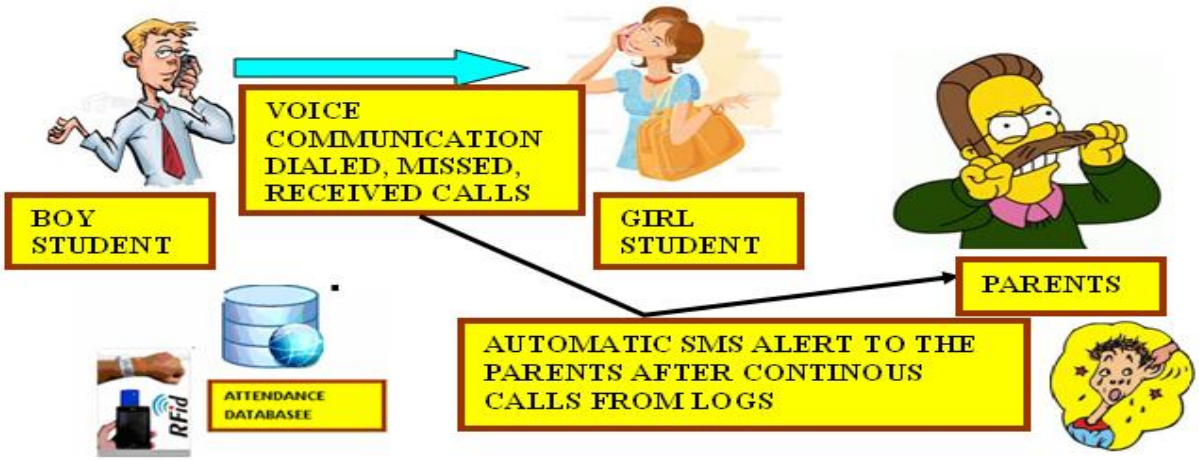
NEW PROJECTS ON EMBEDDED SYSTEM / MICROCONTROLLER

IEEE PROJECT 2012

NEMS 1. STUDENT BEHAVIOR & ATTENDANCE MONITORING WITH AUTOMATIC SMS ALERT TO PARENTS

ARCHITECTURE DIAGRAM



DESCRIPTION: In this Paper, We are implementing RFID based Attendance system along with the Students Mobile phone logs for remote monitoring the Behavior of them. RFID based Students Attendance is used to verify the percentage of the Attendance o the students. In the Mobile Logs Tracker module, we are implementing the following scenarios. **1.** If one student is speaking to another number for more than 5 mins, call would be disconnected as well automatic Alert SMS is send to the Parents. **2.** Dialing for more than 5 times a day to a particular number will also send a automatic Alert SMS to the Parents.

IEEE REFERENCE: IEEE Paper on Human-Robot Interaction (HRI), 2012

NEMS 2. TELE-OPERATED ROBOT CONTROL USING ATTITUDE AWARE SMARTPHONES

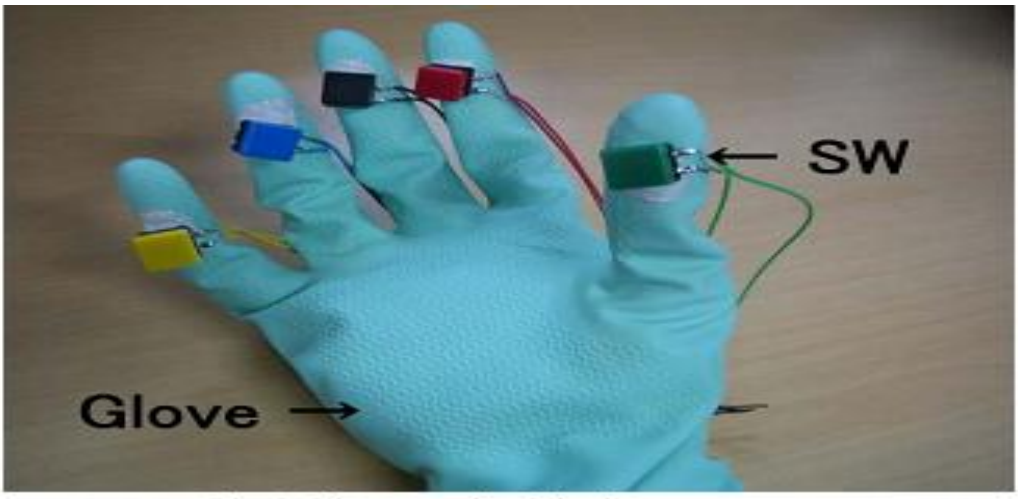
ARCHITECTURE DIAGRAM

DESCRIPTION: Smart phones have put video communications, computation, and proprioceptive sensing (e.g. accelerometers and gyros) into the hands of hundreds of millions of consumers. These small, microelectromechanical systems can be used in many applications, including remote control. This study proposes using smart phones with proprioception as handheld robot controllers and aims to determine feasibility of accelerometers as control inputs for tele operation while defining heuristics for use. Initial results indicate accelerometers are suit-able for tele operation commands, but identify specific de-sign characteristics meriting further investigation.

IEEE REFERENCE: IEEE Paper on Human-Robot Interaction (HRI), 2012

NEMS 3. AUTYOMATIC CONTROL OF APPLICATION USING MEMS BASED CONTROL FOR DISABLED PERSONS

ARCHITECTURE DIAGRAM

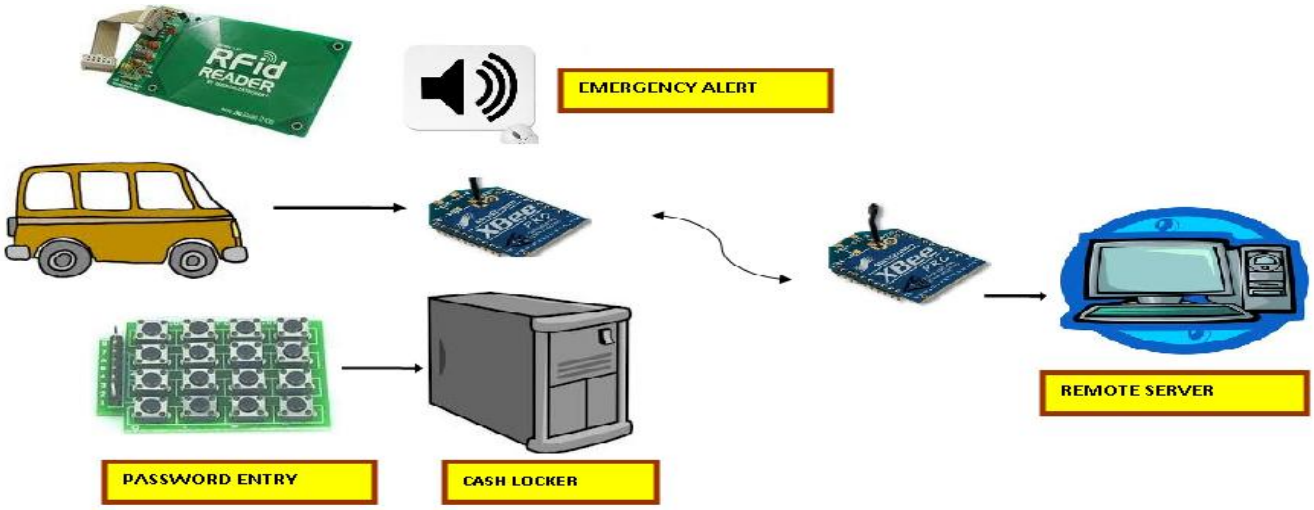


DESCRIPTION: This paper We Propose MEMS Sensor based control via Fingers. MEMS sensor is connected in the fingers which can transmit the values to the Computer for the control of an application in the PC or even the control of the PC. This implementation would be of high use for the disabled Persons for their hand movement based control system.

IEEE REFERENCE: IEEE Paper on Consumer Electronics (ICCE), 2012

NEMS 4. AUTOMATIC LOACTION VERIFICATION WITH RANDOM PASSWORD FOR SAFETY & CONTROLLED CASH BOX ON THE LOGISTICS VEHICLE BASED USING RFID

ARCHITECTURE DIAGRAM



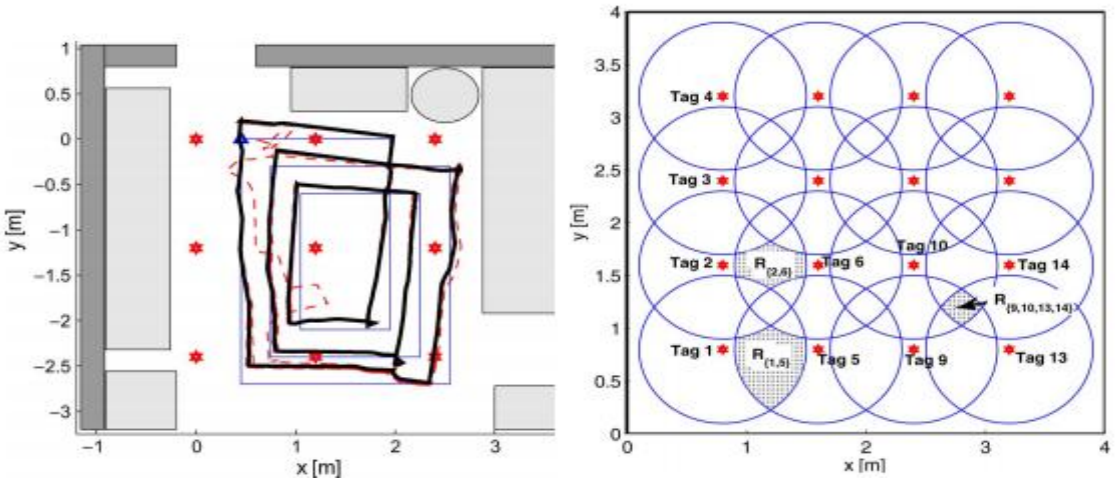
DESCRIPTION: To ensure the security of the payment of Logistics vehicles, we design a specialized cash box based on RFID. This cash box on the logistics vehicle is characterized by opening designated locations, remote control, an alarm for abnormal state, and an emergency lock. As the Vehicle moves from one Place to another, automatic Location based monitoring is obtained and compared with the location of the expected location. Only both the

locations are matched, automatic password is generated in the random way and the driver will have provide the password. After authentication, the door of the vehicle is opened. Driver gives the emergency signal if it is necessary.

IEEE REFERENCE: IEEE Paper on Communication and Control (ICECC), 2012

NEMS 5. NFC BASED SYSTEM FOR THE LOCALIZATION OF AN INDOOR AUTONOMOUS VEHICLE

ARCHITECTURE DIAGRAM



DESCRIPTION: A global localization system combining odometry data with Near Filed Communication (NFC) readings is proposed. NFC tags are placed at the ceiling of the environment and can be detected by a mobile robot unit traveling below them. The detection of the tags is the only information used in the proposed approach (no distance or bearing to the tag is considered available), but differently from similar localization setups reported in the literature,

only a small number (about one each square meter or less) of tags are used. This is possible using a suitable tag's antenna in ultrahigh frequency band, expressly designed to obtain regular and stable NFC detection regions.

IEEE REFERENCE: IEEE Transactions on Industrial Electronics, 2012

NEMS 6. RFID TECHNOLOGY APPLIED TO MONITOR VEHICLE IN HIGHWAY

ARCHITECTURE DIAGRAM

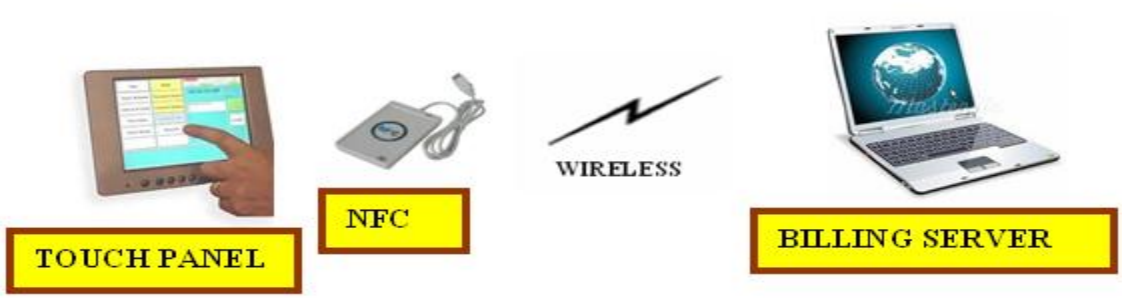
DESCRIPTION: RFID is non-contact automatic identification technology which could be applied to various industries extensively. Accessing the vehicle speed range in freeway, we could use RFID technology to monitor speed of vehicles. Then we could determine whether the vehicles are over speed. Therefore, the use of RFID technology can effectively reduce speeding violations and enhance traffic safety. Its toll is paid by credit card automatically through

computer network. Therefore, realize the non-stop automatic toll collection. Contrarily, punish the illegal vehicle by monitor network.

IEEE REFERENCE: IEEE Paper on Digital Manufacturing & Automation, 2012.

NEMS 7. SHOPPING GUIDE WITH AUTOMATIC BILLING SYSTEM FOR LARGE SUPERMARKETS BASED ON WSN

ARCHITECTURE DIAGRAM



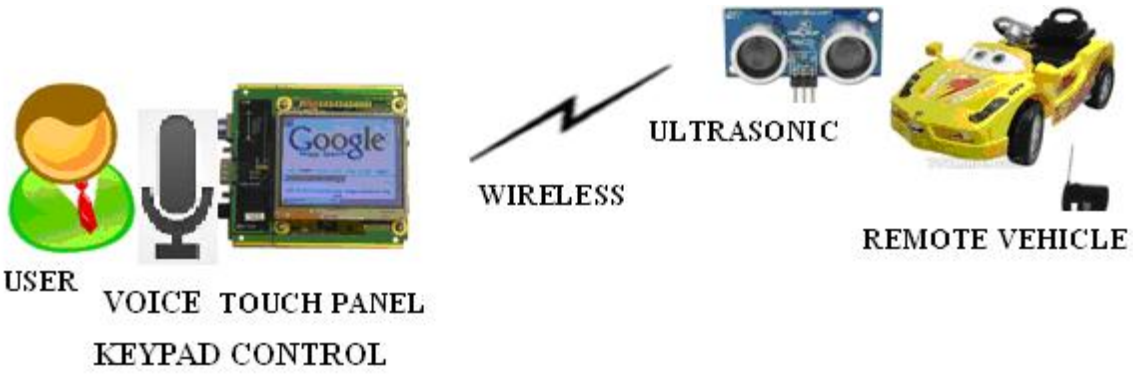
DESCRIPTION: The design and implementation of a new intelligent shopping guide system for large supermarkets is presented in the article. The wireless touch screen integrated in the shopping cart can automatically broadcast the commodities' advertisements when the cart is moving in the large supermarket. Thus, it overcomes lots of disadvantages in the traditional Billing and shopping guide system for supermarkets, such as inefficient management of

commodities and inconvenient shopping. The Consumer will be picking the Products which would be added in the Touch Panel display and transmitted to the Billing Section automatically via Wireless. Product code and Consumer ID is verified using NFC for Authentication.

IEEE REFERENCE: IEEE Paper on Computer Science and Automation Engineering (CSAE), 2012

NEMS 8. DESIGN AND IMPLEMENTATION OF LOW COST INTELLIGENT WHEELCHAIR

ARCHITECTURE DIAGRAM



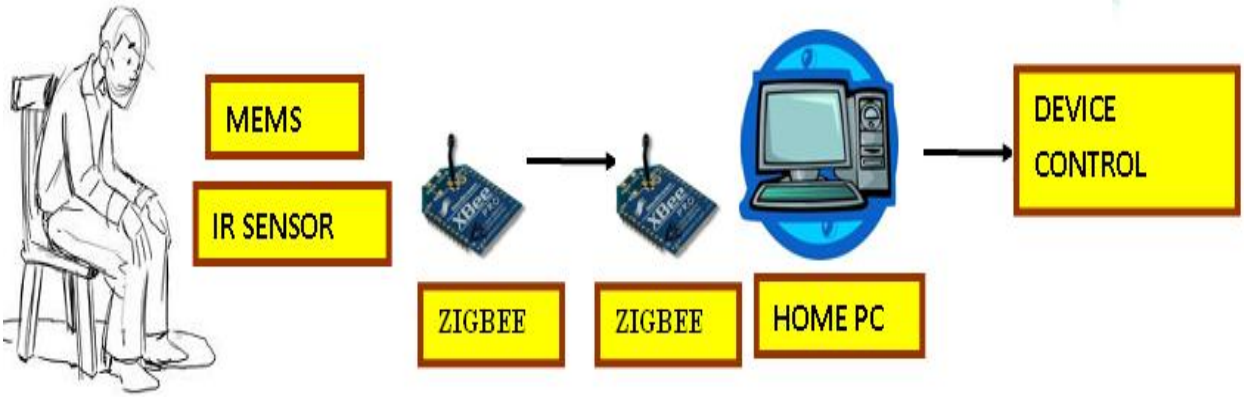
DESCRIPTION: The wide spread prevalence of lost limbs and sensing system is of major concern in present day due to wars, accident, age and health problems. An intelligent

wheelchair is developed to help these types of patients by using speech recognition system to control the movement of wheelchair in different directions by using voice commands and also the simple movement of the patient's fingers with keypad control. Automatic obstacle detection is done using an ultrasound system which helps the patient to apply a temporary brake in case any obstacle suddenly comes in the way of the wheelchair. The intelligent wheelchair is designed in such a way that it can be controlled easily with minimum effort from the patient and also provides protection from obstacle collision if any voice mistake happens. The main advantage is the low cost design which allows more number of patients to use this type of wheelchair.

