

Bhoj Reddy Engineering College for Women
Department of Electrical and Electronics Engineering
Industrial Oriented Mini Project Details for Academic Year 2021-2022

Batch No	Roll No	Name of the Student	Title of the Project	Abstract	Internal Guide
1	18321A0204	Kondam Amukthamalyada	Social Distancing Cap Sensor	In view of the current situation the COVID-19 has become ubiquitous in every corner of the world. We must aim at preventing the community spread of the virus. To achieve this we must make sure a proper social distance is maintained from individual to individual. To make sure that a proper social distance is maintained from individual to individual we are coming up with the idea of social distancing cap. To achieve the above problem and diminish the spread of virus at community level we are coming up with the social distancing cap which is a reminder of social distancing. The main aim of the cap is to make sure a proper distance is maintained among individuals so that community spread of virus can be diminished. Here IR sensors are installed on three sides of the cap so it that measure the minimum distance to be maintained by the individual in 360 degrees. Also a buzzer is installed which alerts the individual by giving a buzzer upon not maintaining a minimum distance. The reason to design this social distancing reminder in form of a cap is that compared to a band or a belt this would be of easy use. As cap is a commonly used item by every person be it a child or an adult. In case of a band, the band may not measure the distance in 360 degrees. And the sensors should be exposed so, in case of a belt the person must tuck his shirt which may not be comfortable to everyone. This project uses 3 IR sensors which are placed at 3 sides of the cap . So using this we can maintain proper social distance among individuals.	R Manju Bhargavi
	18321A0221	Vankudothu Karuna			
	19325A0201	Ruchitha Dadike			
	18321A0234	Gattu Nikitha			
2	18321A0245	Madamraju Sharanya	Andriod Military Spying And Bomb Disposal Robot	This innovative system is made for operations which involve high risk for humans to enter, especially for some criminal case and may prove very beneficial for military area for spying purposes. This system makes use of Relay with DC motor as well as robotic vehicle. The system also includes night vision camera which will not only allow viewing whatever will be recorded in day time but also during night. The whole system is controlled via android application. The system sends commands to the receiving circuit mounted on the vehicle through android device application. The receiving circuit involves microcontroller and a Bluetooth device which receives commands sent by the android app. The user can press the forward, backward, right or left direction buttons in order to control the movement of vehicle. Thus, this application involves both Relay with DC motor and Robotic vehicle so that the system can not only be used to enter a high risk area but also to pick, move and place whichever objects it wants to. Each and every movement of the vehicle will be recorded and can be viewed in a PC wirelessly. This project uses regulated 5V, 500mA power supply. 7805 three terminal voltage regulator is used for voltage regulation. Full wave bridge rectifier is used to rectify the ac output of secondary of 230/12V step down transformer.	S Deepti
	18321A0224	Myaka Laharika			
	18321A0228	Dokku Mamatha			
	18321A0207	Mari Bhargavi			
3	18321A0257	Chitte Srilatha	Voice Integrated Speed And Direction Control For DC Motor	This project deals about Hardware development for voice integrated speed and direction control for dc motor. Working in hazardous environment is very difficult in many of the industries. Human can survive only in certain amount of humidity, temperature, pressure, etc. Working in hazardous environments will cause effect on human life, so precautions should be taken against this. To overcome this voice control was developed. Due to the advancement of wireless technology, there are several connections introduced such as GSM, Wi-Fi and Bluetooth. Each of the connection has their own unique specifications and applications. The speed control will be implemented using Bluetooth technology to provide communication access from smart phone. Communication plays a major role in today's day life and can be used as a better tool in control system. It deals with wireless communication and voice recognition and is used to control the motor speed. There are numerous techniques for speed control. Using voice as input control will reduce the manual operation. Voice recognition applications can be interfaced and speed control of DC motors can be done using the Arduino UNO microcontroller or Raspberry Pi. The voice control is highly reliable and fast.	S Asha Kiranmai
	18321A0249	Marripelly Shylaja			
	18321A0231	Rachamalla Mrunalini			
	18321A0229	Ramidi Manjusha Reddy			
4	18321A0246	Chencharapu Shivani	Automated Toll Gate System Using RFID And GSM Technology	ATCS is an Automated Toll Collection System used for collecting tax automatically. RFID cards simulate a credit card in a capacity and pattern, the tag usually contains an embedded microprocessor. Normally the Intelligent control system does not allow the unauthorized entry of any person into the control areas. If suppose the illegal entry through gate is observed, then it will be registered and providing the warning sound. Each vehicle will hold an RFID tag and it's contains unique identification number assigned. The assigning process will be done by RTO or traffic governing authority And the Reader will be strategically placed at toll collection center. Whenever the vehicle passes the toll booth, the tax amount will be deducted from his prepaid balance. New balance will be updated. In case if one has insufficient balance, his updated balance will be negative one. To tackle this problem, we are alarming a sound, which will alert the authority that this vehicle doesn't have sufficient balance and that particular vehicle can be trapped. As vehicles don't have to stop in a queue, it assures time saving, fuel conservation and also contributing in saving of money. The main idea behind implementing Automated Toll Gate System Using RFID and GSM Technology is to automate the toll collection process their by reducing the long queues at toll booths using the RFID tags installed on the vehicle. In addition to this, it can not only help in vehicle theft detection but also can track vehicles crossing the signal and over speeding vehicles. This system is used by vehicle owners, system administrator. Other general advantages for the motorists include fuel savings and reduced mobile emissions by reducing or eliminating deceleration, waiting time and acceleration.	Sk Vali
