has been used for controlling devices and machines wirelessly at home, office and industry so far. The most disadvantageous part in this case is the line of sight and only point to point communication where Bluetooth had opened the door far wider to these points. Because it doesn't have line of sight problem and it is capable of both point to point and point to multipoint wireless communication. Moreover, attachment facility of low cost, commercial microcontroller as the host controller interface had facilitated straight and effective development. This paper will present an application model for Bluetooth wireless remote controller mostly suitable for short range uses. The contribution is the developed system where the design has been simulated with real-time implementation to test the stability of the overall system. The system is built up of generally available Bluetooth components. Performance analysis has been carried out to make sure of keeping the operational flexibility to be within acceptable range. The laboratory prototype came up with the experimentation, covers most of the general uses and sophisticated digital and analog devices ones as well.

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## 12 Monitoring and Transmission of Heavy Vehicles Parameters using Fixed Cellular Terminal

At present any consignment carried by a vehicle has to travel incommunicado till it reaches the destination. So, both the fleet owner and the persons sending or procuring the consignment have to sit keeping their fingers crossed till the fleet arrives. To track the path of the vehicle and to monitor the various parameters like fuel consumption, kilometers covered and the amount of load in the vehicle an intelligent device would come handy to solve the problem for the fleet operators and the clients. This paper aims at designing an intelligent device, which has two parts: the transmitter and the receiver. The transmitter is set up in the truck and it consists of a microcontroller to which the GPS and the GSM modem are connected. The analog signals from the transducers, which are used to detect the amount of load and the fuel in the truck, are sent to the microcontroller. The microcontroller acquires the position of the truck from the GPS and sends it to the receiver along with the analog values, through the GSM modem using SMS. The receiver consists of a computer to which a GSM modem is connected by its serial port. The SMS is received by the GSM modem and is sent to the computer, which makes use of a map plotting software to plot the position of the truck along with its parameters.

## 13 Efficient Cost-Based Tracking of Scheduled Vehicle Journeys

Applications in areas such as logistics, cargo delivery, and collective transport involve the management of fleets of vehicles that are expected to travel along known routes according to schedules. There is a fundamental need by the infrastructure surrounding the vehicles to know the actual status of the vehicles. Since the vehicles deviate from their schedules due to road construction, accidents, and other unexpected conditions, it is necessary for the vehicles to communicate with the infrastructure. Frequent updates introduce high communication costs, and server-side updates easily become a bottleneck. This paper presents techniques that enable the tracking of vehicle positions and arrival times at scheduled stops with little communication, while still offering the desired accuracy to the infrastructure of the status of the vehicles. Experimental results with real GPS data from buses show

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that the proposed techniques are capable of reducing the number of updates significantly compared to a state-of-the art approach where vehicles issue updates at pre-defined positions along their routes.

#### 14 Software/hardware co-design of a vehicle trajectory monitoring system

Using a GPS to navigate, a guard locates a car theft and utilizes vehicle tracking that is, at present, widely employed. In this paper the terminal device using a microcontroller combines a GPS and a GSM/GPRS to make a portable and remote controlling device, and an embedded server is used as a transfer location server. In this way one accomplishes real-time vehicle trajectory monitoring. Clients can remotely monitor a vehicle's position anywhere. Besides, as we have designed the remote monitoring using a virtual component to combine the existing commercial or free electronic map directly, we need not develop or revise the electronic map software.

#### 15 Intelligent Fleet Management System with Concurrent GPS & GSM

Real-Time Positioning Technology Fleet management system is a rapid growing industry. This system helps institutions to manage vehicle fleet efficiently and effectively through smart allocation of resources. In this project, an intelligent fleet management system which incorporates the power of concurrent Global Positioning System (GPS) and Global System for Mobile Communications (GSM) real-time positioning, front-end intelligent and web-based management software is proposed. In contrast to systems which depend solely on GPS positioning, the proposed system provides higher positioning accuracy and is capable to track the target at areas where GPS signals are weak or unavailable. The terminal is powered by Front-End Intelligent Technology (FEI), a comprehensive embedded technology that is equipped with necessary artificial intelligence to mimic human intelligence in decision-making for quicker response, better accuracy and less dependence on a backend server. With less dependency on the backend, large scale fleet management system can be implemented more effectively. The proposed system is successfully implemented and evaluated on twenty vehicles including buses and cars in Universiti Teknologi Malaysia (UTM). Results from the test-bed shown that

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user can monitor and track the real-time physical location and conditions of their vehicles via Internet or Short Message Service (SMS). The web-based fleet management software also helped the user to manage fleets more effectively.