IEEE REFERENCE: IEEE Paper on Recent Trends in Information Technology (ICRTIT), 2012

NEMS 9. INTELLIGENT HUMAN-MACHINE INTERFACE USING HAND GESTURES RECOGNITION

ARCHITECTURE DIAGRAM

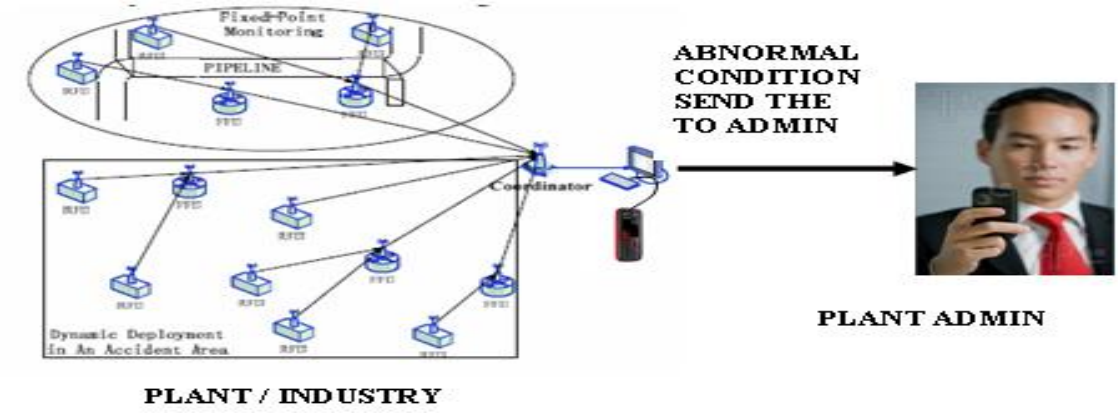


DESCRIPTION: Due to the rapid increase of number of industrial or domestic systems that must be controlled it is clear that new, more natural methods of control are needed. This paper presents an intelligent human machine interface based on hand's gesture recognition. The gestures based control system is composed by two subsystems that communicated via radio waves. The first subsystem is a bracelet that captures the movement of the hand using accelerometers. The second subsystem is the control box on which the data processing takes place. Artificial Neural Networks (ANN) are used to add learning capabilities and adaptive behavior to intelligent interfaces that can be used even by elderly or impaired people. Field Programmable Gate Array (FPGA) implementation is an easy an attractive way for hardware implementation.

IEEE REFERENCE: IEEE Paper on Automation Quality and Testing Robotics (AQTR), 2012

NEMS 10. SENSOR NETWORK BASED ON GAS SMART SENSORS FOR ENVIRONMENTAL MONITORING

ARCHITECTURE DIAGRAM

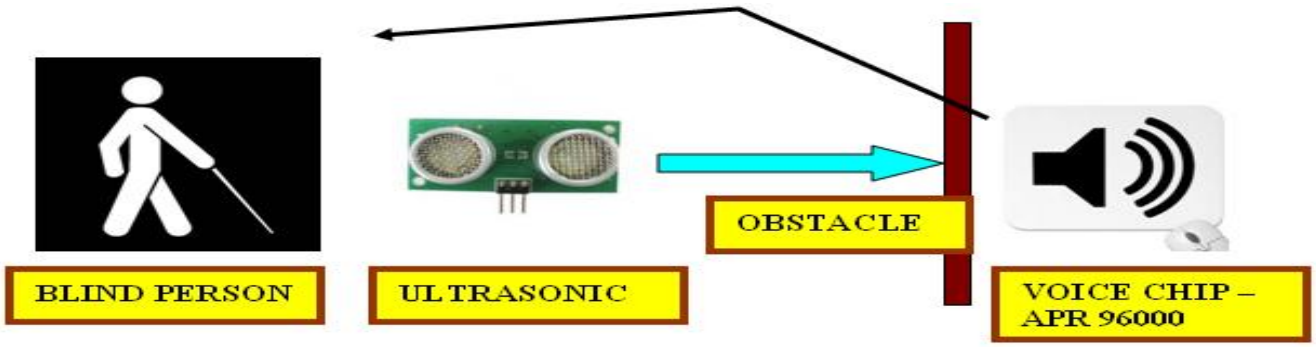


DESCRIPTION: In this Project, we are Proposing Gas Leakage Monitoring using Zigbee Technology. Gas sensor is fitted in the Static place where it detects the Gas and transmits to the server for the necessary action via Zigbee Technology. We can also include a Mobile robot for the Mobile Tracking of Gas Leakage where Gas sensor is attached to the Robot and it transmits wirelessly to the server via Zigbee for the necessary action.

IEEE REFERENCE: IEEE Paper on TCSET, 2012

NEMS 11. ULTRASONIC SPECTACLES AND WAIST-BELT FOR VISUALLY IMPAIRED AND BLIND PERSON

ARCHITECTURE DIAGRAM

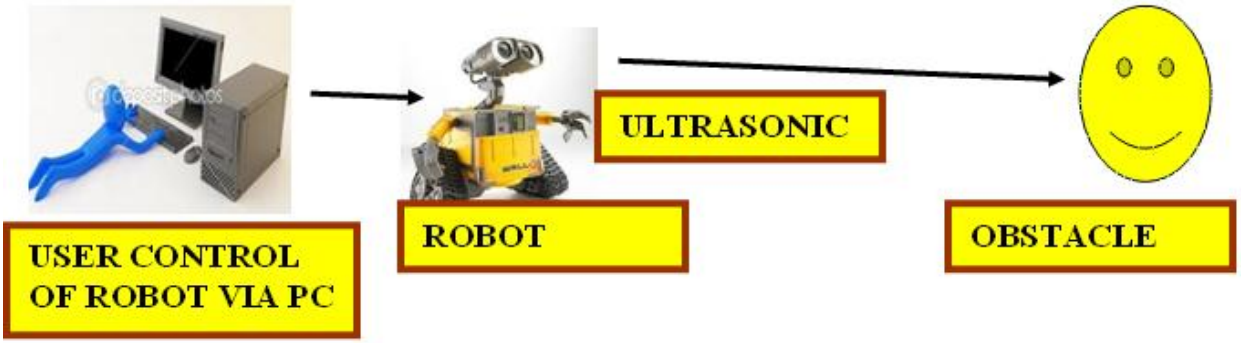


DESCRIPTION: This paper presents an electronic navigation system for visually imp aired and blind people (subject). It effectively calculates distance of the detected object from the subject and prepares navigation path accordingly avoiding obstacles. It uses speech feedback to aware the subject about the detected obstacle and its distance. This proposed system uses AT89S52 microcontroller based embedded system to process real time data collected using ultrasonic sensor network. Based on direction and distance of detected obstacle, relevant pre-recorded speech message stored in APR9600 flash memory is invoked. Such speech messages are conveyed to the subject using earphone.

IEEE REFERENCE: IEEE Paper on (Communication) NCC, 2012.

NEMS 12. EMBEDDED SYSTEM APPLIED TO OBSTACLES DETECTION IN A MOBILE CONTROLLED BY A PC VIA RF

ARCHITECTURE DIAGRAM

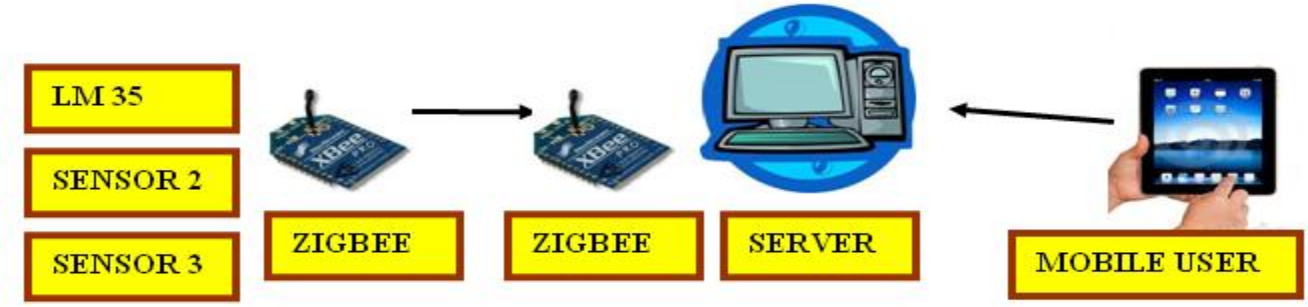


DESCRIPTION: In this work it is demonstrated the operation of an embedded system applied to a mobile robotic system, whose control is based on the Embedded Board. The robotic system receives information from the external environment by applying ultrasonic sensors as a means to detect objects around a mobile. A prototype electronic system that allows a mobile robot to detect obstacles in its environment and to know the distance to which is such an obstacle which is shown in an LCD is presented. The direction control of the Robot is controlled by the Computer via RF Technology. Input is passed to the robot for the direction control and ultrasonic sensor will detect the Obstacles found in the path.

IEEE REFERENCE: IEEE Paper on Electrical Communications and Computers (CONIELECOMP), 2012

NEMS 13. OPEN SENSOR PLATFORM: INTEGRATION OF SENSORS AND MOBILE PHONES

ARCHITECTURE DIAGRAM

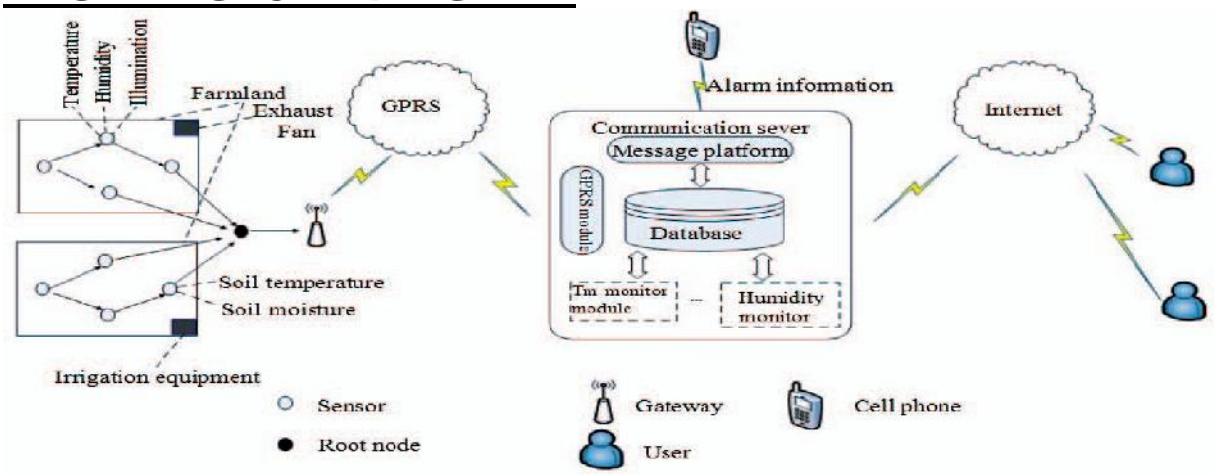


DESCRIPTION: We propose an Open Sensor Platform, based on Open System Architecture design, for the integration of mobile phone (MP) and sensors. This platform utilizes commercial off-the-shelf (COTS) available hardware and software tools, thereby eliminating the need for custom- designed sensor's integration boards. The design involves Data Acquisition (DAQ) device, attached with Host PC, providing an interface to communicate with sensors. Sensors data is read from DAQ via Host PC application and on request wirelessly sent to MP. Mobile phone is used as an information retrieval agent, in order to retrieve the sensory data and onward forwarding the information to end user via Cellular or Web services. This integration eliminates the need for dedicated circuitry in sensors, allows the addition of several types of sensors and implements multiple wireless protocols (BT or Wi-Fi), keeping in view the requirement of range and data rate. Sensors history data is maintained on Host PC, where detailed analysis may be performed.

IEEE REFERENCE: IEEE Paper on ABCAST, 2012.

NEMS 14. REMOTE SENSING MONITORING SYSTEM FOR AGRICULTURE CONDITION

ARCHITECTURE DIAGRAM

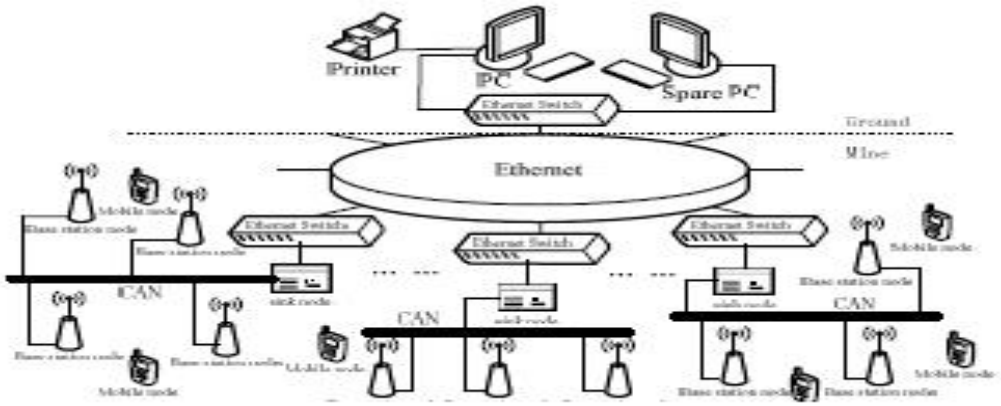


DESCRIPTION: Precision Agriculture Monitor System (PAMS) is an intelligent system which can monitor the agricultural environments of crops and provides service to farmers. PAMS based on the wireless sensor network (WSN) technique attracts increasing attention in recent years. The purpose of such systems is to improve the outputs of crops by means of managing and monitoring the growth period. This paper presents the design of a WSN for PAMS, shares our real-world experience, and discusses the research and engineering challenges in implementation and deployments.

IEEE REFERENCE: **IEEE Paper on** Computational and Information Sciences, 2012.

NEMS 15. DESIGN OF INTEGRATED MINE SAFETY MONITOR SYSTEM BASED ON ZIGBEE

ARCHITECTURE DIAGRAM



DESCRIPTION: In this paper, the implementation of integrated mine safety monitor system is explained. The system is composed of PC monitors, sink nodes, base station nodes and mobile nodes. The mobile node is based on Zigbee to acquire the gas concentration and positioning signals. Those acquired signals are sent through Zigbee network to the base station node and isolated CAN bus interfaces. After collected and processed by the base station node, signals are transmitted to the sink node. Finally, signals are sent to PC monitor through Ethernet or CAN bus network, and they are stored and displayed dynamically by PC monitors.

