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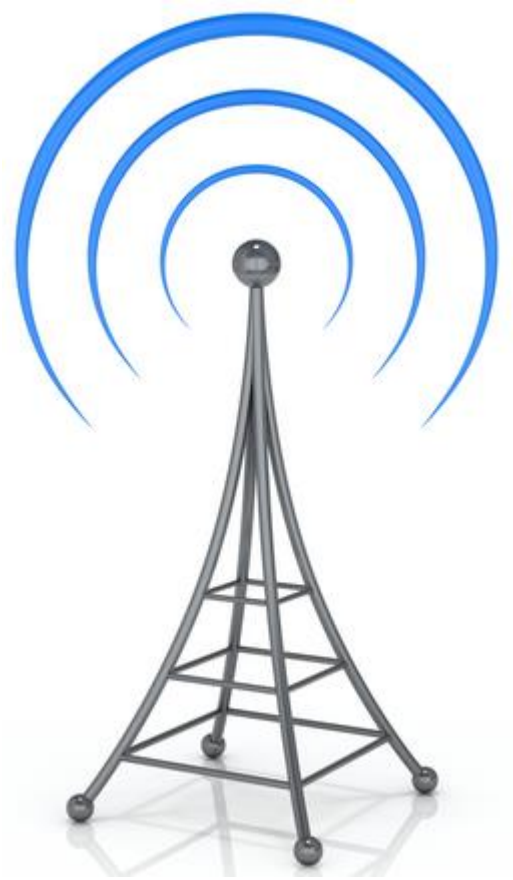
2018

WIRELESS COMMUNICATION PROJECT LIST 2018 - 2019



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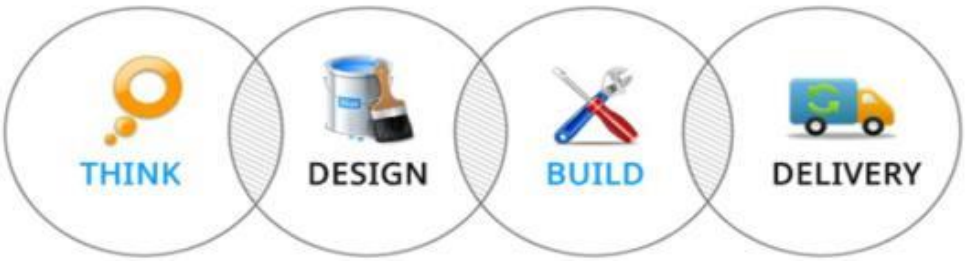
6/20/2018

TECHNOFIST a leading student's project solution providing company established in Bangalore since 2007. With perfect infrastructure, lab set up, Work shop, Expertise faculties make us competitive service providers.

Here is the list of project titles 2018 and 2019.



DOORS OF TECHNOLOGY:

- EMBEDDED SYSTEMS
- MICROCONTROLLERS / ARM /PIC / AVR
- WIRELESS TECHNOLOGIES
- ROBOTICS
- ARDUINO
- GSM & GPS/ ZIGBEE
- MATLAB / VLSI
- IEEE PROJECTS ON JAVA / DOT NET
- INTERNET OF THINGS
- ANDROID BASED PROJECTS
- PHP
- AND COMPLETE MECHANICAL FABRICATIONS
- MECHANICAL DESIGN AND ANALYSIS

Projects are available for all branches of **ENGINEERING, DIPLOMA, MCA/BCA, and MSc/BSc.**

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Here we provided a ***Wireless communication based 2018 project lis***t with abstracts. we do train a student from basic level of communication which includes basic Classes, projects implementation, final project demo and final code explanations. If you have questions regarding these projects feel free to contact us. You may also ask for abstract of a project idea that you have or want to work on. The ***own projects idea*** for diploma and Engineering students can also encouraged here.

Wireless communications is, by any measure, the fastest growing segment of the communications industry. As such, it has captured the attention of the media and the imagination of the public. Cellular systems have experienced exponential growth over the last decade and there are currently around two billion users worldwide. Indeed, cellular phones have become a critical business tool and part of everyday life in most developed countries, and are rapidly supplanting antiquated wireline systems in many developing countries.