#### 16. AUTOMATIC INTELLIGENT TOLL –TAX

However this project gives enough guidelines for the actual development of the toll collection system. For the sake of simplicity, we have to make coin box exactly same as used in pco coin box machine fixed on railway station or else where. We have to make two coin size holes one for one rupee, and other for five rupee coin. You have to fix up coin sensors on these holes, one sensor should be fixed for five rupee coin and one sensor for one rupee coin.

#### 17. AUTHENTICATED AND MULTIPLE CODED WIRELESS SECURITY SYSTEM

This synopsis describes the brief operation of a authenticated and multiple coded microcontroller based wireless security system. A system which uses a simple RF without any encoding schemes for transmission can be hacked easily. Attackers can use custom made devices which mimic or regenerate the codes of the original device to get their attack done. The idea is to use a unique and a complicated code which will be very difficult to trace and backup. The transmitter and receiver agree on a particular code for the transmission. If that matches then only the next step of desired operation will be performed. In this method unauthorized devices cannot communicate with the receiver without knowing the codes.

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## 18. Design and Implementation of a Socket with Low Standby power

Turned-off electric home appliances generally they still require standby power when they are plugged in. In this paper we present a way to reduce the standby power of a socket. Our socket supplies the appliances with power when the user turns them on. When the user turns them off, our socket shuts the electric power off and reduces the standby power to zero. Our design uses an MCU which receives signals from a PIR sensor which detects the user when approaching the socket and the appliances. A power detector provides an MCU to control the SSR On/Off when used as an appliance switch for shutting off the standby power. The components we use are very inexpensive and consume less than 0.4 W. The MCU monitoring program provides both automatic detection of the user by the PIR sensor and detection of power consumption.

## 19. Fingerprint authentication

Authentication plays a very critical role in security-related applications like e-commerce. There are a number of methods and techniques for accomplishing this key process. In this regard, biometrics is gaining increasing attention these days. Security systems, having realized the value of biometrics, use biometrics for two basic purposes: to verify or identify users. There is a number of biometrics and different applications need different biometrics. Biometric is the most secure and convenient authentication tool. It can not be borrowed, stolen, or forgotten and forging one is practically impossible. Biometrics measure individual's unique physical or behavioral characteristics to recognize or authenticate their identity. Common physical biometrics includes fingerprints, hand or palm geometry, retina, iris, and facial characteristics. Behavioral characters characteristics include signature, voice, keystroke pattern, and gait. Project deals with Identification, Authentication and Setup of Security System using FIM 3030 Biometrics and 8051 Microcontroller.

## 20. HIGH TECH CAR WITH REMOTE CAMERA FOR THE POLICE BOMB SQUAD

This is a project based on the article published in discovery channel, on 13 may 2004 under "New invention". This is a new project in the whole world, very useful for defense,

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police, bomb detectors, exploring planets etc. In this system it consists of RF transceiver. These RF transceivers are used to control the movement of the vehicle and also the other movement.

## 21 microcontroller based camera controlled high speed photograph

Our motivation came from photographs that captured a very small moment in time, such as a water droplet splattering from a faucet or a balloon during the split second that it was bursting. Human reaction, and even a camera shutter mechanisms, are too slow to reliably capture such precise moments in time. To overcome these limitations, we are deciding to employ a microcontroller hooked into various sensors and a high intensity LED array to control the shutter of the camera. Photographers interested in taking such pictures normally have to spend a lot of money on specialized equipment and lighting controllers, or they have to take hundreds of pictures and hope to get lucky. Our goal is to cheaply create a reliable system for high speed photography.

## 22. PROXIMITY CARD AND VIDEO CAMERA BASED FOOL PROOF ACCESS CONTROL

This system is mainly used for security purpose in offices and industries. Nowadays in some companies anybody can enter inside the company in the name of other employee. Because the company can't check the person photo at every time. After that person entered inside the company, if he does any unwanted activities and the person came outside the company, nobody can find out that person. We solved this problem in our project by using RF proximity card and video camera. Whenever the person enters to the campus he has to swipe the ID card. That time the camera will take the snap and the picture

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will store in computer with their ID. So, in future it's very easy to find out the person who is involved in that particular unwanted activity.