IEEE REFERENCE: IEEE Paper on Systems and Informatics (ICSAI), 2012

NEMS 16. DESIGN AND IMPLEMENTATION OF A COST EFFECTIVE GAS POLLUTION DETECTION SYSTEM

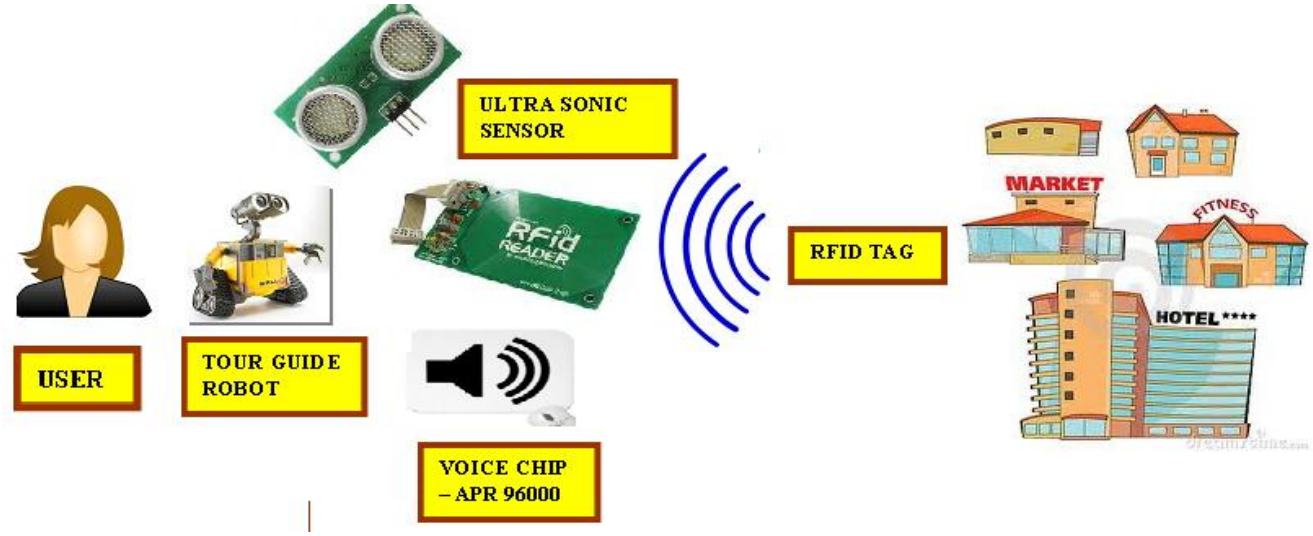
ARCHITECTURE DIAGRAM

DESCRIPTION: With the current increase of air pollution rates and its threats to human life, starting from global warming to health problems, the need for more efficient and cost effective pollution measurement system arises. In developing countries the cost of the equipment is one of the obstacles that contribute to not having an efficient monitoring system. In this work we are presenting the design of computer based pollution detection and measuring system using commonly available sensors (O2 sensors available in cars). The proposed work concentrate on measuring percentage of CO (carbon monoxide) in combustion engine emission and in the atmosphere and the use of the device to judge whether an area pollution or an engine emission is above or below the average level. The device is cost-effective and could be used with and without computer and addresses the demand of developing countries. A Computer based program is also designed to show and log the sensor readings in an easy to use and read Window.

IEEE REFERENCE: IEEE Paper on Computer and Communication Engineering (ICCCE), 2012

NEMS 17. AN RFID BASED AUTONOMOUS INDOOR TOUR GUIDE ROBOT

ARCHITECTURE DIAGRAM



DESCRIPTION: This paper describes a radio frequency identification (RFID) and IR- guided tour guide robot, CATE (Central's Automated Tour Experience). The portable terminal unit is an embedded system equipped with an RFID reader for localization, and sonar and IR sensors for obstacle detection and avoidance. CATE can guide the visitor through a predefined tour of the building, or create a new route on - the - fly. While in

predefined tour mode, CATE completes the tour by avoiding obstacles using infrared sensor input. It will also provide audio information through an onboard computer, and can collect feedback from the user through a touch screen display. CATE has been successfully implemented and is under final stages of testing.

IEEE REFERENCE: IEEE Paper on Circuits and Systems (MWSCAS), 2012

NEMS 18. A SYSTEM FOR MOBILE ASSISTED LIVING

ARCHITETURE DIAGRAM

DESCRIPTION: In this paper, a system is presented which supports mobile assisted living by combining the advantages of smart sensors, GPS and GSM technology. The system can detect abnormal situations with the person wearing the wearable part of the system (e.g. abnormal heart rate) and send this information to the nursing home so that appropriate action can be taken immediately. The information sent by the system to the nursing home includes the current location of the person on the earth in the form of longitude and latitude. This location

information is what makes the system support mobile assisted living. The hardware of the system includes Atmega microcontroller, GTPA010 GPS module, SIM300 GSM module, some sensors (e.g. heart rate sensor, temperature and door sensors) and some other components.

IEEE REFERENCE: IEEE Paper on Networking, Sensing and Control (ICNSC), 2012

NEMS 19. ROBUST RAILWAY CRACK DETECTION SCHEME (RRCDS) USING LED-LDR ASSEMBLY

ARCHITECTURE DIAGRAM

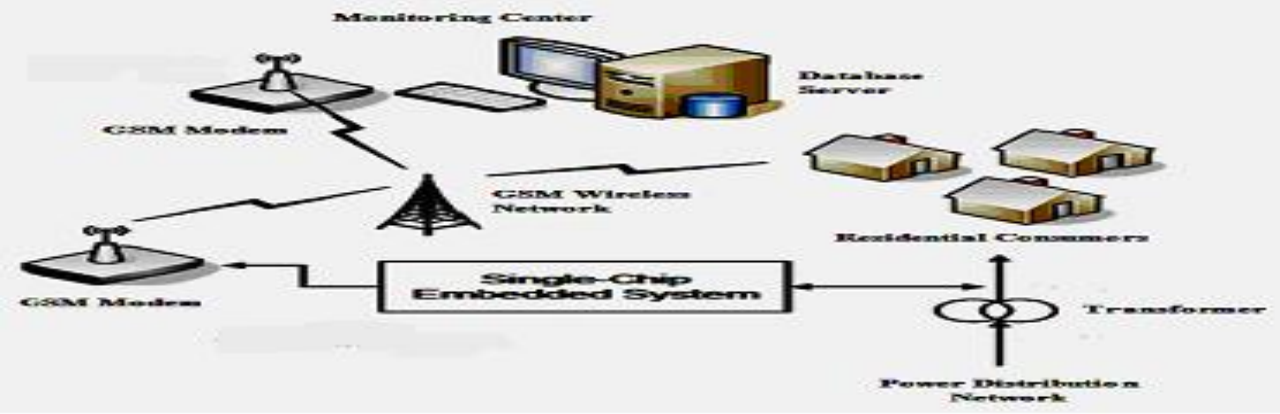
DESCRIPTION: In India, most of the commercial transport is being carried out by the railway network and therefore, any problems in the same has the capacity to induce major damage to the economy-notwithstanding the societal impact of loss of life or limb. This paper

proposes a cost effective yet robust solution to the problem of railway crack detection utilizing a method that is unique in the sense that while it is simple, the idea is completely novel and hitherto untested. The paper discusses the technical and design aspects in detail and also provides the proposed robust crack detection algorithm. The paper also presents the details of the implementation results of the RRCDS utilizing simple components inclusive of a GPS module, GSM Modem and LED-LDR based crack detector assembly.

IEEE REFERENCE: IEEE Paper on Recent Trends In Information Technology (ICRTIT), 2012

NEMS 20. A NEW METHOD FOR MONITORING OF DISTRIBUTION TRANSFORMERS

ARCHITECTURE DIAGRAM



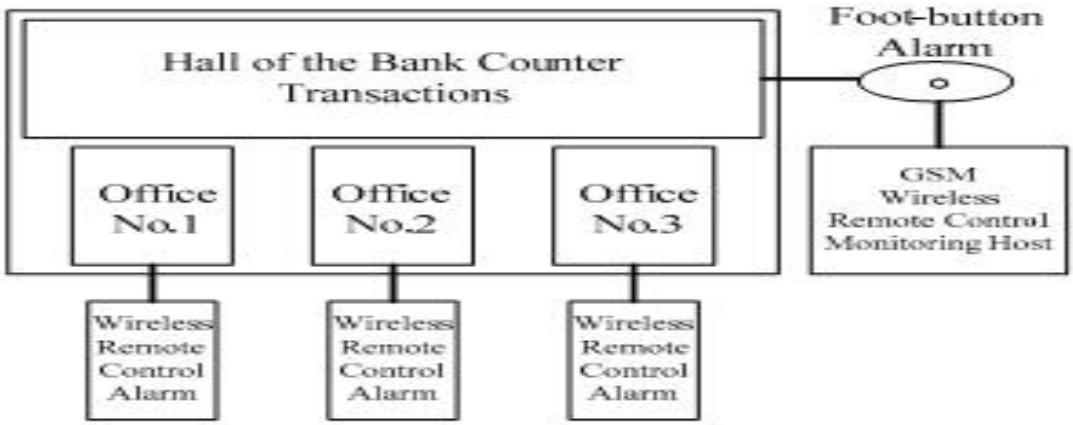
DESCRIPTION: Distribution transformers are one of the most important equipment in power network. Because of, the large number of transformers distributed over a wide area in power electric systems, the data acquisition and condition monitoring is a important issue. This paper presents design and implementation of a mobile embedded system and a novel software to

monitor and diagnose condition of transformers, by record key operation indictors of a distribution transformer like load currents, transformer oil, ambient temperatures and voltage of three phases. The proposed on-line monitoring system integrates a Global Service Mobile (GSM) Modem, with stand alone single chip microcontroller and sensor packages. Data of operation condition of transformer receives in form of SMS (Short Message Service) and will be save in computer server. Using the suggested online monitoring system will help utility operators to keep transformers in service for longer of time.

IEEE REFERENCE: IEEE Paper on Environment and Electrical Engineering (EEEIC), 2012

NEMS 21. DESIGN OF CONCEALED ALARM SYSTEM BASED ON GSM

ARCHITECTURE DIAGRAM

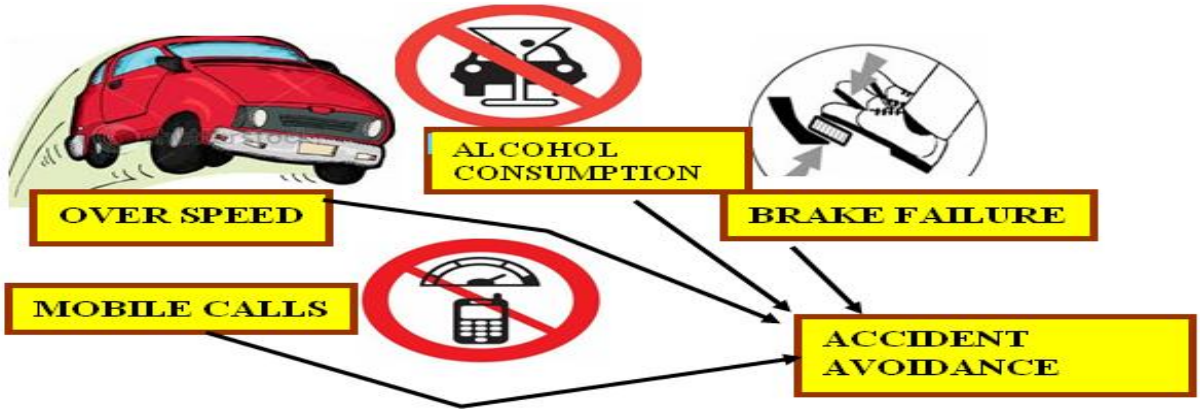


DESCRIPTION: Considering the characteristics of banks and other financial institutions, this paper aims at reforming conventional alarm system by the concealed GSM monitor and wireless alarm system, meanwhile, SMS and voice alarm can be send out by multi-regional remote control FM network. On receiving the alarm, the monitoring center can achieve real-time on-site monitoring, thus provide more efficient information for the incident handling.

IEEE REFERENCE: IEEE Paper on Consumer Electronics, Communications and Networks (CECNet), 2012

EMS 2001. ACCIDENT AVOIDANCE SYSTEM FOR THE IDENTIFICATION OF HUMAN FACTORS INVOLVED ON TRAFFIC ACCIDENTS

ARCHITECTURE DIAGRAM

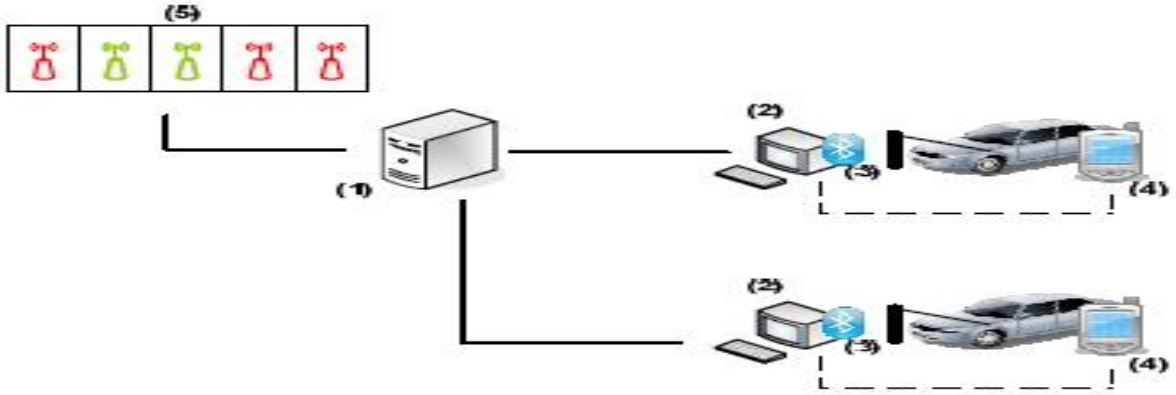


DESCRIPTION : In this paper, a novel accident Avoidance system for the identification of the main human factors involved on traffic accidents is presented. In this system, of implementation, we are Proposing, Dynamic Accident Avoidance System. We include Alcohol Sensor to identify the Driver's Alcohol Consuming status along with Mobile Calls monitoring system to automatic Braking System to control the Speed of the Vehicle when the Drier gets the Calls. We also include Speed control Mechanism to avoid Accidents due to Over Speed.

IEEE REFERENCE: IEEE Paper on Intelligent Vehicles Symposium (IV), 2012

EMS 2002. A MODEL OF SOFTWARE SYSTEM FOR PARKING USING SEARCH ALGORITHMS

ARCHITECTURE DIAGRAM

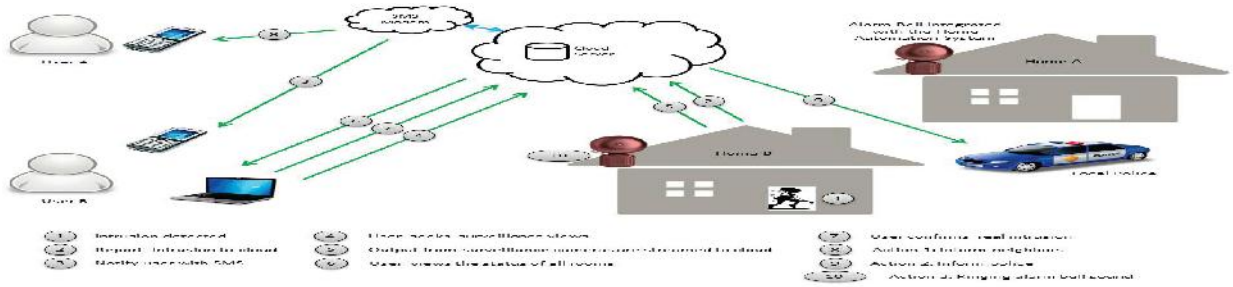


DESCRIPTION : In this paper a model of software system for parking using search algorithms has been described. The basic idea is to provide a system user with a fast and simplified way to find the nearest empty place while entering the parking lot of large surface. During the searching procedure, modified branch and bound method is used. On entering the parking lot, a system user is connected to a server by means of the Bluetooth. Then, the server sends the parking lot schema in a predefined XML format to a smart phone, as well as the identifier of the entrance where the user is currently located. Then, a parking schema is being created on the phone and a route to the closest parking space is being displayed. This software system has been developed to be used as an educational system for teaching the academic course 'Expert Systems', but it could be improved and used in real-life applications as well.