IEEE WIRELESS COMMUNICATION PROJECT LIST 2018 AND 2019

	2018 – 19 IEEE TRANSCATIONS ON WIRELESS COMMUNICATION BASED PROJECT TITLES
TIW001	**TITLE**- GREEN HOUSE MONITORING AND CONTROL USING SMART PHONES **ABSTRACT -** In agricultural country like India, greenhouses form an important aspect of agricultural and horticulture sectors. In greenhouses, plants are grown under favorable climatic conditions for its production and growth. Thus monitoring and control of greenhouse environment is necessary for production and management of greenhouses. This project is designed to monitor and control the indoor humidity and weather conditions affecting the plants using embedded system and Android mobile phone. The android phone is connected to a central server which then connects to microcontroller and humidity sensor via serial communication. Thus the sensor records and manages the required weather conditions proved to be appropriate for plant growth
TIW002	**TITLE- ANTI-THEFT PROTECTION OF VEHICLE BY GSM AND GPS WITH FINGERPRINT VERIFICATION** **ABSTRACT-** Recently vehicle tracking system is getting vast popularity because of the rising number of the stolen vehicles. Vehicle theft is happening on parking and sometimes

	driving in unsecured places. This research work explores how to avoid this kind of stealing and provides more security to the vehicles. The implemented system contains single-board embedded system which is equipped with global system for mobile (GSM) and global positioning system (GPS) along with a microcontroller installed in the vehicle. The use of GSM and GPS technologies allows the system to track the object and provides the most up-to date information about on-going trips. Moreover, fingerprint verification is done in the implemented system to ensure the driving of correct person. The implemented system is very simple with greater security for vehicle anti-theft protection and low cost technique compared to others.
TIW003	**TITLE – GESTURE RECOGNITION SYSTEM USING MEMS ACCELEROMETERS AND ZIGBEE TECHNOLOGY** **ABSTRACT -** The primary objective of the paper is to construct and test a low-cost, minimally supervised gesture recognition system which identifies static gestures efficiently and accurately. The proposed system uses ADXL335 accelerometer sensors which track the gestures and these sensors are interfaced with an Arduino micro-controller board for data processing and gesture recognition. The software of the system implemented in the micro-controller, features a computationally feasible algorithm which requires only nominal resources to recognize the gestures. The paper further elucidates on minimizing the number of accelerometers to reduce the cost and power-consumption of the system. The performance of the system is assessed using static gestures in the alphabets of the American Sign Language (ASL) across data-sets obtained from 3 trained ASL signers. The average run-time efficiency of the proposed system with a maximum and minimum configuration of 5 and 2 accelerometers was found to be 95.3% and 87.0%, with the cost of these prototype systems being realized respectively. It was also found that the system can be trained for the static gestures of the alphabets in ASL under two minutes by a new-user with any system configuration.
TIW004	**TITLE –DEVELOPMENT OF DATA ACQUISITION ROBOT FOR TOXIC ENVIRONMENTAL MONITORING USING WSN – KROTOFINDER** **ABSTRACT-** This project is mainly implemented for industrial applications. Mainly for detecting the damages inside the oil pipe that cannot be detected by human beings. Kroto is the Greek word meaning to crack. Inside the pipe, there is very heavy temperature, pressure and toxic gases. So we are implementing a robot that have a camera, temperature sensor, pressure sensor etc which is used to detect the crack and conditions inside the pipe. This data from all the high precision sensors will be transmitted using blue-tooth to android phone from the robot to the control station. The robot incorporates a wireless camera and the data from the cam is transmitted to the fronted Visual studio