### 23. RAILWAY TICKET BOOKING USING SMART CARD AND TOUCH SCREEN

Now a days touch screen are widely used for many applications like touch screen based monitor, touch screen based mobile etc, In present day booking a person who wishes to book a railway ticket has to go to the booking centre and reserve the tickets .In reservation counter a person is appointed to give the tickets and reserve the seats. Many times there will be queue near reservation counter and the costumers have to wait for a long time. This consumes lot of time of the costumer. To overcome this drawback we have come up with an idea to develop a touch screen based project which helps the costumer as well as it reduces the work of the reservation Counter.

In our project every customer can book the ticket, check the availability of seats in each train, and each customer is given a smart card in which amount can be written and read. It saves the time of the costumer .The card can be recharged also, that option is also given in our software .Visual Basics is used for front end design. Every Card will be having a card number .Whenever a costumer books a ticket the amount will be reduced in the card based on the ticket fare. If the person is not having enough amounts in the card, the software gives information, which is recharge, the card. A database is maintained in software side. The information about trains, tickets and availability of seats are all stored in the database which is maintained and updated. So by doing this project we r making the railway ticket booking prepaid using smart card. This doesn't need any manual resources.

### 24.\_REAL BILLING MACHINE FOR HOTELS WITH PRINTER

This is very useful project for hotels. In hotels normally the cashier will write the items and calculate the rate and gives the bill .Instead of calculating the rate manually and writing the bill, we can design a system that will produce a real bill.

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Here we can enter the items and their quantity through the key pad. Then microcontroller will calculate the total price and it will print out the bill using thermal printer. Also total price will display in LCD. This will reduce manual work. It is efficient and faster.

## 25. SERVER RACK MANAGEMENT CONSOLE

As IT environments become more diverse and geographically dispersed, intelligent server rack management solutions provide IT professionals with the information and tools necessary to manage and maintain operations. These solutions leverage hardware and/or software to monitor and control server-level power state and condition. In this article, a distributed architecture that allows remote control and monitoring of PC. Internet communications is relied on socket programming. EAD is used for network communications via the TCP/IP protocol.

## 26. SMS quiz server based on GSM technology

In today's world it is said that, world is shrinking day by day. It is due to the fact that people from different parts of the world are able to communicate easily with each other within fractions of seconds. All these advantages are possible due to the advances in digital communication techniques. With the advent of cellular technology the use of mobile phones has increased drastically over the years. In today's world of technological Advancements communication and control is necessary in any part of the world. The novel idea of this project is to achieve an intelligent SMS quiz server based on GSM (Global System for Mobile Communications) technology.

## 27. Speed monitoring and snapping system through microcontroller and RFID Technology

This is a project developed to be employed in highways to monitor the speed of the vehicle. This project is mainly based on computer program developed in embedded C. By using this type technology

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we can avoid traffic and some accident of the vehicle. This completely embedded with GSM,RFID, and IR sensor to check the vehicle speed. The sensor continuously monitoring the vehicle speed and direction of the vehicle and based on the sensor status microcontroller take the decision.

### 28. Traffic light monitoring using RFID and GSM technology

The aim of the project is to design and implement a scheme using RFID to identify vehicles which have violated traffic signals (jumping a red signal), and get appropriate information from a database and alert the concerned authorities regarding the same using the GSM technology. We also discuss a scheme to upgrade the module to incorporate tracking of stolen vehicles. This technique is so powerful that it finds many applications. For example, it can also be used for traffic signal control based on vehicular density, speed monitoring of vehicles and so on.

### 29. TRACKING POLICE MAN USING RF PROXIMITY CARD

Security is the important cause in the modern world. Now a day so many schemes have announced by the banks which very attractive and the people are saving money in banks. At this point protecting the banks is the main duty of police. Hence police are appointed securities to the banks and make them to patrol during nights. . They have to go to every banks and streets and sign the books kept in their places .But some police people forgot their duty and will sleep in a vacant place and in the morning they get up and in a hurry go to these banks and put a fake time and date and the signature .To avoid this and to provide more security our proposed system is giving solution for tracking police man using RF proximity card. A RF proximity card reader with a microcontroller will be designed and will be placed in every bank. During the patrol time, when a police man swipe the card it will read the card number and will store it with date and time. The data can be retrieved by connecting the machine to PC and giving appropriate commands.