	18321A0220	Sabavath Kalyani			
	19325A0203	Shruthi Goud Bandaru			
	18321A0238	Kanneboina Ramya Yadav			

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5	18321A0227	Peddagoni Lokeshwari	Solar Tracking And Environment Monitoring System For Efficient Power Generation	The aim of this project is to design a precise solar tracker and share the information through IoT. In this project, the sun position is sensed in two stages primary and secondary. Primary stage or indirect sensing performed via sun-earth relationship as a coarse adjustment and second stage or direct sensing performed via set of LDR sensors as output tuning to trims the azimuth and altitude angles.If the weather is dusty or cloudy, the tracking system uses primary stage or sun-earth geometrical relationships only to identify the location of the sun, so the system tracks the position of the sun regardless the weather condition. The energy extracted from photovoltaic (PV) or any solar collector depends on solar irradiance. For maximum extraction of energy from the sun, the solar collector panel should always be normal to the incident radiation. Solar trackers move the solar collector to follow the sun path and keeps the orientation of the solar collector at an optimal tilt angle. Solar tracking system improves substantially the energy efficiency of photovoltaic (PV) panel. In this project, an automatic solar tracking system is designed and developed using LDR and DC motors on a mechanical structure with gear arrangement. It is implemented through controller based on Sun Earth Geometry. The results indicated that the automatic solar tracking system is more reliable and efficient than fixed one and also, we are adding solar panel environment monitoring sensors like temperature and humidity sensors.	G Poorna
	18321A0252	G Sneha			
	18321A0216	Kadarla Hansika			
	18321A0237	G Rachana			
6	18321A0239	Patha Rathna Sri	Gesture Controlled Wheel Chair	The project describes a robustness of MEMS based Gesture Controlled Robot is a kind of robot that can be by our hand gestures rather than an ordinary old switches or keypad. In Future there is a chance of making robots that can interact with humans in a natural manner. Hence our target interest is with hand motion based gesture interfaces. An innovative Formula for gesture recognition is developed for identifying the distinct action signs made through hand or Head movement. A MEMS Sensor was used to operate the self balancing with help of angle measurement principle. With help L293D motor driver circuit to operate or execute the 4 type of commands. Like LEFT, RIGHT, BACK, FRONT. In order to full-fill our requirement a program has been written and executed using a micro controller system. Upon noticing the results of experimentation proves that our gesture formula is very competent and it's also enhance the natural way of intelligence and also assembled in a simple hardware circuit. An accelerometer is used as a sensor which gives an analog signal on its movement in any of the 6 axis directions. In this project we have considered X and Y axis for the direction. Based on data received the from accelerometer the micro controller sends the signal accordingly to relays to move the wheelchair in forward, backward, left, right directions. The ccelerometer used here is MEMS. The physically disabled or partially paralyzed often find it difficult to navigate themselves in and around their house without the assistance of someone. Generally, after paralysis or other physical disorders the usage of a wheelchair is highly recommended for the locomotion of such people. But to navigate through one's own house with the help of someone every time can be demoralizing for the person as well. HARDWARE WQUIPMENTS: Controller, L293D, RPS, MOTOR 1 AND MOTOR 2, AT89S52, MEMS SENSOR. SOFTWARE EQUIPMENTS: KEIL SOFTWARE, EMBEDDED C.	K Ravi Kumar
	18321A0206	Miriyala Bhagya Sai			
	18321A0251	Pagadala Sindhuja			
	18321A0247	Kallala Shrienidhi			
7	18321A0258	Nadendla Supraja Reddy	Underground Cable Fault Distance Identifier	The objective of this project is to determine the distance of underground cable fault from base station in kilometers. The underground cable system is a common practice followed in many urban areas. While a fault occurs for some reason, at that time the repairing process related to that particular cable is difficult due to not knowing the exact location of the cable fault. The proposed system is to find the exact location of the fault. The project uses the standard concept of Ohms law i.e., when a low DC voltage is applied at the feeder end through a series resistor (Cable lines), then current would vary depending upon the location of fault in the cable. In case there is a short circuit (Line to Ground), the voltage across series resistors changes accordingly. An IoT module is interfaced to the controller to update information to the web server. This project uses regulated 5V, 500mA power supply. 7805 three terminal voltage regulator is used for voltage regulation. Which is then fed to an ADC to develop precise digital data which the programmed microcontroller of AT89S52 would display in kilometers. The project is assembled with a set of resistors representing cable length in KM's and fault creation is made by a set of switches at every known KM to cross check the accuracy of the same. The fault occurring at a particular distance and the respective phase is displayed on a LCD interfaced to the micro controller.	S Mayuri
	18321A0243	Sarika Reddy Jakka			