IEEE REFERENCE: IEEE Paper on MIPRO, 2012

EMS 2003. ANDROID BASED BURGLARY / INTRUSION DETECTION SYSTEM WITH AUTOMATIC ALERT FOR HOME SECURITY USING CLOUD COMPUTING

ARCHITECTURE DIAGRAM

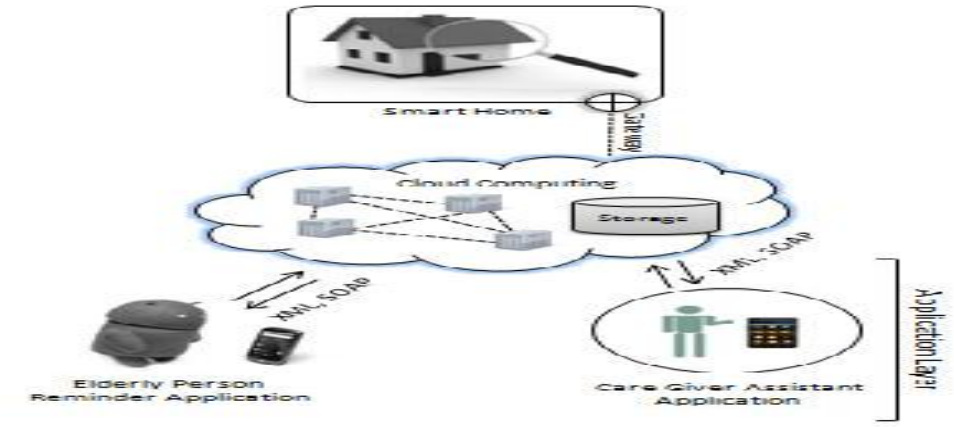


DESCRIPTION : In the **EXISTING SYSTEM**, Security surveillance partakes in significant number of home automation systems, deploying digital cameras and sensors to monitor and report intrusion events and thereby reducing damages caused by burglary. This technique will require more cost and they will work up to a certain limit. In the **PROPOSED SYSTEM**, we can detect the suspected person entering into our house by using IR Sensor which is intimated to the Cloud Server. Then the cloud server notifies to House Owner via SMS Alert. Owner can view the videos via their PC and confirms the Intrusion, then the Cloud Server, intimates to the Police Station and as well to neighbor's house. Also an alarm will ring. This provides the house owner more security and we can find the thief very easily. In the **MODIFICATION** phase, we're also generating an alert message to the House Owner mobile when fire accident or gas accident occurs. This will also helps the user to know about the incidents in a quick time.

IEEE REFERENCE: IEEE Paper on Future Internet Communications (BCFIC), 2012

EMS 2004. M – GUARDIAN: ANDROID BASED ELDERLY PEOPLE ACTIVITY AND HEALTH MONITORING USING CLOUD COMPUTING

ARCHITECTURE DIAGRAM

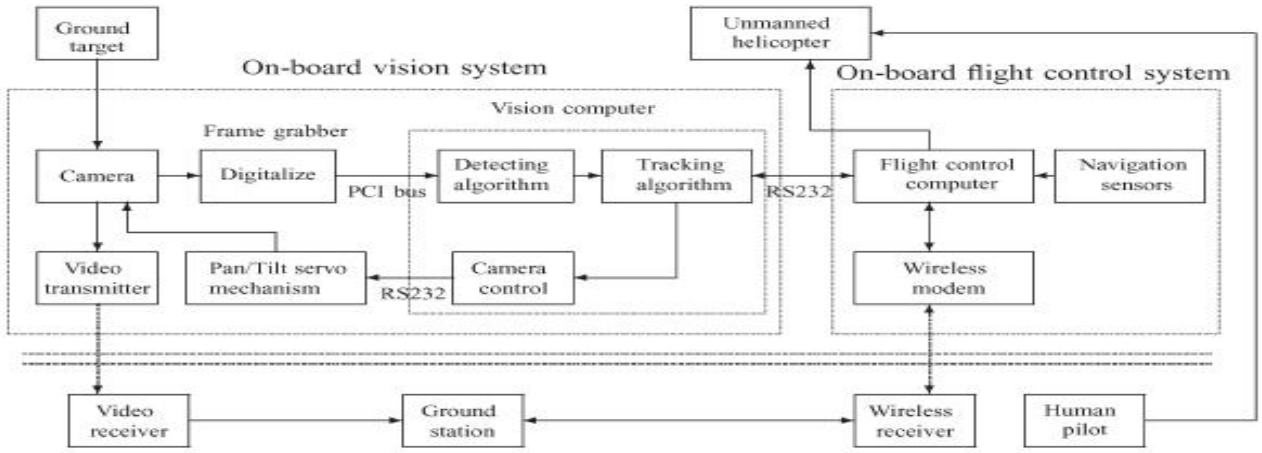


DESCRIPTION : In the **EXISTING SYSTEM,** there should be some Care Taker along with the Patient who personally monitor the Age Old Patients. In the **PROPOSED SYSTEM**, Smart home is regarded as an independent healthy living for elderly person. Advances in phone technology and new style of computing paradigm (i.e., cloud computing) permits real time acquisition, processing, and tracking of activities in smart home. In this paper, we develop android smart phone application to assists elderly people for independent living in their own homes. Smart phone application communicates with cloud through web server and assists the elderly person to complete their daily life activities. This is used to Track the Patient's Activity along with the Remainders of Medicines, Food and other Activities. **MODIFICATION** that we propose is to monitor the Heart Beat of the Patient to find the normal functionality of the Patient along with IR based Tracking Solution at every room.

IEEE REFERENCE: IEEE Paper on Advanced Communication Technology (ICACT), 2012

EMS 2005. REAL TIME UNMANNED ROBOT THIRD EYE DETECTION WITH VIDEO PROCESSING FOR TARGET / ENERGY TRACKING

ARCHITECTURE DIAGRAM

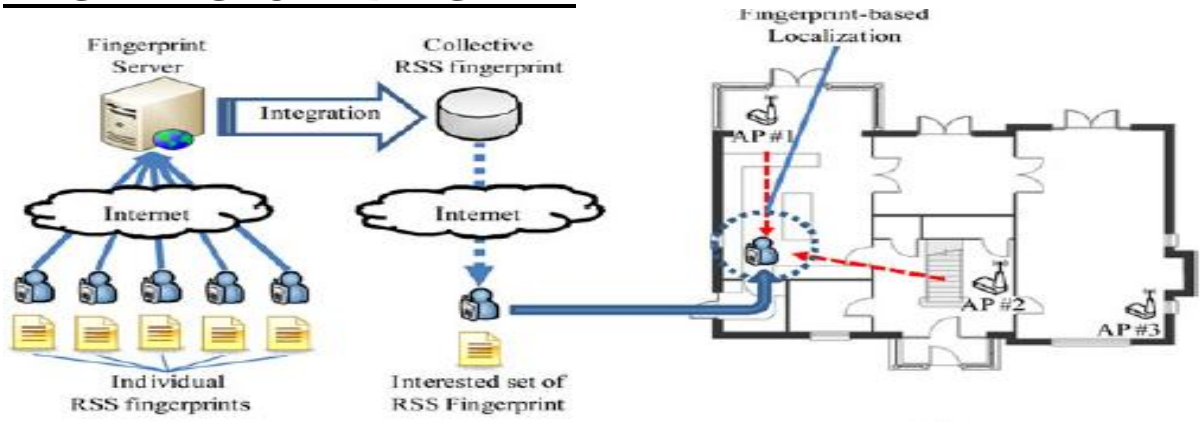


DESCRIPTION : In **EXISTING SYSTEM**, most of the works focus on only a certain part of vision systems for UAVs, such as hardware construction or vision algorithms. Many of them are adopted from those designed for ground robots, which are not very suitable for applications on UAVs. although the target tracking in video sequences has already been studied in a number of applications, there has been very little research related to the implementation of vision-based target following for UAVs. In the **PROPOSED SYSTEM**, we present the systematic design and implementation of a robust real-time embedded vision system for an unmanned rotorcraft for ground target. Here the Web camera is connected in the Robot and it was wirelessly connected with PC. Admin can view the Video and identify the Enemy. In the **MODIFICATION** Process, once the target image was viewed in the PC we can protect our network or take necessary action to control the targeted Person.

IEEE REFERENCE: IEEE Transactions on Industrial Electronics, 2012

EMS 2006. IDENTIFICATION OF EFFECTIVE CHILDEREN TRACKING SYSTEM USING SMART PHONE TOWER LOCATION DETECTION

ARCHITECTURE DIAGRAM

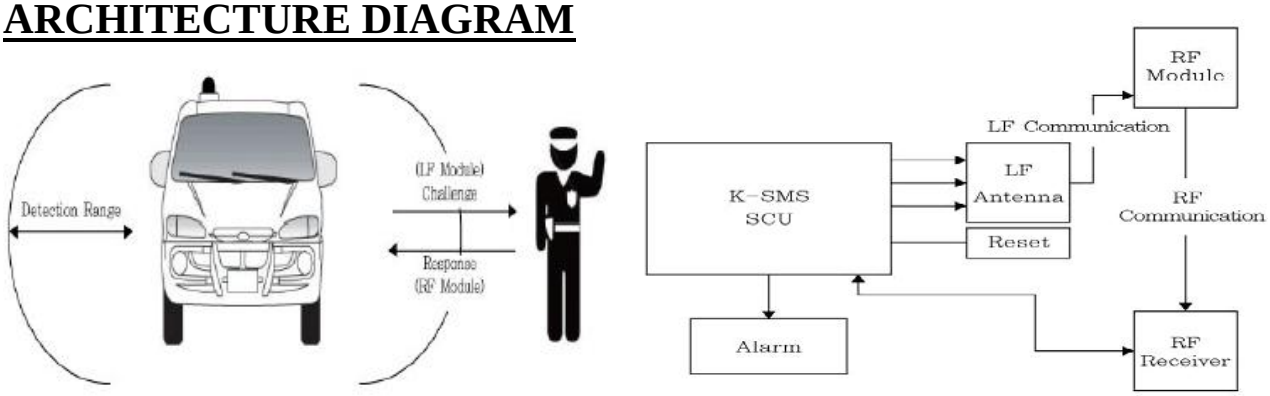


DESCRIPTION : In the **EXISTING SYSTEM**, The Global positioning system (GPS) has commonly been used in outdoor environments and been widely adopted in modern mobile devices such as smart phones. In indoor environments, however, no outstanding solution has been found due to practical issues which are related to complicated infrastructure requirements. In **PROPOSED SYSTEM**, GSM Based Tracking of the Students is achieved. Parents will be entering the Mobile Number of the student and also enter the expected place or Location of the student. If the student is out of the Expected Location immediately an Alert SMS is send to the Parents, so that Parents can take some immediate action.

IEEE REFERENCE: IEEE TRANSACTIONS on Systems, Man, and Cybernetics, 2012

EMS 2007. A PLAN TO IMPROVE SECURITY SERVICE OF MONEY TRANSPORT VEHICLE APPLYING K-SMART MODULE

ARCHITECTURE DIAGRAM



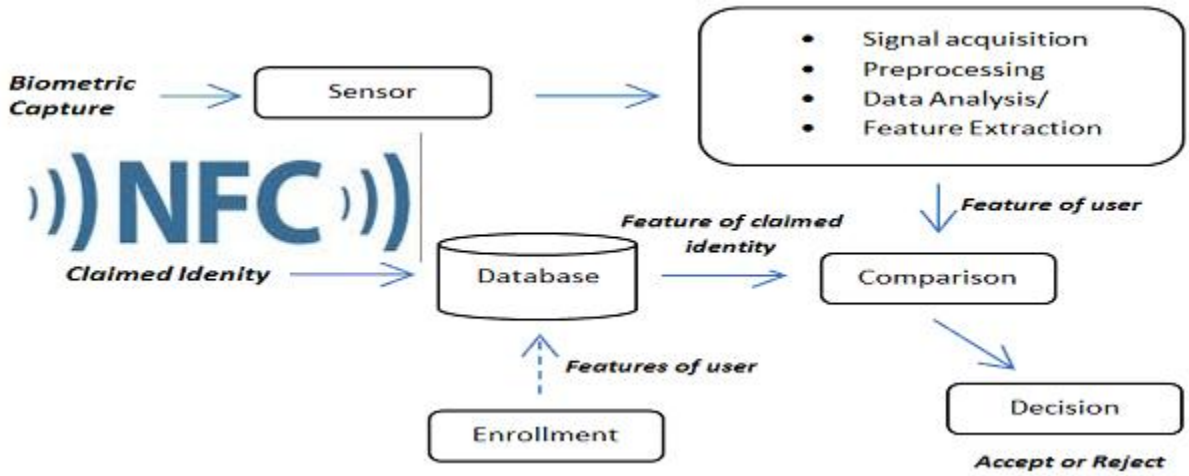
DESCRIPTION : Financial institutions are adopting more ATMs (Automatic Teller Machine) which have multi-functions in order to provide more convenient bank service for increasing customer demand. The security firm carries the professional money transport service by employing professional guard personnel to transport cash, marketable securities and jewelries and products. However, since it is a service to handle the cash, it has been the target of crime, and when investigating several accidents of stealing and hijacking money transport vehicles since 2003, they were caused because all 3 security guards of 1 group emptied seats nevertheless 1 person must have stayed in the vehicle in order to stand guard. Since the purpose of the accident of money transport is the cash and its damage is too big by one security accident, more

tight control is required. Therefore, this study presented an improvement plan to prevent the vehicle steal and controlling the guard service by applying K-Smart Module System.

IEEE REFERENCE: IEEE Paper on Information Science and Applications (ICISA), 2012

EMS 2008. BIOMETRIC ACCESS CONTROL USING NEAR FIELD COMMUNICATION AND SMART PHONES

ARCHITECTURE DIAGRAM



DESCRIPTION : Near Field Communication or NFC is a short-range communication channel that is one of the most promising technologies around. One of the purposes for this technology is to simplify first-time connections to other wireless technologies, like Wi-Fi and Bluetooth. In this article we will show how Near Field Communication in a Samsung Nexus S smart phone can be used as part of a two-factor access control system for unlocking a door.

Biometric Fingerprint recognition is used for authentication and NFC will be used to transmit authentication information to computer controlling the door. We will define some requirements for the system to increase security and propose some solutions for implementation to improve protection of biometric assets.

IEEE REFERENCE: IEEE Paper on Biometrics (ICB), 2012

EMS 2009. ANALYSTIC APPROACH TO DETECT ATM COUNTERFEIT CARDS USAGE USING NFC TECHNOLOGY

ARCHITECTURE DIAGRAM

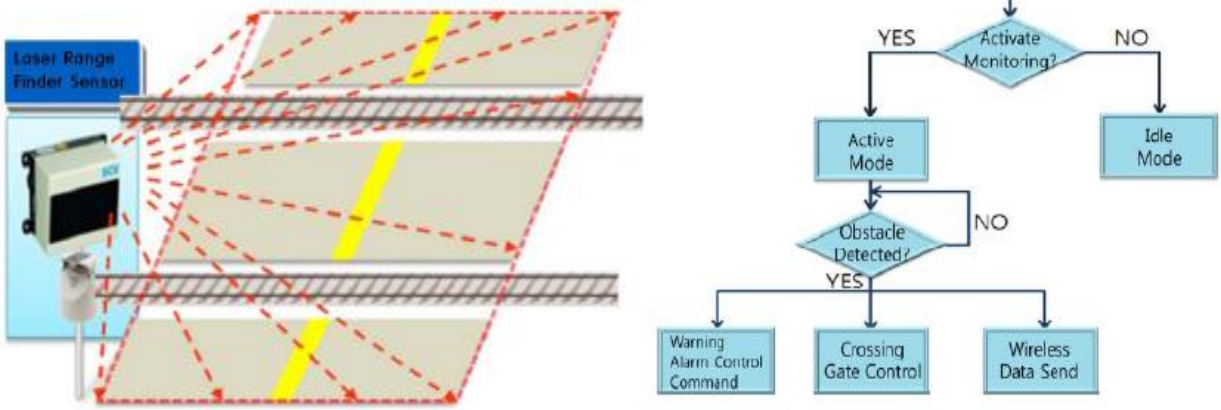
DESCRIPTION : In the **EXISTING SYSTEM,** People relish the flexibility of being able access their monetary assets when and where they need them. The abundance of cards able to withdraw funds from Automatic Teller Machines (ATMs) has not gone unnoticed by the cyber criminal element. Means for skimming and cloning cards exist and the market continues to grow. In the **PROPOSED SYSTEM**, Server Tracks the Same ATM Card's Usability in different ATM Machine locations or accessibility of the same Card more times in a single ATM Machine. **MODIFICATION** that we Propose NFC Card is used as ATM Card. If the same Card is used in different ATM Machines at the same Time, the Server detects it as Attack so that the ATM Card is blocked and Alert SMS is send to the Legitimate User's Mobile Number. For every new

Transaction a Token is generated as SMS to the user's Mobile so that user can write in the NFC Card which is verified for Authentication. This process will surely prevent the accessibility of ATM Card even Attacker steals the ATM Card.

IEEE REFERENCE: IEEE Paper on System Science (HICSS), 2012.

EMS 2010. DESIGN OF SAFETY EQUIPMENT FOR RAILROAD LEVEL CROSSINGS USING LASER RANGE FINDER

ARCHITECTURE DIAGRAM



DESCRIPTION : Concerns regarding railroad safety have been raised worldwide due to the increased number of railroad accidents including high speed train collisions. As a consequence, the importance of safety in railroad operations has been more emphasized recently and therefore the related safety facilities are drawing attentions. As statistics shows, a large

portion of railroad accidents is related to railroad level crossings and the obstacle detection at the crossings is an important problem for railroad safety. In this paper, while focusing on the local situations in Korea, the problems of the current system for level crossing obstacle detection are studied and the design of new safety system is proposed using laser range finders. The proposed system shows improved adaptability to weather changes and increased maintainability while minimizing the blind spots.