### 30. VEHICLE POSITION TRACKING USING GPS AND GSM RECIEVER WITH LICENCE

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The main aim of this project is to map the vehicles and find out the speed of the vehicles; this system uses GPS receiver/transmitter, GSM receiver/transmitter with a micro controller. Imagine the vehicle has left Bangalore at 6 o'clock in the morning. If the officer in charge for that vehicle wants to know where this bus is, he will send an SMS to that particular bus number. The SMS, which has sent, by the officer will reach the vehicle, which is traveling and there it will compare the password and the command. If every thing matches then it will perform the request required by the officer. In this way we can easily map the vehicle position or speed of the vehicle from the place where they are sitting. In our project the PCB is designed by using Express PCB & the circuit is designed by using Proteus software.

### 31. Vehicle Monitoring and Security System

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 wherein 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?! Fantastic, isn't it? Of course it is and here's a system that functions as a tracking and a security system. It's the VMSS. This system can deal with both pace and security.

The VMSS (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 and for the security of each person traveling by the vehicle. This is done with the help of the GPS satellite and the GPS module attached to the vehicle which needs to be tracked. The GPS antenna present in the GPS module receives the information from the GPS satellite in NMEA (National Marine Electronics Association) format and thus it reveals the position information. This information got from the GPS antenna has to be sent to the Base station wherein it is decoded. For this we use GSM module which has an antenna too. Thus we have at the Base station; the complete data about the vehicle.

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### 32. INTELLIGENT AMBULANCE FOR HOSPITAL GATES

Automated ambulance gate is a very useful device for the hospitals etc. This device uses the infrared technology. Today infrared rays are used in many applications like infrared communication, infrared remote control, temperature measurement using infrared rays; infrared rays based pain killer etc.

But in this project we are concentrating on how to use the infrared rays to activate the gate and also how to encode and decode the infrared rays.

The ambulance will have a device, which will be sending the encoded infrared rays continuously. On the other end the gate will have a device with the infrared decoder and the gate opening and closing mechanism controlled by the micro controller.

### 33. DEVELOPMENT OF SOFTWARE & HARDWARE FOR MICROCONTROLLER BASED SMART NOTICE BOARD (USING SMS)

Now a days every advertisement is going to be digital. The big shops and shopping centers are using the digital moving displays now. In Railway station and bus stands everything that is ticket information, platform number etc is displaying in digital moving display. But in these displays if they want to change the message or style they have to go there and connect the display to PC or laptop.

Suppose the same message if the person wants to display in main centers of the cities means he have to go there with laptop and change the message by connecting into PC. This project we can use mainly for police or army. I.e. displays will be connected to all the main centers in city if they wants to display messages about something crucial within 5 minute, they can't So keeping in this mind we are designing a new display system which can access remotely, we are using the GSM technology to access the display's is one of the new technology in the embedded field to make the communication between microcontroller and mobile.

This project is a remote notice board with MODEM connected to it, so if the user wants to display some messages, he will send the messages in SMS format the MODEM in the display system will receive the message and update the display according to the message. For every message received from the user mobile, the system will check for the password and if the password is correct the controller will display the message. The LED s on the digital display board uses the latest hi-bread LCD modules (hi-bright), where LEDs are mounted on a rectangle plastic like enclosure and then wired as the 8/5 led matrix with 5 column and 8 rows. These LED's have more brightness compared to the other LED now available in the market.

### 34. WIRE LESS DATA LOGGER USING RADIO FREQUENCY

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Bluetooth is a common thing in the modern world. However it is very useful to transfer data from one device to another. But this requires two Bluetooth devices which are very expensive. The aim of our project is to make wireless data logger. Details of the application end system are stored in memory. Whenever the remote system wants to download the application end system details, the remote system has to send corresponding command to end system through radio frequency. According to command the application end system send details of system through radio frequency

### 35. TRANSPARENT CONNECTIVITY FOR EMBEDDED SYSTEM DESIGN

Embedded system design is a topic of interest to multidisciplinary fields including electrical engineering and computer science. In order to correctly focus on the correct aspects of embedded system design, be it hardware for electrical engineering students, or software for computer science students, seamless connectivity between the hardware and software aspects needs to be provided. One approach to provide students from both fields with practical experience is to develop a transparent bridge between the hardware and software layers of the embedded system design. In this paper we demonstrate a Universal Serial Bus/Serial Peripheral

Interface (USB/SPI) transparent bridge to interface an embedded system to a personal computer. The bridge consists of a hardware module that transmits the embedded system data through SPI to a PC using USB. A device driver for the RS232 provides a straightforward application programming interface to the embedded system. The bridge can aide students studying embedded system design and students studying computer software development to collaborate on design projects.

