BMS
INSTITUTE OF TECHNOLOGY AND MANAGEMENT

Avalahalli, Doddaballapur Main Road, Bengaluru – 560064

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

Student Project Review and Assessment Committee

The following are the list of projects shortlisted as best projects for the past 4 AYs.

AY: 2019 - 2020

Sl. No.	Student Name	Project Title	Project Description	Guide Name
1	MOHAMMAD ADIL A NIKITA CHAUHAN RUPANSHA KHARE SAYALEE SANJAY	HYBRID AUTOMATIC ELECTRIC VEHICLE CHARGING STATION	Electrical vehicles (EV) are actually need of the hour in this drastically degrading environment. The government of India plans to have only e-vehicles in India by 2030. One of the important aspects of this transformation is having an approving charging infrastructure. The present power system could face huge instabilities with wide spread of EVs. This project Electrical Vehicle charging station that uses hybrid power system. The solar energy is converted to electrical and used to charge the lead acid battery, which in turn charges the battery of the EVs connected to this station. When the energy from solar panels is not sufficient to	H D KATTIMANI

			meet the demands electricity from power grid is utilized. Electric Vehicle battery charger is a business of high future potential. Currently its worth is of billions of dollars, and supports millions of vehicles worldwide and is expected to grow exponentially in coming years. The need to provide a public charging service is essential. In order to make this more user friendly a set of facilities are attached along with this station like user authentication, LCD display, audio interaction, WIFI connectivity, cloud storage and thing speak platform. They could be installed at : Hotels, clubs, Retail stores, railway stations, Shopping malls, Universities, Colleges , Airports etc.	
2	GOKUL MANIKANTA SHIVA KUMAR K R VINOD P GIRIJA S	SMART WATER MANAGEMENT SYSTEM	Water is one of the most important resources on entire globe. No one including human beings, animals, plants and insects can live without water. Water is a scarce resource and it may deplete over coming years due to overuse. The bad quality, overflowing from tanks , leakage in pipes and inefficient usage of water are the main cause which leads to the wastage of water. So it is necessary to have control on water wastage and usage as well by introducing or building a system which will overcome the	DR N RAMARAO

			water wastage related issue using Internet of Things(IOT)	
3	GOVARDHAN K BALASAI NIKHIL KAUSHIK GOWDA H KUSHAGRA DHAWAN	REAL TIME UAV FLORA MONITORING SYSTEM	A new system to monitor the forest floor is proposed which entails the use of a UAV (Unmanned Aerial Vehicle) equipped with a dedicated set of systems and subsystems that is used to obtain data from the forest in the form of images and other electrical signals that is later processed to infer important metrics about the same. The information obtained at the end has to be stored and constantly updated over time in the form of a database. The act of conserving nature is a fundamental duty bestowed upon whoever takes aid from it and as humans we should do everything in our power to make sure the millions of years of evolution it took for these beautiful forests to spawn not to get destroyed in vain. Integrating an autonomous survey system into a forest flora ecosystem can harbour a lot of good by preserving and improving the natural state of the forest. One of the biggest areas of change can quickly be observed in the species extinction threat analysis which can be corrected by taking the required measures by the respective authorities. We can also prevent undesirable effects of nature such as forest fires, species invasion, climate change etc. By analysing the data from our proposed solution.	MANJUNATH BABU P

4	SARTHAK GUPTA SRIJAN MISHRA VINOD ABHISHEK KUMAR	SMART CITY BASED ON IoT	Increasing population density in urban centers demands suitable provision of services and infrastructure to meet the needs of city inhabitants, surrounding residents, workers and visitors. The utilization of information and communications technologies (ICT) to achieve this objective presents an opportunity for the development of smart cities, where city management and citizens are given access to a wealth of real time information about the urban environment upon which to base decisions, actions and future planning. This project presents a framework for the realization of smart cities through the Internet of Things (IoT). The framework encompasses the complete urban information system, from the sensory level and networking support structure through to data management and Cloud based integration of respective systems and services, and forms a transformational part of the existing cyber-physical system. This IoT vision for a smart city is applied to a noise mapping case study to illustrate a new Method for existing operations that can be adapted for the enhancement and delivery of important city services.	SHILPA G