IEEE REFERENCE: IEEE Paper Fuzzy Systems and Knowledge Discovery (FSKD), 2012

EMS 2011. NFC BASED TELEMONITORING OF HUMAN VITAL PARAMETERS WITH EMERGING SERVE

ARCHITECTURE DIAGRAM

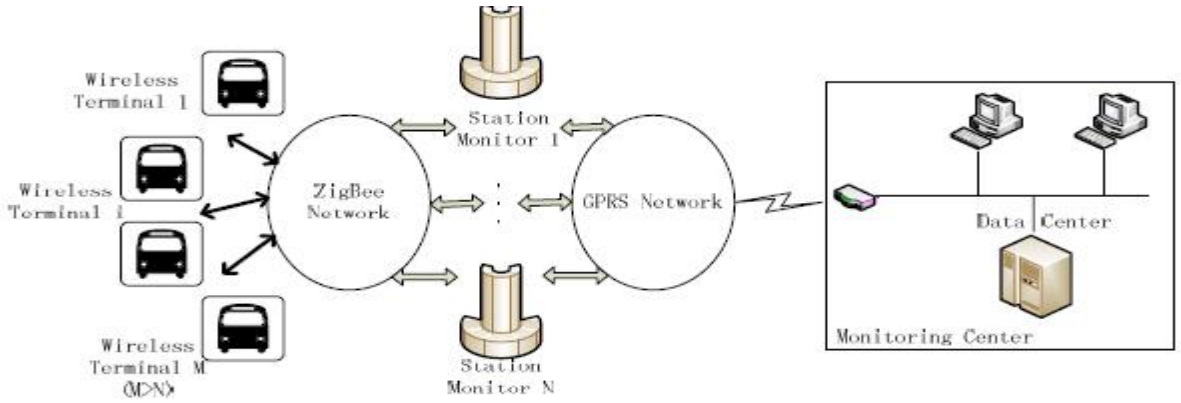
DESCRIPTION : In the **EXISTING SYSTEM**, Age old People or sick people has to be monitored by Doctors manual or requires Guardian's help to monitor their health. In the **PROPOSED MODEL**, Providing elderly people with a mobile-phone based patient terminal with NFC for Authentication and communication links to sensor devices. IF any abnormality is

identified immediately supports are provided to save the life of the Patient. **MODIFICATION** that we Propose is that the Generation of Automatic Alert SMS to the Patient's Guardian in case of emergency

IEEE REFERENCE: IEEE TRANSACTIONS on Information Technology in Biomedicine, 2012

EMS 2012. BUS MONITORING SYSTEM BASED ON ZIGBEE AND GPRS

ARCHITECTURE DIAGRAM



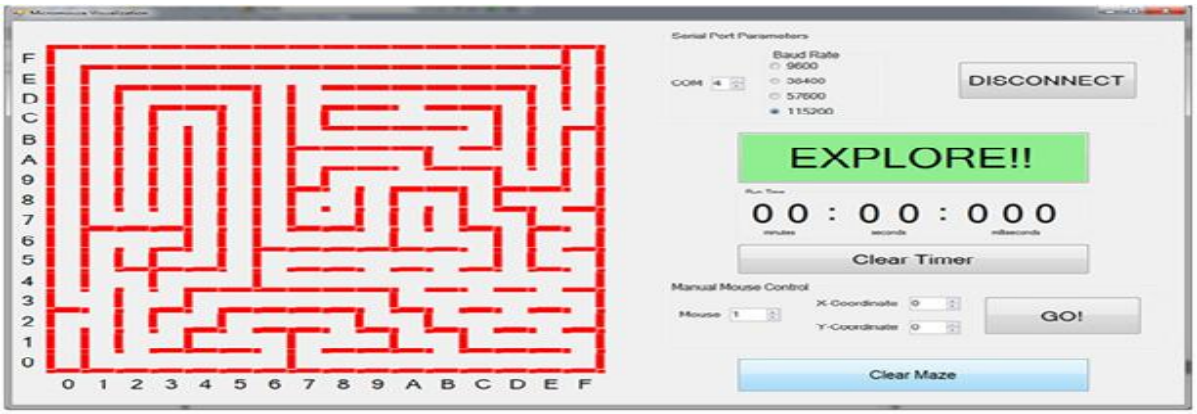
DESCRIPTION : Presently, public traffic system mainly depends on driver's manual operation, which will inevitably encounter many problems such as punctuality of the bus's arrival on bus station. Paper proposes an supervisory system based on GPRS and ZigBee technology, to improve the operation efficiency of bus monitoring system and realize intelligent transportation system. Paper introduces the bus monitoring system from the aspect of both hardware design and software design. System takes it into accounts for the respective advantages

and disadvantages of GPRS and ZigBee, and designs a feasible solution successfully, of practically significant.

IEEE REFERENCE: IEEE Paper on Computer Distributed Control and Intelligent Environmental Monitoring (CDCIEM), 2012

EMS 2013. COORDINATED MULTI-ROBOT EXPLORATION OF A BUILDING FOR SEARCH AND RESCUE SITUATIONS

ARCHITECTURE DIAGRAM



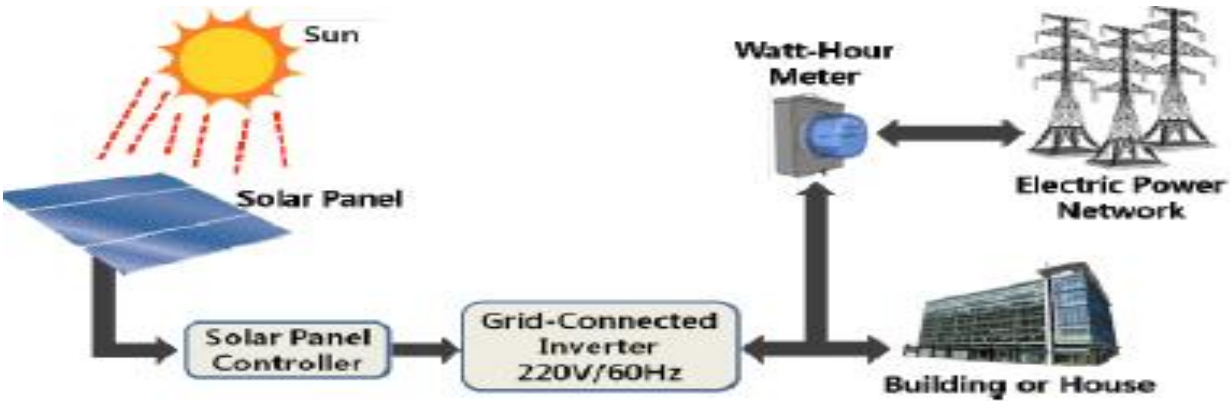
DESCRIPTION : In this paper we present a network of small, autonomous mobile robots as a platform for development and testing of radio protocols and search algorithms for search and

rescue situations. We also present our initial flooding type radio protocol and a search algorithm partially based on the flood-fill algorithm. Finally, we present the initial results of a network of robots exploring a small model building using the algorithms we have developed.

IEEE REFERENCE: IEEE Paper on System Theory (SSST), 2012

EMS 2014. DESIGN AND IMPLEMENTATION OF INTELLIGENT ENERGY DISTRIBUTION MANAGEMENT WITH PHOTOVOLTAIC SYSTEM

ARCHITECTURE DIAGRAM



DESCRIPTION : As increasing power consumption is becoming a huge problem, renewable energy has been highlighted recently. Many companies and research centers study this new sustainable energy, and various products have appeared to the public. However, this kind of

researches concentrates on the elemental technologies, and now a management system is needed to manage these technologies to maximize energy efficiency. In this paper, we propose the system of Intelligent Energy Distribution Management (iEDM) to monitor fast changing environmental variables and manage solar power flexibly.

IEEE REFERENCE: IEEE Transactions on Consumer Electrics, 2012

EMS 2015. MULTI INPUT DEVICE CONTROL WITH VIBRATION DETECTION IN CLOUD COMPUTING USING ANDROID

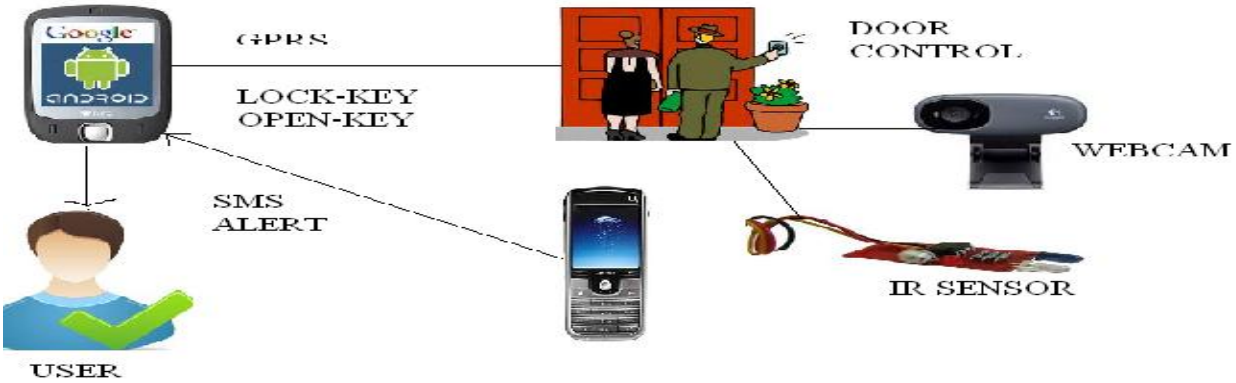
ARCHITECTURE DIAGRAM

DESCRIPTION : In the **EXISTING SYSTEM**, very few Device Control process is Wireless and most of our home Appliances control is via Wired Connection. If at all there is wireless communication has its own range. Control of Devices is achieved in a Short Range only. In the **PROPOSED SYSTEM,** we have developed a Home Automation system that employs the integration of multi-touch mobile devices, cloud networking, wireless communication, and remote control of various lights and appliances within their home. This system uses a consolidation of a mobile phone application, handheld wireless remote, and PC based program to provide a means of user interface to the consumer. The **MODIFICATION** that we propose is Vibration Sensor is connected to the User PC, if the Vibration is detected Automatic Alert SMS is send to the mobile number of Authorized Person.

IEEE REFERENCE: IEEE Paper on Southeastcon, 2012

EMS 2016. ANDROID BASED HOME SECURITY DOOR CONTROL WITH HUMAN DETECTION AND IMAGE STREAMING WITH SMS ALERT

ARCHITECTURE DIAGRAM



DESCRIPTION : In the **EXISTING SYSTEM**, Door Lock status is verified manually there is no automatic process is implemented. In the **PROPOSED SYSTEM**, we have developed a security system that interfaces with an Android mobile device. The mobile device and security system communicate via GPRS. The mobile application can be loaded onto any compatible device, and once loaded, interface with the security system. Commands to lock, unlock, or check the status of the door to which the security system is installed can be sent quickly from the mobile device via a simple, easy to use GUI. The **MODIFICATION** that we propose, is IR sensor is attached in the door, if any person is detected an automatic Alert SMS is send to the User's Mobile, so that user can initiate the webcam and can see the Images of the persons who are waiting via their mobile through GPRS Communication. Mobile User can open the Door to the known persons by sending a Authenticating Key to the server.

IEEE REFERENCE: IEEE Paper on Southeastcon, 2012

EMS 2017. NFC BASED ANDROID IMPLEMENTATION FOR DISCOUNT AND LOYALITY COUPONS WITH SECURITY SYSTEM

ARCHITECTURE DIAGRAM

DESCRIPTION : In the **EXISTING SYSTEM,** we're purchasing the products via online (Over internet from the users PCs). Though online retailing is featured in mobile, that wasn't developed as much as compared to the retailing via PCs and Laptops. In the **PROPOSED SYSTEM,** We can purchase the products through our Android Smartphone. The user will hit the shopping server from their Android mobile with NFC Tag. The once they've entered into the site, they can purchase the items. Here we're providing the NFC ID to each and every user so that they enter it whenever they're signing into the site. In the **MODIFICATION**, we're sending an SMS alert to the user's mobile phone regarding the "deals of the day". This lets the users to know the deals, so that they can purchase the products. Also we're writing the Image Coupon Id in the NFC tag. This ensures the security for the users.

IEEE REFERENCE: IEEE Paper on Near Field Communication , 2012

EMS 2018. EFFECTIVE UNMANNED, AUTOMATIC ROBOT CONTROL SYSTEM FOR EDUCATIONAL SOCIAL CAUSE – LIBRARY SYSTEM

ARCHITECTURE DIAGRAM

DESCRIPTION : In many **EXISTING SYSTEMS,** only manual process identification of relevant data is maintained. Even in library we search the books in a manual way only. In the **PROPOSED SYSTEM**, the user provides speech input to the Robot via wireless connection with the PC, so that the Robot directs the person with respect data fed in the PC using its arms. IR is used for person Identification. In the **MODIFICATION** that we propose is, once the user provides the voice input, the system will verify all the available books, and finds out the best book by comparing Input term frequency with total number of keywords extracted using Stemming Algorithm. So that resultant book shelf is identified by the Robot.

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IEEE REFERENCE: **IEEE Transactions** on Systems, Man, and Cybernetics, 2012

EMS 2019. ON THE DESIGN AND DEPLOYMENT OF RFID ASSISTED NAVIGATION SYSTEMS FOR VANETS

ARCHITECTURE DIAGRAM

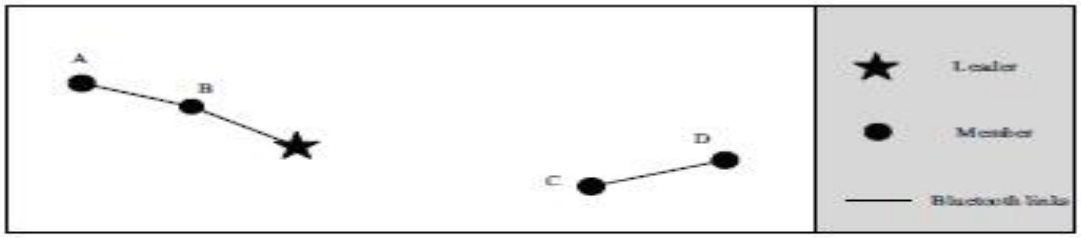
DESCRIPTION : In this paper, we propose a systematic approach to designing and deploying a RFID Assisted Navigation System (RFIDANS) for VANETs. RFID-ANS consists of passive tags deployed on roads to provide navigation information while the RFID readers attached to the center of the vehicle bumper query the tag when passing by to obtain the data for navigation guidance. We analyze the design criteria of RFID-ANS and present the design of the RFID reader in detail to support vehicles at high speeds. We also jointly consider the scheduling of the read attempts and the deployment of RFID tags based on the navigation requirements to support seamless navigations. The estimation of the vehicle position and its accuracy are also

investigated.

IEEE REFERENCE: IEEE TRANSACTIONS on Parallel and Distributed Systems, 2012

EMS 2020. BLUECAT: AN EFFICIENT WAY FOR RELATIVE MOBILE LOCALIZATION

ARCHITECTURE DIAGRAM



An illustration of the application scenario. The leader wants to check whether the 4 members are in the vicinity of him/her in every 10 minutes. First, the leader can only finds member A and B. After member C moves close to the leader, the leader can find member C and D.

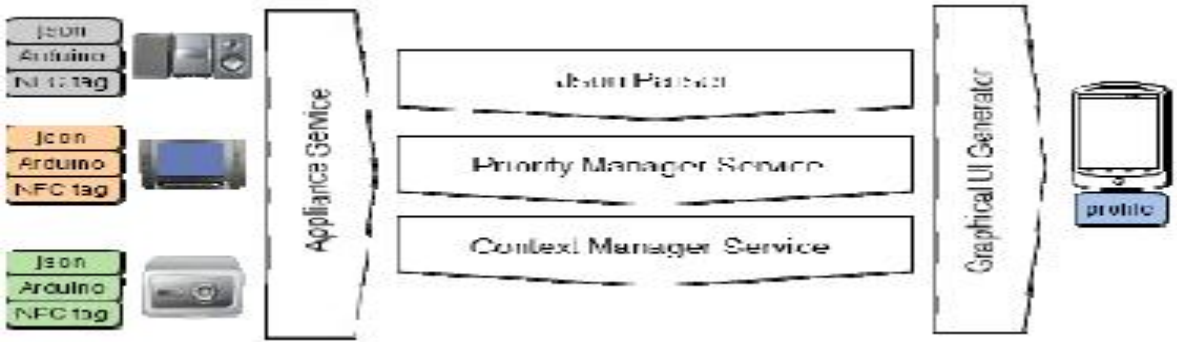
DESCRIPTION : Recent years have witnessed the emergence of numerous location-based service for mobile users. The technology of locating the mobile devices has received significant research attention. In this paper, a novel notion-*Relative Mobile Localization* is proposed, which aims to find whether a group of mobile users (such as persons under guardianship) are in the vicinities of other mobile users (such as guardians). However, the existing *physical* or *logical* localization methods require the supporting of the anchor nodes such as satellites, base stations or pre-built databases, which is expensive and may fail in some circumstances such as the environments without receiving good signals of anchors. To address these problems, *BlueCat*, a novel anchor-free localization method is designed. In this method, the names of Bluetooth devices are used as the communication media. To the best of our knowledge,

we are the first to code the user friendly names of devices to achieve interactions between mobile users.