### 36. IEEE 802.3U Based I-series Refrigerator

This project is mainly focused on designing an intelligent refrigerator which finds out the stock of the material present in it and then automatically places order for the nearest online shop via internet using IEEE 802.3U technology, if the stock is below threshold. This system uses few sensors that monitors the stock level of the items in the fridge. It employs sensors below each item in the fridge and if any item is removed the Processor comes to know about that and checks that with the threshold level and if it is below the threshold level then it immediately places order to the supermarket through the EAD adapter that is connected to the ARM Processor through the RS232 interface. This unit is also having LCD display unit for user interface.

### 37. Intelli Voice Controlled Wheel Chair Automation

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Voice controlled wheel chair is design and manufacture of intelligent machines that are programmed to perform specific tasks. These are generally designed to be a helping hand .they helps us in difficult, unsafe or boring tasks. These can be programmed to perform a variety of jobs, and they can range from simple machines to highly complex, computer- controlled intelligent system

### 38. **Wireless Heart Attack Detector with GPS**

It is possible to detect the onset of a heart attack and eliminate patient error. Our device intends to benefit those at high risk and already receiving some form of surgical treatment. By sensing the heart beat rate, the patient need not worry about device operation. The patient will only be required to carry a what we developed system with GPS technology. When the implant detects a heart attack, it will alert the microcontroller which in turn will automatically send the help sms and provide the patient's location. The goal is to provide early heart attack detection so that the patient will be given medical attention within the first few critical hours, thus greatly improving his or her chances of survival.

### 39. **Control the position of solar panel using micro controller and sensor or RTC.**

By default a Solar Panel moves from east to west from morning to evening. The problem arises when there is a cloud over the panel interrupting the light. The current system continuously monitors the position of the cloud using Light Dependent Resistor. An interrupt is sent to the micro controller from the device as soon as the cloud covers the panel. The panel then starts rotating in the east and west direction in search of light. Once the light is detected the panel stops at that position and continues its normal operation. The input is fed as 8 bit digital data to the micro controller board, through serial interface. The controller board then performs a closed loop control, calculates the number of steps and gives as input to the stepper motor. The stepper motor moves the solar panel accordingly to receive the light.

### 40. **Embedded web server using EAD**

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The trend of using an Internet browser like a “program” is gathering pace. There are certainly advantages in doing things this way, especially as any web-enabled piece of equipment can be used for controlling interfaces, including heater, fan, AC etc.

This is a very simple project that will allow you to do things like display temperature, control a heater and switch lights remotely from any web browser in the house. Here we will make an attempt to implement a real web server in your own home connected to your PC via a Local Area Network.

#### **41. Micro controller based automated irrigation system**

Now days we can see nearly every thing which was once controlled by human being are being automated using machines and electronics circuits. Even though many things have been automated the irrigation system in which we are using machines to sow seeds remove unwanted plants cutting crops and processing the product etc one thing was still controlled by human being that is controlling the moisture level of the field and turning the suitable valve on and off as per the requirement. Here we are making an attempt to fulfill this requirement also by using micro controller.

#### **10. RFID BASED COMPUTERISED CHECKPOST**

Here we are implementing a system in which all the vehicle drivers will have there driving license printed on an RFID card so that there identification and validation will be done automatically through the RFID readers in the check posts.

#### **42. Power line fault detection and correction**

We live in a world where everything can be controlled and operated automatically, but there are still a few important sectors in our country where automation has not been adopted or not been put to a full-fledged use, perhaps because of several reasons one such reason is cost. One such field is that of Electric current. Power has been one of the primary source of man.. Electric power is an important part of the industrial and IT sectors in our country. This power line fault detection and correction system monitors and controls the single phase AC power. This Automatic correction and detection system is process to control of industrial machinery and processes, thereby replacing human operators.

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AC power transmission is the transmission of electric power by alternating current. Usually transmission lines use three phase AC current or Single phase AC current.



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