AY: 2018 – 2019

Sl. No.	Student Name	Project Title	Project Description	Guide Name
1	ARAVIND B BINDU B S MANASA G R SHALINI K N	Solar Power generation, utilization and monitoring using Internet of Things	This project is to design a solar power utility system to generate power. Customers with a small solar power generating systems, can generate the electricity counter balancing their usage over an entire billing period .After fulfilling requirements of utility at loads in house, the balance amount of electricity is supplied back to grid and is the best way to save money on electricity. The IOT enhancement in this project, helps us to monitor remotely the various reading of the system at various different points ,enabling us to find faults without human intervention. No meter reading problem when door is in locked as power is supplied to grid automatically by automated change over switch.	MANJULA B K
2	LEELANKITHA N RAHUL KUMAR SHEETAL S R SREEHARI SADASIVAN	Fire Accident Detection and Prevention Using GSM and GPS Based Alert	The fire incidences in trains are among the most serious disasters to human lives and the property of Indian Railway. The notices showing "Do not smoke", "Do not carry inflammable material" are the only precautionary warnings about the fire in each compartment. However, because of failure in routine maintenance system or by the activities of illegal social elements, the fire accidents in train occur frequently. Thus, the prevention of train fire has become a serious concern for Railways. Fire on a running train is more catastrophic than a static one, because the wind effect may spread the fire very quickly to other coaches. Currently, Our	SHILPA G.

			Indian Railways doesn't use any sophisticated fire prevention methods. It is realized to have an automatic system to monitor the fire in the coach giving alarm to the people, sending signal to the engine driver to stop the train and the fire is extinguished with the help of automatic sprinkler system. To have these all above in a single package a GSM AND GPS based alert system is proposed. This system is used for monitoring, automatic fire sprinkling, cautioning and preventing fire in running trains.	
3	ABDUL AZEEZ. HENRY RUBEN SKANDA PRASAD	Filtering circuit used in brain computer interface	A Brain Computer Interface is a communication system between a functional human mind and a computer. With advances in Electronics, Mathematics, Artificial Intelligence and Biology a fast-growing emergent field of research is developing which enables human beings to communicate directly with computers. Brain Computer Interface uses brain activity to command, control, actuate and communicate with our machines directly. Electroencephalogram (EEG) is an electrical activity generated by the brain and recorded from the scalp surface through electrodes. EEG is the primary choice to characterize the brain activity because it can be recorded non-invasively with portable equipment in real time. A typical BCI consist of a data acquisition system, pre-processing of acquired signals, feature extraction , classification of	SUMA UMESH

			features, post-processing of classifier output and at last control interface and device controller. The post-processed output signals are translated into commands to control devices with applications such as (1) New ways for gamers to play games using their heads, (2) Social interactions; enabling social applications to capture feelings and emotions, (3) Helping— partially or fully-disabled people to interact with different computational devices, and (4) Helping understanding more about brain activities and human neural networks.	
4	HAMIDULLA SAHAK MD YUSUF MOSAVI ABDUL SATAR ZAHIDULLAH QADERI	Home Automation Using IoT and Prosumer–Based Energy Sharing and Management(Pesm)	Internet of Things (IoT) conceptualizes the idea of remotely connecting and monitoring real world objects (things) through the Internet. When it comes to our house, this concept can be aptly incorporated to make it smarter, safer and automated. This IoT project focuses on building a smart wireless home security system which sends alerts to the owner by using Internet in case of any trespass and raises an alarm optionally. Besides, the same can also be utilized for home automation by making use of the same set of sensors. The project also integrates the concept of utilization and management of energy taken from grid level to the level of our domestic consumption in our homes. It is not far from a reality that if a proper utilization of current level of technology happens, we can achieve a very accurate range of useful data and control over all	VIKRAM CHEKURI

			loads. The leverage obtained by preferring this system over the similar kinds of existing systems is that the system can give analysis of energy produced and consumed.	

AY: 2017 – 2018

Batch No	Student Name	Project Title	Project Description	Guide Name
1	RAJASHEKAR M SUBRAMANYA S CHANDANA SOMAIAH BHAGYA LAKSHMI R	Unmanned Underground cable fault detector robot	With the rapid urbanization and scarcity of land due to Right of way, power utility companies prefer underground cables as an alternative to the overhead lines. The majority of the faults in underground cable systems are permanent in nature and can be of any fault type. In case of permanent faults in cables, the exact identification of the fault location is very important for power distribution networks for better reliability, power quality, quicker restoration process, less outage time, reduced repairing cost etc. Electrical utilities use many conventional methods and Thumper method is widely used which gives the approximate fault location. In this process the cable gets deteriorated due to application of repeated high voltage pulses. In the present work attempt has been made to develop a low cost underground fault detection Robot which can work in all climatic conditions. Using a live wire sensor, the prototype model detects the fault location based on magnetic field intensity. The fault location is displayed on the LCD screen and an SMS alert is sent to the control room.	Dr MADHU PALATI