IEEE REFERENCE: IEEE Paper on Distributed Computing Systems Workshops (ICDCSW), 2012

EMS 2021. UNIVERSAL REMOTE CONTROL ON SMARTPHONE

ARCHITECTURE DIAGRAM



DESCRIPTION : This paper proposes a context-aware plug and play universal remote control. User can control appliance easily which is recognized by NFC, download appliance's specific description through Bluetooth. And then generate dynamic graphical user control interface of the appliance. Because of it depends on different context, including the permission level, personal styles (colors, text, etc.), and location. The smart phone, which is getting more and more powerful, always beside us, be online, and personal. As a result,

the extension of smart phone, our system made up with it. We provide simple and intuitive graphic user interface, rather than the many buttons of the universal remote control we have seen before.

IEEE REFERENCE: IEEE Paper on Computer, Consumer and Control (IS3C), 2012

EMS 2023. SPEECH RECOGNITION BASED WIRELESS AUTOMATION OF HOME LOADS WITH FAULT IDENTIFICATION FOR PHYSICALLY CHALLENGED

ARCHITECTURE DIAGRAM

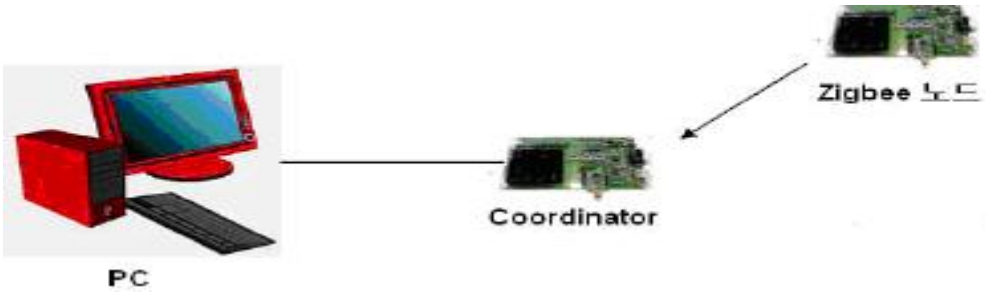
DESCRIPTION : The design of this project helps in providing a fool proof solution for physically challenged to control their home appliances by giving voice commands through personal computer in a wireless environment. When automating a home load not available in the visible range, Fault identification system in this design helps the user to ensure that their home appliances had gone exactly ON or OFF or undergone FAULT by getting the status from load end, unlike the other design that gets the status at user end which may give a false indication, when power supply is not available for the particular load or when load get open circuited (due to wire discontinuity or open fuse condition). During user screen navigation and controlling home appliances voice output of the current screen information and status of the automated appliances enables visually impaired person to use the system to control their home appliances. Navigation of the screen by giving voice commands enables paralyzed person and person who lost their hands in an unfortunate accident to control their home loads along with normal person.

For achieving wireless environment low cost zigbee is used. To provide security based authentication RFID is used. Each home load will be having two commands ON and OFF commands, Automation of20 loads such as mixer, grinder, TV, refrigerator, fan, light, AC etc .•. , has been tested by giving 40 voice commands through personal computer. When user creates his own profile and automates the load speech recognition accuracy of more than 90% is achieved.

IEEE REFERENCE: IEEE Paper on Communications and Signal Processing (ICCSP), 2012

EMS 2025. THE STUDY FOR APPLICATION OF ZIGBEE LOCATION TRACING MONITORING SYSTEM FOR ATM DEVICE THEFT

ARCHITECTURE DIAGRAM



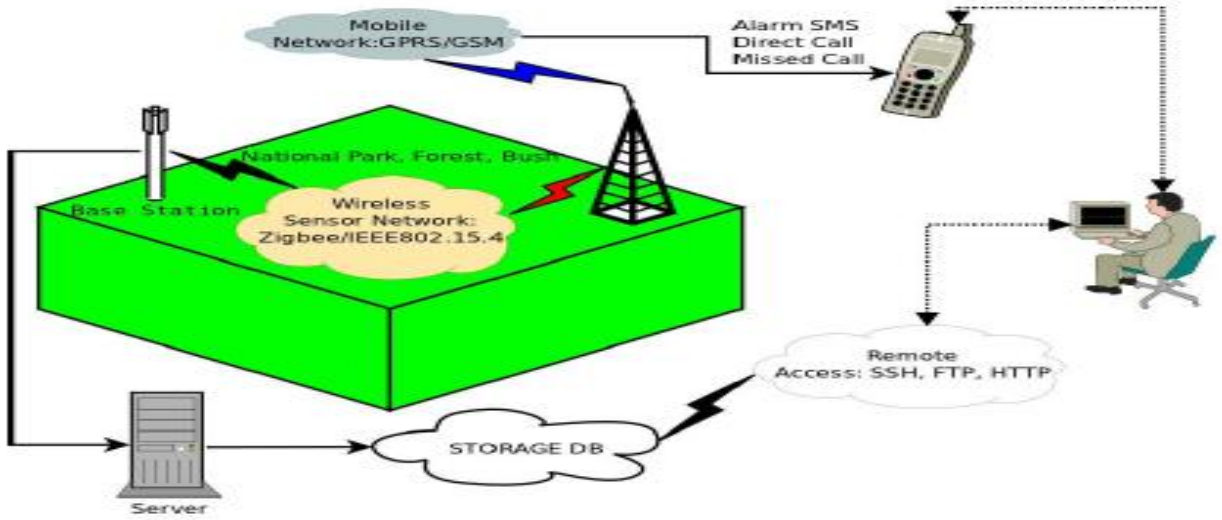
DESCRIPTION : As the society has been computerized and automated, the crime for the ATM device is increased due to the wide distribution of ATM device, even the banking is easy. The theft is shown over 90%, the very high proportion among the Financial accident and crime.

With the locational characteristics of external ATM equipment that is always exposed to the crime, its accident even the theft to steal the ATM itself is not many, but it has been gradually every year. With this social situation, the study is going to suggest the method to react rapidly and minimize the loss of damage by realizing the real time location, applying location tracing monitoring system using Zigbee

IEEE REFERENCE: IEEE Paper on Information Science and Applications (ICISA), 2012

EMS 2026. WIRELESS SENSOR NETWORKS FOR FIRE EMERGENCY AND GAS DETECTION

ARCHITECTURE DIAGRAM

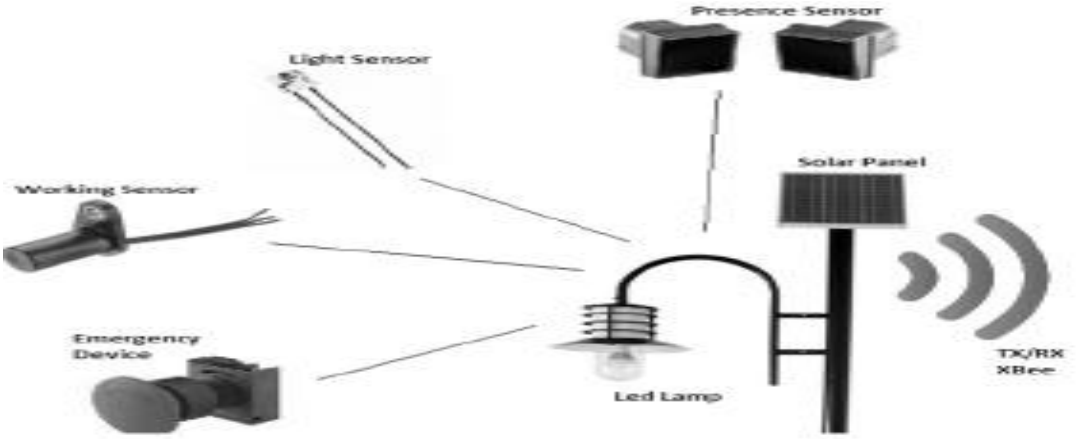


DESCRIPTION : Environmental monitoring applications require adept networking strategies and reliable communications to ensure the integrity of their most fundamental operations including the sensing duties, network-node interactions, and system resiliency to unpredictable events. In this paper, we propose a fire emergency and gas detection system based on WSNs for both indoor and outdoor environments. The challenges which are addressed in this paper include: management of nodes, provision of algorithms, risk modeling and analysis, and Over-The-Air-Programming (OTAP)

IEEE REFERENCE: IEEE Paper on Networking, Sensing and Control (ICNSC), 2012

EMS 2027. INTELLIGENT WIRELESS STREET LIGHTING SYSTEM

ARCHITECTURE DIAGRAM

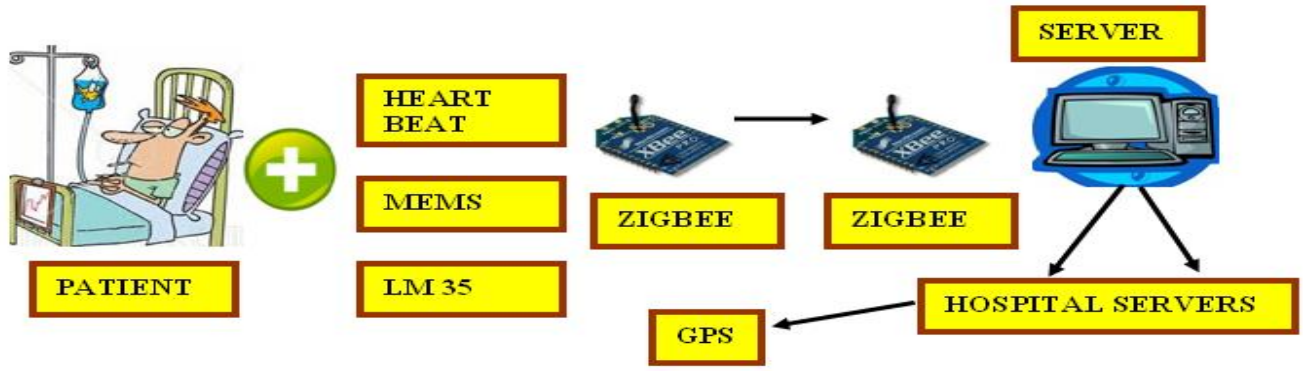


DESCRIPTION : we propose an innovative wireless street lighting system with optimized management and efficiency. Wireless communication uses zigbee-based wireless devices which allow more efficient street lamp system management, thanks to an advanced interface and control architecture. it uses many sensors to control and guarantee the optimal system parameters; the information is transferred point-by-point using zigbee transmitters and receivers and is sent to a control terminal used to check the state of the street lamps and to take appropriate measures in case of failure. the system allows substantial energy savings with increased performance and maintainability.

IEEE REFERENCE: IEEE Paper on Environment and Electrical Engineering (EEEIC), 2012

EMS 2028. A RELIABLE TRANSMISSION PROTOCOL FOR ZIGBEE-BASED WIRELESS PATIENT MONITORING

ARCHITECTURE DIAGRAM

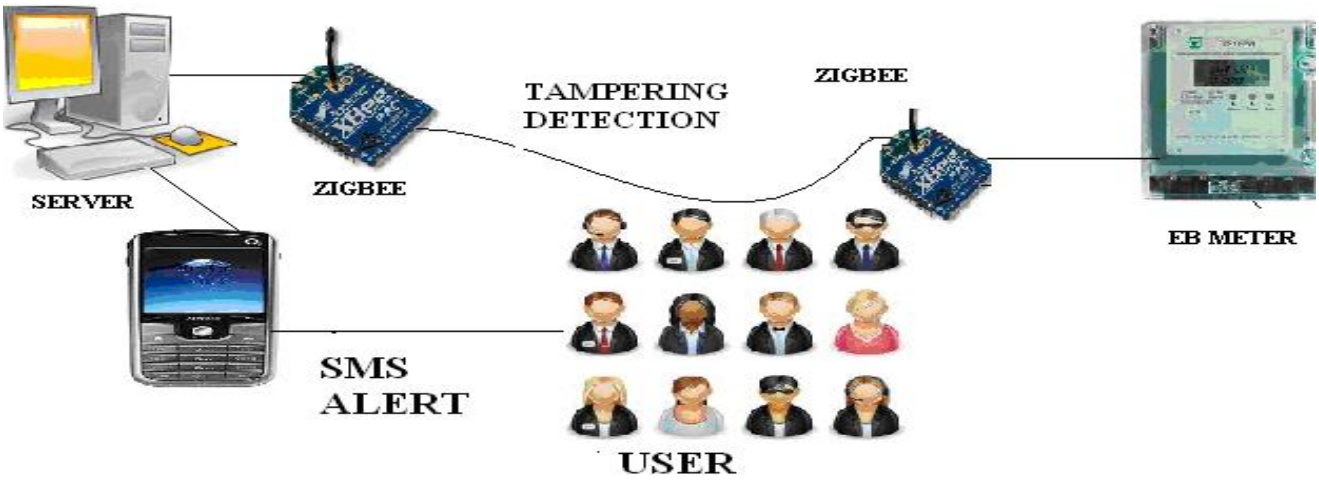


DESCRIPTION : Patient monitoring systems are gaining their importance as the fast-growing global elderly population increases demands for caretaking. These systems use wireless technologies to transmit vital signs for medical evaluation. In a multihop ZigBee network, the existing systems usually use broadcast or multicast schemes to increase the reliability of signals transmission; however, both the schemes lead to significantly higher network traffic and end-to-end transmission delay. In this paper, we present a reliable transmission protocol based on any cast routing for wireless patient monitoring. Our scheme automatically selects the closest data receiver in an any cast group as a destination to reduce the transmission latency as well as the control overhead. The new protocol also shortens the latency of path recovery by initiating route recovery from the intermediate routers of the original path. On the basis of a reliable transmission scheme, we implement a ZigBee device for fall monitoring, which integrates fall detection, indoor positioning, and Biomedical monitoring.

IEEE REFERENCE: IEEE TRANSACTIONS on Information Technology in Biomedicine, 2012

EMS 2029. AUTOMATIC POWER TARIFF CALCULATION (PTC) AND TAMPERING DETECTION WITH UTILITY CONTROL SYSTEM USING ZIGBEE

ARCHITECTURE DIAGRAM

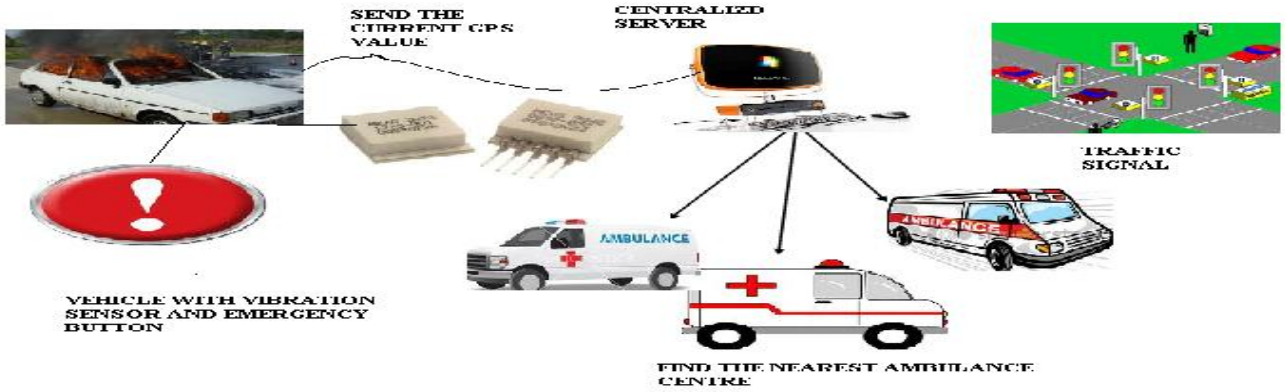


DESCRIPTION : In the **EXISTING SYSTEM**, EB Persons would come to the house manually for calculating the EB Charges. In the **PROPOSED MODEL**, the Automatic process of fetching the EB charges is proposed. EB server is connected with zigbee sends request to Every Home for the Automatic EB Meter Readings (AMR). Every house is connected with the zigbee which in return transmits the value back to the EB server with user ID. The values are updated in the EB Server. The **MODIFICATION** is automatic alert SMS of cost is send to the customers. The Amount is automatically detected from the Bank Account of the Customer. Meter Tampering Detection is also a added associated feature to find any user tries to cut down the Electric Bill along with this we modify by limiting the Usage of EB for every User. So that the consumption of EB can be reduced and which helps to save the Power.