TIW005	**TITLE –DEVELOPMENT OF WIFI BASED HOME AUTOMATION** **ABSTRACT -** device-oriented control system is based on the devices to be controlled and the location they use devices, providing a control service system with dynamic operation interface: when detecting the approaching users, the system would automatically notify users the available devices and provide users with the control options for the devices. The system function would come along with the device to be controlled, and the user interface would change with user's location and devices in the location, reducing the complexity of operation and enabling users to focus on the present objects to be operated. This system can be combined with I/O or smart devices, providing users with location-based device-oriented control service, making the update and maintenance of IoT application control system easier
TIW006	**TITLE – WSN BASED DATA ACQUISITION SYSTEM FOR MULTIPLE FAULTS MONITORING AND CONTROLLING SYSTEM** **ABSTRACT -** In this paper, a scheme for fault detection and identification process in industrial environment is developed. Fault detection techniques based on mean square value of the difference between incoming and outgoing sensors of each section. These differences are compared against threshold setting values. Fault identification is based on the analysis of sensor values and monitoring using pc. We are proposing a Zigbee wireless communication device to acquire sensor values and control the outputs.
TIW007	**TITLE – DESIGN AND IMPLEMENTATION OF AN ADVANCED SECURITY SYSTEM-INVISIBLE EYE (POWER SAVING SYSTEM)** **ABSTRACT -** The main agenda of this work is to design and implement an advanced security with affordable and less complex system. In this modern era, property crimes are more predominant. This necessitates our need to develop an advanced security system which is the INVISIBLE EYE. It is basically a single camera based security system that can be used to protect valuables kept in a room of a house or property.
TIW008	**TITLE – IMPLEMENTATION OF SAFETY SYSTEM DEVICE FOR WOMENS** **ABSTRACT -** India which sees itself as a promising super power and an economic hub, is still trapped in the clutches of various patriarchal evils like molestations, dowry, crime against women, worst among all is Rape. The atrocities against the women can be now brought to an end with the help of an embedded system based device. The systems are getting smarter day by day with the introduction of the speech signal to control the machine. In this paper, the sensor like vibration sensor is used to provide input along with

	that panic switch is also used which are given to the microcontroller. Zigbee and GSM is the Wireless transmission media used in this project. The information can be send to the concerned person through GSM.
TIW009	**TITLE- DEVELOPMENT OF HAPTIC ROBOTIC ARM** **ABSTRACT –** The integration of medical science and engineering has made the task like complicated surgery by robotic arm simpler. To capture the motion of human limbs, sensors can be used. These units can be worn for video game character modeling, virtual reality, and activity recognition. The arm moment is reciprocated almost exactly by the robotic arm. Data capture is achieved with the special motion capture sensor called "Shape Tape" that is worn by the human operator. Any human arm or even leg, neck or spine moment can be mapped on to any of the robotic arm manipulator. Flex sensor robotic arm deals with controlling a bionic/robotic arm with the help of motion sensing technology by Flex Sensors. The system is basically a master-slave system wherein the master motion sensing glove sits on hosts arm sensing motions of the finger and then using this data to control the servos which control the finger movement of the slave bionic/robotic arm. And a 3-axis sensor or tilt sensor is used for the movement of the arm to move upwards and down.
TIW010	**TITLE – IMPLEMENTATION OF ATM SECURITY SYSTEM USING GSM AND MEMS** **ABSTRACT –** In this paper is designed for providing security using MEMS Accelerometer. The output of MEMS device is given to ADC circuit to convert the analog values to digital which is inbuilt for Arduino microcontroller. Whenever the accelerometer is disturbed it gives signal to controller. MEMS are miniaturized structures, sensors, actuators, and microelectronics. Micro sensors and micro actuators are appropriately categorized as "transducers", which are defined as devices that convert energy from one form to another. In the case of micro sensors, the device typically converts a measured mechanical signal into an electrical signal.
TIW011	**TITLE – IMPLEMENTATION OF AUTOMATIC RAILWAY GATE CONTROLLER** **ABSTRACT –** Automatic Railway Gate Control System very useful project which help is automatically opening and closing the railway gate upon detecting arrival or departure of the train. In general, Railway gates are opened or closed manually by a gate keeper. The information about arrival of train for opening or closing of door is received from nearby station. But some railway crossings are totally unmanned and many railway accidents occur at these unmanned level crossings. To avoid the human intervention at level