2	RAHUL ANAND S BHAVANI PRIYA SAJJAN SINGH RAJ PUROHIT VARUN SHRIKAR	Reduction of solar panel temperature to improve the panel efficiency	Renewable resources are foreseen to be one of the major sources of energy for future needs. Among the various methods developed, photovoltaic panels have evolved to be very effective converters of solar energy. To enhance the working condition, cleaning and cooling of the panel is employed. The main objective of this project is to develop a system which cleans and cools with the application of water. In PV system evaluation, usually a system conventionally installed has low efficiency due to the effect of high temperature and dust accumulation. Especially around midday, that has high solar irradiance and temperature which makes a solar panel less effective to generate output power. So, we design an automated system to improve the working condition.	MANJUNATH BABU
EEE-B13	VIVEK KUMAR MISHRA PRATIK ANAND MANISH KUSHWAHA SUPRIYA J	Design and development of Health aid system	This comparative study has been performed to check the most efficient and smooth working of an AC induction motor by reducing the total harmonic distortion by using different methods in variable frequency drive. Hence the results are obtained using the simulation of various methods and observed the best technique for direct torque control (DTC) of the machine.	BABU NAIK G

3	J S GAUTAM RASHMI KARANTH RATAN S SHET M G MADHU	Indigenously built Quadcopter linked to a mini weather station for assisting local population	This project discusses the design and implementation of a mini-weather station that records real-time weather data around an area using Arduino Pro Mini and NodeMCU boards coupled with sensors. The main aim of this project is to highlight mainly the use of wireless communication to detect environmental changes in a local region. The biggest threat we face in the coming years is the danger posed by climate change. Temperatures are rising, and the rainfall pattern has changed over the past decade. The levels of toxic gases in the atmosphere have also increased substantially. With this climate change, several new diseases are erupting across the globe. Improper practices by humans have caused devastating impacts on the environment. Many natural disasters are occurring because of these bad practices. Many of us are not aware of the effects of our actions on the Earth, whom we call Mother. In such a situation, we engineers must come up with effective solutions to these existing problems. The first step towards making such a change is Educating as many people as possible about these problems. Before we can rectify our mistakes, it is essential to understand the causes.	H. D. KATTIMANI

AY: 2016 - 2017

Sl. No.	Student Name	Project Title	Project Description	Guide Name
1	SHASHANK CHAUHAN ROY VERGHESE R. G. NAVEEN UPADESH SHARMA	ANIMATRONIC ARM USING ARDUINO AND XBEE WIRELESS INTERFACING	This project discusses the design and implementation of a wireless animatronic hand using XBee-S2, Arduino-MEGA boards and MPU6050 Gyroscope. The main aim of this paper is to highlight mainly the use of wireless communication and it's applications by using wireless animatronic hand. The project was implemented using control glove micro servo motors, XBee-S2 and Arduino-MEGA boards having on-board Atmega-328 and MPU6050 Gyroscope.	H. D. KATTIMANI
2	MEGHANA N. R. GOWDA NAGASHREE B. SAHANA MUNEGOWDA VIJAYALAKSHMI S.	VEHICULAR OVERLOAD DETECTION AND PROTECTION	The growth of every country's economy is measured by the growth of its transport infrastructure.With the gradual development of economy, the scale of transportation industry continues to expand. The problem of overload in the vehicle transport has emerged. Therefore, how simple and conveniently to know the vehicle load and how to effectively limit overload has become a key issue. Vehicle load control system integration device can detect conveniently vehicle load to prevent overloading of vehicle and improve vehicle safety and it can	H. D. KATTIMANI

			effectively reduce heavy work of the vehicle load testing station and improve work efficiency in transport sector.	
3	VARSHA D. PRIYADARSHINI P. AISHWARYA P.	SOLAR POWERED EXHAUST GAS MONITORING SYSTEM	With the increase in urbanization and industrialization and due to poor control on emissions and little use of catalytic converters, a great amount of particulate and toxic gases are produced. Increasing the number of automobiles is a serious problem that has been around for a very long time. The main source of atmosphere pollution happens due to vehicles. Sensors are used in most of the real time applications for collecting physical information. The high inflow of vehicles in urban areas causes more air pollution and decreasing air quality that leads to severe health diseases. The main objective of the project is to introduce vehicular pollution monitoring set-up using a LDR and a sensor which is capable of measuring the soot quantity and carbon monoxide concentration in the vehicular exhausts respectively that are causing pollution on the city road. This system is of low cost and provides good results in controlling the air pollution especially in the urban areas. The objective of this project is to monitor air pollution on roads and track vehicles	PRASHANT A. ATHAVALE

			which cause pollution over a specified limit.	
4	CHARAN RAJ	VELOCITY AND POSITION ESTIMATION BY MOTION SENSOR	Velocity and position are the most important signals used in industrial controllers such as proportional–integral–derivative controllers. While in some real-time applications like structural control, acceleration measurements are easily accessible via accelerometers. The velocity and position have to be estimated from the measured acceleration. This project proposes a strategy to estimate the velocity and position of neighbor agents using distance measurements.	Dr N. RAMARAO