IEEE REFERENCE: IEEE Paper on Latin America, 2012

EMS 2030. AUTOMATIC AMBULANCE RESCUE SYSTEM

ARCHITECTURE DIAGRAM

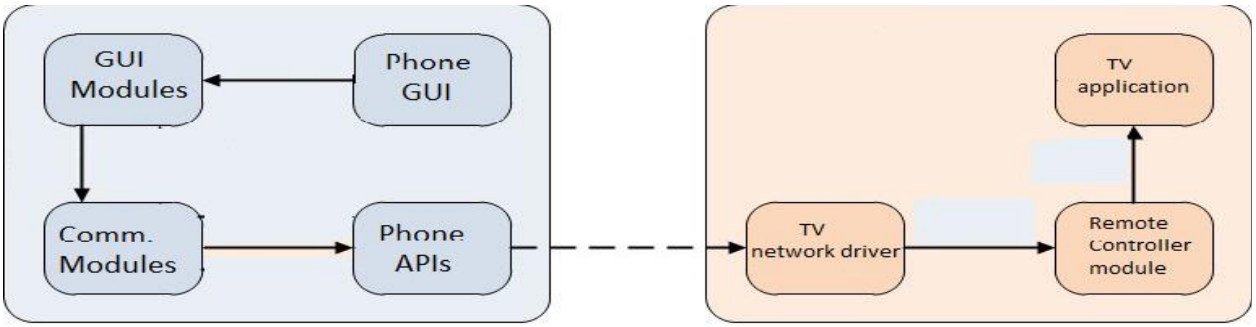


DESCRIPTION : Traffic congestion and tidal flow management were recognized as major problems in modern urban areas, which have caused much thwarting for the ambulance. Moreover road accidents in the city have been incessant and to bar the loss of life due to the accidents is even more crucial. To implement this we introduce a scheme called AARS (Automatic ambulance rescue system). The main theme behind this scheme is to provide a smooth flow for the ambulance to reach the hospitals in time and thus minifying the expiration. The idea behind this scheme is to implement a ITS which would control mechanically the traffic lights in the path of the ambulance. The ambulance is controlled by the central unit which furnishes the most scant route to the ambulance and also controls the traffic light according to the ambulance location and thus reaching the hospital safely. The server also determines the location of the accident spot through the sensor systems in the vehicle which encountered the accident and thus the server walks through the ambulance to the spot. This scheme is fully automated, thus it finds the accident spot, controls the traffic lights, helping to reach the hospital in time.

IEEE REFERENCE: IEEE Paper on Advanced Computing & Communication Technologies (ACCT), 2012

EMS 2032. SMART-PHONE APPLICATION AS TV REMOTE CONTROLLER

ARCHITECTURE DIAGRAM



DESCRIPTION : Paper gives a software solution for Smart-Phone application to be used as a remote controller for digital TV receiver. The novel remote controller is using IP (Internet Protocol) based communication for remote communication with digital TV receiver.

IEEE REFERENCE: IEEE Paper on Consumer Electronics (ICCE), 2012

EMS 2035. WIRELESS BLACK BOX USING MEMS ACCELEROMETER AND GPS TRACKINGFOR ACCIDENTAL MONITORING OF VEHICLES

ARCHITECTURE DIAGRAM

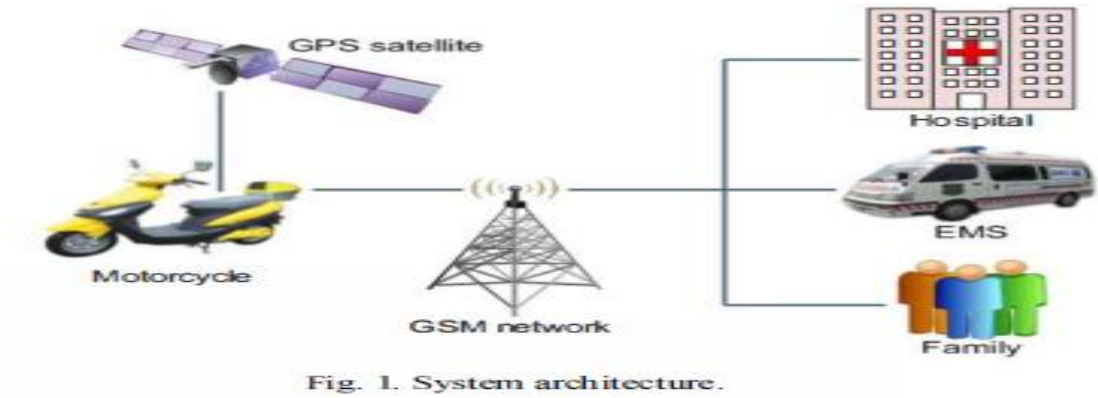


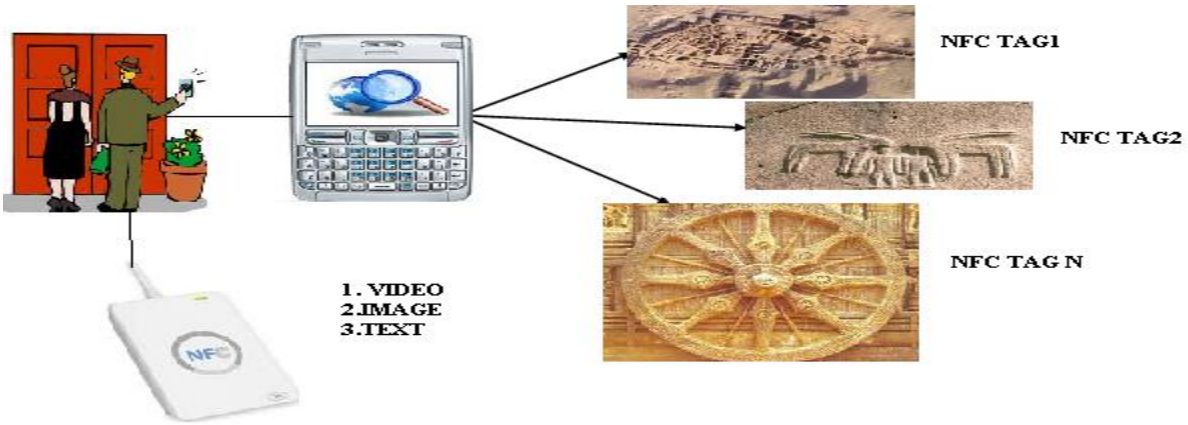
Fig. 1. System architecture.

DESCRIPTION : In this work, wireless black box using MEMS accelerometer and GPS tracking system is developed for accidental monitoring. The system consists of cooperative components of an accelerometer, microcontroller unit, GPS device and GSM module. In the event of accident, this wireless device will send mobile phone short massage indicating the position of vehicle by GPS system to family member, emergency medical service (EMS) and nearest hospital. The threshold algorithm and speed of motorcycle are used to determine fall or accident in real-time. The system is compact and easy to install under rider seat. The system has been tested in real world applications using bicycles. The test results show that it can detect linear fall, non-linear fall and normal ride with high accuracy.

IEEE REFERENCE: IEEE Paper Biomedical and Health Informatics (BHI), 2012

EMS 2036. NFC ON COGNITIVE SYSTEM FOR LOCATION BASED SERVICES USING ANDROID

ARCHITECTURE DIAGRAM

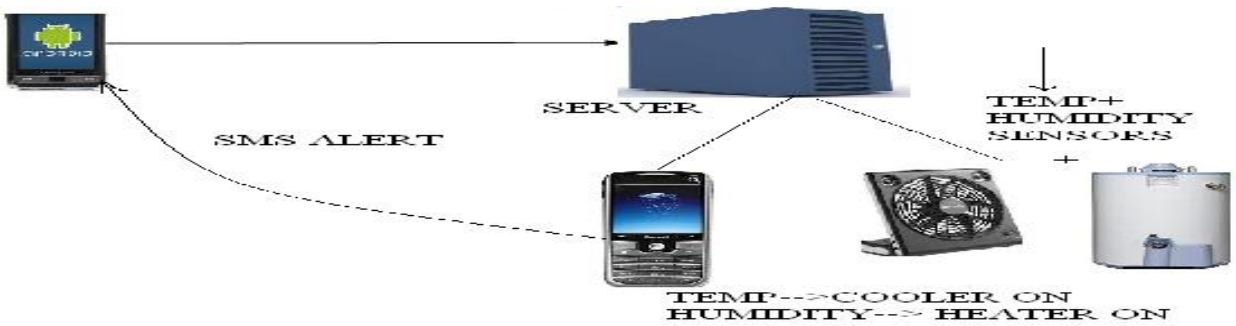


DESCRIPTION : In the **EXISTING SYSTEM**, the traditional museums have lot of olden and golden information's, which are seen by the visitors manually. The Visitor may miss some Good, Informative and Useful things, so the **PROPOSED SYSTEM** Speaks all about Integration of RFID Tag (Radio Frequency Identification) with the Exhibits. User's mobile has RFID Reader which communicates with the Tag to get the Information's from the Exhibits. User will never miss out any Objects. In the **MODIFICATION PROC**ESS, during Registration Process, Server will identify the User's Interest towards Text / Image / Video based Data Retrieval system. Based on it, Server will transmit the Data in that mode to the User.

IEEE REFERENCE: IEEE Paper on Intelligent Systems, Modelling and Simulation (ISMS), 2012

EMS 2037. ENVIRONMENT SENSING USING SMARTPHONE

ARCHITECTURE DIAGRAM

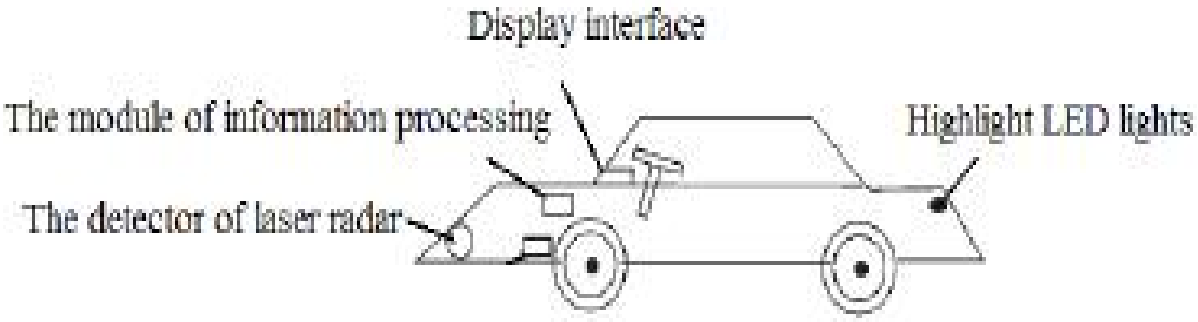


DESCRIPTION : Mobile devices (in particular smart phones and tablets) can be used to monitor quality of life parameters. Today mobile devices use embedded sensors such as

accelerometers, compasses, GPSs, microphones, and cameras without considering, for example, the air quality or the pollutants of the environment. This paper presents the possibility to use the smart phones capabilities to gather data from other phones or sensors. Nowadays, monitoring climate condition's parameters such as temperature and humidity is a prominent factor to control the changes of the environmental condition of living or working places for the human being. This point can be obtained by using distributed devices in different environments that containing high-resolution sensors and a wireless transmission apparatus for transferring data to smart phones. The Bluetooth was chosen as a transmission tool since it is embedded in all smart phones and it can work in the absence of the Wi-Fi connection. Smart phones are the programmable tools to have different kinds of applications that allow communicating with other devices and also gathering, analyzing and verifying data. In this paper, a novel interface by applying a Bluetooth-based sensor to sense Temperature and Humidity for monitoring of the environmental conditions using the android-based smart phone is introduced.

IEEE REFERENCE: IEEE Paper on Southeastcon, 2012
EMS 2042. RESEARCH ON INTELLIGENT ANTI-VEHICLE REAR-ENDS COLLISION SYSTEM

ARCHITECTURE DIAGRAM

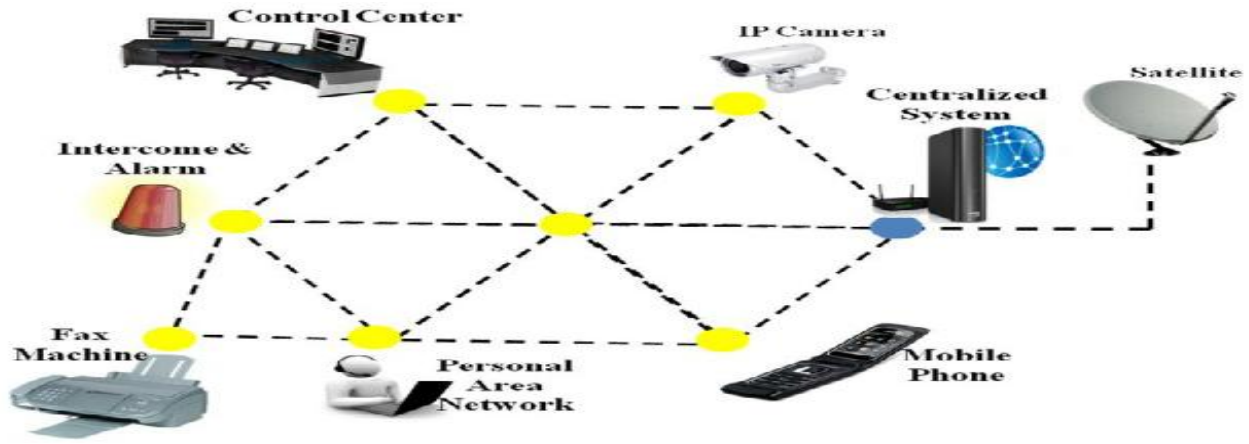


DESCRIPTION : Rear-end collisions account for a significant proportion of traffic accidents in modern times. The specific components of intelligent anti-vehicle rear-end collision system was analyzed in this paper, other aspects as common types and design were also referred.

IEEE REFERENCE: IEEE Paper Intelligent System Design and Engineering Application (ISDEA), 2012

EMS 2044. XBEE WIRELESS SENSOR NETWORKS FOR HEART RATE MONITORING IN SPORT TRAINING

ARCHITECTURE DIAGRAM

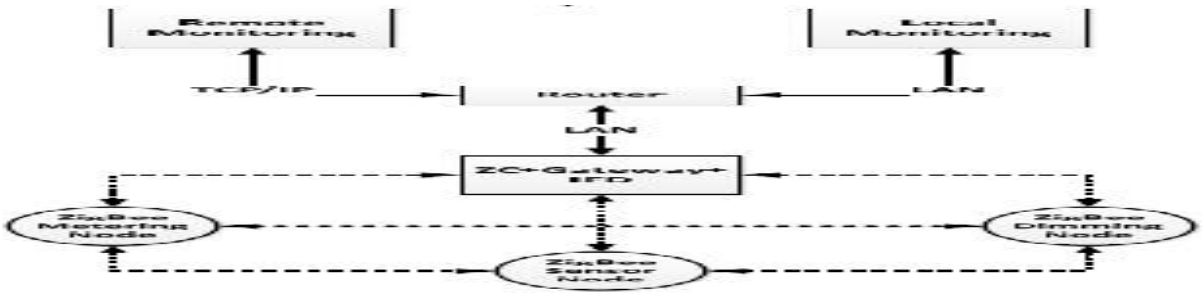


DESCRIPTION : Heart Rate Monitors (HRMs) have become widely used since the last two decades. It used as training aid for various types of sports. And the development of new HRMs has evolved rapidly. Thus, in order to determine the exercise intensity of training session or race, HRMs are mainly used. Compared to the other indication of exercise intensity, Heart rate is easy to monitor, compatible to use in most situation and relatively cheap. Thus, it is most beneficial if wireless sensor network can be implementing into the system. Other than monitored their condition by themselves, this system may allowed a number of athletes being monitored simultaneously.