	crossings completely, we need to automate the process of railway gate control. We have two different Automatic Railway Gate Control circuits mentioned in this article: using 8051.
TIW012	**TITLE – GPS BASED SOLDIER TRACKING AND HEALTH INDICATION SYSTEM** **ABSTRACT -** In today's world, enemy warfare is an important factor in any nation's security. One of the important and vital roles is played by the army soldiers. There are many concerns regarding the safety of soldiers. So for their security purpose, many instruments are mounted on them to view their health status as well as ammunitions present with them .Bio-sensor systems comprise various types of small physiological sensors, transmission modules and processing capabilities, and can thus facilitate low-cost wearable unobtrusive solutions for health monitoring. GPS used to log the longitude and latitude so that direction can be known easily. These devices are being added to weapons and firearms, and some militaries such as the Israeli Army which are exploring the possibility of embedding GPS devices into soldiers vests and uniforms so that field commanders can track their soldier's movements in real time. RF module can be used for High-speed, short-range, soldier-to-soldier wireless communications that will be required to relay information on situational awareness, tactical instructions, and covert surveillance related data during special operations reconnaissance and other missions .So by using these equipments we are trying to implement the basic life- guarding system for soldier in low cost and high reliability.
TIW013	**TITLE- LIVE HUMAN DETECTING ROBOT FOR EARTHQUAKE RESCUE OPERATION** **ABSTRACT-** Natural calamities do occur and they are unstoppable. But humans are becoming increasingly aware in the concept of intelligent rescue operations in such calamities so that precious life and material can be saved though calamities cannot be stopped. Still there are lots of disasters that occur all of a sudden and Earthquake is one such thing. Earthquakes produce a devastating effect and they see no difference between human and material. Hence a lot of times humans are buried among the debris and it become impossible to detect them. A timely rescue can only save the people who are buried and wounded. Detection by rescue workers becomes time consuming and due to the vast area that gets affected it becomes more difficult. So the project proposes an autonomous robotic vehicle that moves in the earthquake prone area and helps in identifying the alive people and rescue operations.
TIW014	**TITLE – RFID BASED TRAIN IDENTIFICATION, DETECTION AND UNMANNED RAILWAY CROSSING SYSTEM**

	ABSTRACT - There has been an increase in the road trafficas well as the rail traffic, accidents at level crossing has increased and this has caused the concern for the Indian railways. The objective of this project is to provide automatic railway gate at a level crossing replacing the gates operated by the gatekeepers. In this project we are proposing a simple solution for the level crossing in which we fix the Radio Frequency tag (RF tag) on the train. The system reduces the time for which the gate remains closed. This type of gates can be employed in an unmanned level crossing where the chances of accidents are higher and reliable operation is required. The collision of trains running on same track is also prevented by employing IR Transmitter-Receiver system at each sections of the Station and passes the information to a master control room.
TIW015	**TITLE – IMPLEMENTATION OF HOME SECURITY USING GSM** **ABSTRACT –** Nowadays technology keeps on upgrading. Home security is essential for occupant's convenience and protection. Security systems are being preferred over manual system. With the rapid increase in the number of users of internet over the past decade has made internet a part and parcel of life. This security system differs from other system by allowing the user to open the door through password sent from the mobile. With the help of Arduino microcontroller as an embedded device, security system design was constructed with the help of the other embedded devices.
TIW016	**TITLE – RFID BASED ATTENDANCE SYSTEM WITH SMS NOTIFICATION** **ABSTRACT-** Now a days due to easy availability of all the information on the internet, students are less motivated to attend the classes, due to which most of the students are unable to maintain minimum attendance. This work is to simplify attendance recording system by using Radio Frequency Identification (RFID) technology. RFID based Attendance recorder with SMS alert System is a web based application that will be developed to overcome the above stated problem. The system will be developed by using GSM (Global System for Mobile communication) technology and database support. The information from RFID Database handling System will be used for taking attendance and for sending SMS alert also. This System interacts with parents by sending message. Therefore, the system functionality is not only records the student attendance, but also sends alert SMS to their parents when the student is absent.
TIW017	**TITLE – BUS SAFETY SYSTEM FOR SCHOOL CHILDREN USING RFID AND GSM** **ABSTRACT -** Millions of children need to commute between homes to school every day. Safer transportation of school children has been a critical issue as it is often observed that, kids find themselves locked in the school bus at the bus stop after going to school,

	they miss the bus, or ride the wrong bus with no way to track them. This project intends to find yet another solution to solve this problem by developing a bus safety system that will control the entry and exit of students from the buses through an energy efficient methodology. The proposed system will control the entry and exit of students to and from the bus using RFID (Radio Frequency Identification) and GSM technologies to ensure the entering and exiting of all students to and from the school bus in a safer manner. The process does not require any additional action by the student and drivers. The system will do all the process and allow the student to be tracked while entering and leaving the bus. If the bus journey is successful from the source to destination, it will send an SMS to the management/parents to inform its departure and arrival.

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