IEEE REFERENCE: IEEE Paper on Biomedical Engineering (ICoBE), 2012

EMS 2045. REMOTE MANAGEMENT AND CONTROL SYSTEM FOR LED BASED PLANT FACTORY USING ZIGBEE AND INTERNET

ARCHITECTURE DIAGRAM

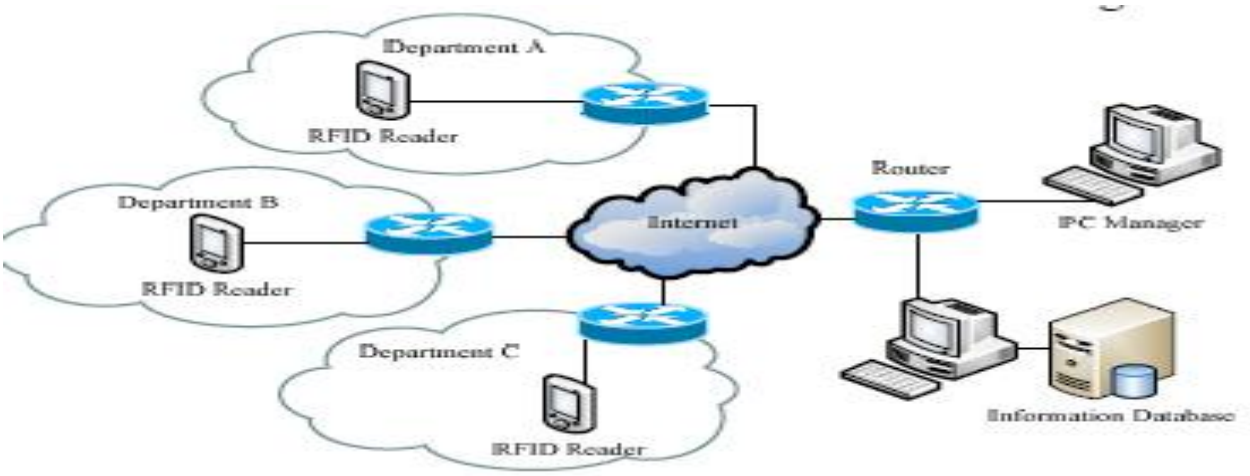


DESCRIPTION : Recently, intelligent systems for agricultural production are being developed for safe and low cost food production. Plant factory provide high yield by growing multiple crops and making efficient use of land and resources. Plant growth is facilitated by maintaining humidity, temperature, CO_2 concentration and light intensity and these factors need to be monitored and maintained for an automated system. In this paper, we have proposed a control system for a LED based plant factory consisting of ZigBee wireless mesh network, and remote monitoring via Internet. Field sensors are installed for monitoring environmental conditions and power metering and ZigBee mesh network has been deployed for data acquisition from these sensors. ZigBee nodes transfer the field data to the coordinator node which also serves as a gateway node providing interoperability between TCP/IP network and ZigBee Wireless Sensor Network (WSN). A major novelty of the system is the use of LED lighting instead of fluorescent lighting due to its low power consumption, long life and useful narrow band. LED lighting system provides an efficient and economical lighting system that facilitates plant growth by varying light intensity and frequency according to light conditions and growing requirements and also helps in reducing production costs and speeding growth.

IEEE REFERENCE: IEEE Paper on Advanced Communication Technology (ICACT), 2012

EMS 2047. DESIGN AND IMPLEMENT OF ATTENDANCE MANAGEMENT SYSTEM BASED ON CONTACT LESS SMART IC CARD

ARCHITECTURE DIAGRAM

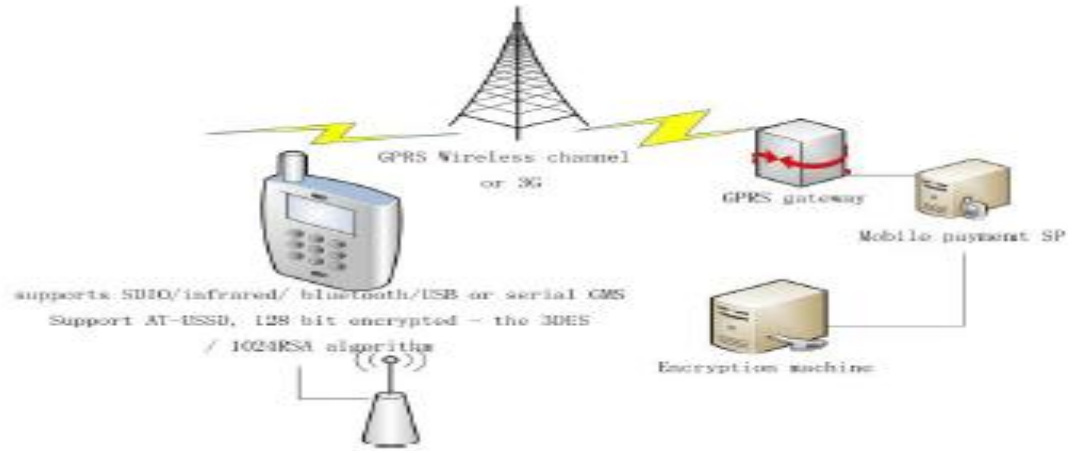


DESCRIPTION : An Attendance Management System (AMS) based on TCP/IP protocol is designed and realized. This paper expounds the principle of the RFID reader device in AMS, its hardware and software design. The reader device takes ARM LM3S9B90 as the core and Philips's MFRC531 as the transceiver chip of RFID reader. In application, the system works stable and has good real-time performance.

IEEE REFERENCE: IEEE Paper on Computer Science and Electronics Engineering (ICCSEE), 2012

EMS 2048. DESIGN AND IMPLEMENTATION OF HIGH SECURITY MOBILE PAYMENT SYSTEM

ARCHITECTURE DIAGRAM

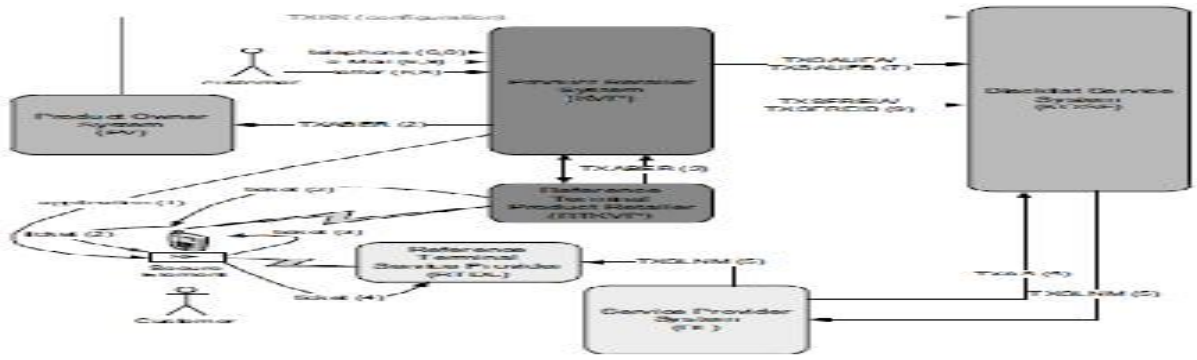


DESCRIPTION : Secure mobile payment is the most important link for a mobile phone to realize full payment. At the present stage, there are many researches about security of mobile information in the country. Those researches are mainly based on Windows Mobile, BREW or software of J2ME, and limited to specific areas. On the aspect of the hardware cryptograph, they focus on the security of computer information. There is no mature product in the mobile area basing on hardware cryptograph. Considering this situation, we refer to and compare varieties of the present payment patterns, using the JMX micro-core service as the bus structure, introducing safe technologies to design starting from the hardware unit to get security module independently. In this way, we realize the security, completeness, confidentiality, authenticity and non-repudiation of the data of mobile payment.

IEEE REFERENCE: IEEE Paper on Communication Systems & Network Technologies, 2012

EMS 2049. SYSTEM INTEGRATION OF NFC TICKETING INTO AN EXISTING PUBLIC TRANSPORT INFRASTRUCTURE

ARCHITECTURE DIAGRAM



DESCRIPTION : A key application of Near Field Communication (NFC) can be found in the field of Electronic Fare Management. It can radically change existing systems of isolated applications in public transport by providing new approaches for a national or international inter operable fare management. In this paper a scenario for the integration of an electronic ticketing system into an existing public transport system based on NFC is introduced. The main focus is its realisation in accordance with the VDV Core Application. Electronic fare management systems consist of sophisticated structures and processes. Therefore, at the current stage of development only a selected subset of features which is essential for prototypical implementation is presented in this paper. First, the technology, electronic ticketing and previous field trials in this application area are introduced. Next, a set of relevant use cases is outlined and

the existing system architecture is presented as basis for the description of the chosen system integration scenario.

IEEE REFERENCE: IEEE Paper on Latin America, 2012
EMS 2051 . LINK TECHNOLOGIES AND ANDROID MOBILE HEALTH (MHEALTH) SOLUTIONS: A REVIEW

ARCHITECTURE DIAGRAM

DESCRIPTION : The number of wearable wireless sensors is expected to grow to 400 million by the year 2014, while the number of operational mobile subscribers has already passed the 5.2 billion mark in 2011. This growth results in an increasing number of mobile applications including: Machine-to-Machine (M2M) communications, Electronic-Health (eHealth), and Mobile-Health (mHealth). A number of emerging mobile applications that require 3G and 4G mobile networks for data transport relate to telemedicine, including establishing, maintaining, and transmitting health-related information, research, education, and training. This review paper takes a closer look at these applications, specifically with regard to the healthcare industry and their underlying link technologies. The authors believe that the Android platform and the

associated infrastructure (i.e., Android Enterprise Server) is a logical and practical solution for eHealth, mHealth, sensor and M2M deployments, which are considered in this paper.

IEEE REFERENCE: IEEE Transactions on Information technology in Bio Medicine

EMS 2053. AUTOMATIC MEASUREMENT AND REPORTING SYSTEM OF WATER QUALITY BASED ON GSM

ARCHITECTURE DIAGRAM

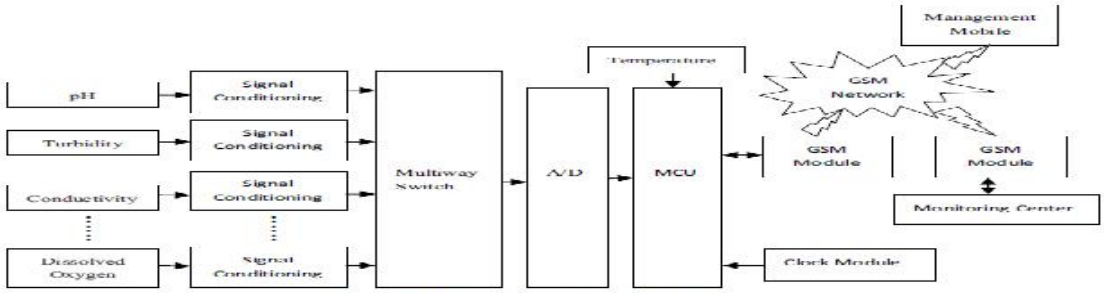


Figure 1. The framework of the system structure

DESCRIPTION : The traditional method of water quality testing is to collect samples manually and then send them to laboratory for analysis. However, it has been unable to meet the demands of water quality monitoring today. So a set of automatic measurement and reporting system of water quality has been developed. The system consists of multiple sensors of water quality testing, single-chip microcontroller data acquisition module, information transmission module, monitoring center and other accessories. Various parameters of water quality are automatically detected under the control of single chip microcontroller all day. The single chip gets the data, and then processes and analyzes them. After that, the data are instantaneously sent to monitoring center by GSM network in the form of SMS. If the water quality is abnormal, the

data will be sent to monitoring center and management's mobile in the same way at the same time. It is convenient for management to take corresponding measures timely and be able to detect real-time situation of water quality remotely. The system has realized the automation of water quality monitoring, intelligence of data analyzing and networking of information transferring.

IEEE REFERENCE: IEEE Paper on Intelligent System Design and Engineering Application (ISDEA), 2012

IEEE PROJECT 2011

EMS 2056. DESIGN AND DEVELOPMENT OF AUTOMATIC BOAT SAFETY SYSTEM WITH TRACKING OF THE LOCATION WITH EMERGENCY ALERT & AUTO STOP

IEEE REFERENCE: IEEE Paper on Wireless Communications, 2011

EMS 2057. PREVENTION OF CREDIT CARD FORGERIES USING RFID & SECURED IMAGE STEGANOGRAPHY TECHNIQUE

IEEE REFERENCE: IEEE Papers on ICACT 2011

EMS 2058. DESIGN OF VOICE BASED MOUSE CONTROL SYSTEM

IEEE REFERENCE: IEEE Paper on EUROCON, 2011

EMS 2059. DESIGN OF THEFT VEHICLE TRACKING & IDENTIFICATION WITH USER SECURITY USING RFID, GPS & GSM WITH DYNAMIC CONTROL

IEEE REFERENCE: IEEE Paper on ICEICE, 2011

EMS 2060. DETECTION OF BODY FALLING WITH WIRELESS CONTROL OF ROBOT / DEVICE / MOUSE USING MEMS ACCELEROMETER

IEEE REFERENCE: IEEE Journal of Sensors, 2011

EMS 2061. AUTONOMOUS CONTROL & MONITORING OF INDUSTRIAL PARAMETERS USING LABVIEW

IEEE REFERENCE: IEEE Paper on Mechanical Automation and Control Engineering (MACE), 2011

EMS 2062. DESIGN OF WIRELESS CONTROL OF ROBOT USING TOUCH PANEL FOR PHYSICALLY CHALLENGED

IEEE REFERENCE: IEEE Transactions on Education, 2011

EMS 2063. IDENTIFICATION CREDIT CARD FORGERY SYSTEM BY LOCATION BASED TRACKING USING ANDROID

IEEE REFERENCE: IEEE Paper on PDP, 2011

EMS 2064. GAS LEAKAGE DETECTION AND ENVIRONMENT SAFETY USING ZIGBEE

IEEE REFERENCE: IEEE Paper on **Measuring Technology and Mechatronics Automation, 2011**

EMS 2065. DYNAMIC AND AUTOMATED VOICE BASED CONTROL OF WHEEL CHAIR FOR PHYSICAL CHALLENGERS

IEEE REFERENCE: **IEEE** Paper on ICACT, 2011

EMS 2066. SECURED ONLINE VOTING SYSTEM WITH STENOGRAPHY IMPLEMENTATION USING RFID & FINGER PRINT TECHONOLOGY

IEEE REFERENCE: IEEE Paper on EPIT, 2011

EMS 2067. RFID BASED VEHICLE TRACKING, ACCIDENT ALERT WITH AUTOMATIC TOLL GATE COLLECTION

IEEE REFERENCE: IEEE Paper on Measuring Technology and Mechatronics Automation, 2011

EMS 2068. VIDEO SURVEILLANCE AND ALERT SYSTEM

IEEE REFERENCE: IEEE Paper on Consumer Electronics, 2011

EMS 2069. AN EFFICIENT TWO-FACTOR USER AUTHENTICATION FRAMEWORK FOR WIRELESS SENSOR NETWORKS

IEEE REFERENCE: **IEEE** Paper on ICACT, 2011

EMS 2070. FUZZY IMPLEMENTATION OF BIOMETRICS WITH FIVE FACTOR AUTHENTICATION SYSTEM FOR SECURED BANKING

IEEE REFERENCE: IEEE Transactions on Parallel and Distributed Systems, 2011

EMS 2071. EFFECTIVE WIRELESS POWER SAVING WITH HUMAN TRACKING OF HOME LIGHTING SYSTEM AND CONTROL USING ZIGBEE

IEEE REFERENCE: IEEE Paper on Consumer Electronics (ICCE), 2011

EMS 2072. MOBILE BASED VIDEO STREAMING AND HOME AUTOMATION SYSTEM

IEEE REFERENCE: IEEE Paper on Pervasive Communities and Service Clouds

EMS 2073. MECHANISM WITH FOUR DEGREES OF FREEDOM, DESIGN AND CONSTRUCT WITH CONTROLLER FOR INCREASING THE POWER OUTPUT OF SOLAR CELL

IEEE REFERENCE: IEEE Paper on Measuring Technology and Mechatronics Automation, 2011

EMS 2074. RFID AND BIOMETRIC IMPLEMENTATION OF STUDENTS TRACKING SYSTEM WITH AUTOMATIC SMS ALERT TO PARENT'S BIOMETRIC ATTENDANCE SYSTEM

IEEE REFERENCE: **IEEE** Paper on Complex Medical Engineering, 2011

EMS 2075. VOICE BASED NAVIGATION CONTROL OF WIRELESS REMOTE USING RF TECHNOLOGY

IEEE REFERENCE: IEEE Transactions on **Education, 2011**

YOUR OWN IDEAS ALSO