	18321A0240	Guguloth Renuka			
	18321A0209	Paloju Bhavyasri			
8	18321A0248	K Shruthi	Speed Control Of Single Phase Induction Motor Using Node MCU	This project is used to control the speed of single phase induction motor by using Node MCU controller. The single phase inverter converts dc voltage into ac voltage. Single phase induction motor speed depends on the frequency of inverter.Single-phase induction motors are widely used in home appliances and Industrial control because of their low cost and rugged construction. Many industrial processes require variable speed drives for various applications. This paper investigates the speed control performance of single-phase induction motor using micro controller. PWM technique has been employed in this H-BRIDGE inverter to supply the motor with ac voltage.The mct2e optocoupler serves the purpose of isolation between the micro controller circuit and the H-BRIDGE inverter and supplies the required gate voltage for the conduction of the power MOSFET (IRF840) in the H-BRIDGE inverter The microcontroller senses the speed's feedback signal and consequently provides the pulse width variation signal that sets the voltage and frequency ratio constant, which in turn provides the constant torque for the desired speed. The complete design is modelled and tested using hardware implementation to control the speed of a capacitance start-run single phase induction motor bySinusoidal pulse width Modulation methods using volts/hertz.	J Ashwini Kumari
	18321A0254	Kavanoor Sreedivya			
	18321A0253	A Soujanya			
	18321A0244	Kommu Shalini			

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9	19325A0205	Sravva Bobba	Power Factor Compensation For A Single Phase AC-DC Hybrid Micro Grid	The objective of this project is to obtain the modeling and simulation of the power flow control strategy of a single-phase AC-DC Hybrid Micro-Grid (HMG). The proposed system topology for HMG contains two AC and DC zones delimited by a bidirectional interlinking converter (BIC) in a full bridge IGBT structure which is a regular H-Bridge inverter/rectifier. The switching pattern of BIC is provided from two power control loops and one voltage loop (Vdc) based on the DQ transformation theory. This control strategy allows, in a controlled matter, the transfer of both active and reactive power between the HMG and the public AC Grid. The active and reactive power control strategy is based on the compensation of the power factor at the point of common coupling with AC power grid. The reactive power is controlled regardless of the power flow direction allowing the power factor to be determined according to requirements imposed at the AC distribution grid. Moreover, this is performed in both directions by working with the bidirectional converter in rectifying or inverting modes. The simulation model will be implemented and tested using Matlab Simulink.	K Chandana
	18321A0256	Puramshetty Srihitha			
	18321A0236	Macharla Nithyusha			
	18321A0233	Emireddy Nikitha			
10	18321A0232	Lingala Niharika	Solar Panel Cleaning System	This project is developed for the betterment of the solar panel users. We are providing transparency in cleaning system by using the most newly invented technology, which provides a better performance, integrity, consistency, cost-effective and scalable solution for the removal of dust and speck. The presented cleaning system provides about 32% more energy output compared to the dust accumulated solar panel. This system reduces manpower for cleaning of solar panel. This is automatic solar panel cleaning system. In this paper we propose a programmable system to clean solar panel using water and wiper. The project is implemented using Internet of Things (IOT) technology. The system will be controlled by the microcontroller and various sensors by manual and automatic. The system can be controlled by using android device. The system notifies the user about the various operations performed through text message. The system may be converted to portable so that it can be used in various locations. This project uses regulated 5V, 500mA power supply. 7805 three terminal voltage regulator is used for voltage regulation. Full wave bridge rectifier is used to rectify the ac output of secondary of 230/12V step down transformer.	E Nikhila Sarayu
	18321A0242	Putta Samyuktha			
	18321A0219	Ramineni Joshika			
	18321A0250	Palakurla Sindhu			
11	17321A0231	Palutla Sai Sharvani	Speed And Direction Control Of DC Motor	DC motors play an important role in industrial as well as other commercial systems. Motors are a major part of various machinery. So, controlling of motors over WIFI allows user to control machines from anywhere in the world using Wi-Fi commands. We here use an Atmega microcontroller circuit along with WIFI modem, a DC motor, LCD display and required circuitry to make this system. This system first allows user to configure a number from which to receive commands in configuration/settings mode. After that the system listens to SMS messages received on the WIFI modem. The on receiving the message it checks if it was received from a registered number. If not, the message is rejected. If the number is valid one system now reads the message to check the command in it. On receiving proper commands the system operated the DC motor to achieve the user desired motion along with speed. The system thus allows to control DC motors over large distances.	S Mayuri
	18321A0255	Naroju Sriharsha			
	18321A0201	Mood Aekavardhini			
	18321A0203	Meka Akshaya			
12	18321A0218	Poralla Jayasri	Wireless Charging Of Electric Vehicle	The main functions of wireless charging is to transmit power by an electromagnetic field across a given space. As electric vehicles are a better alternative to curb the ongoing pollution it is vital to make amendments in the battery charging process to attain greater reliability. Electric vehicle battery charging can be done by plug in charging at charging stations or by wireless power transfer. Wireless power transfer can be implemented as a static or dynamic charging system. Dynamic charging system can be implemented to charge the vehicle even when it is in motion. By using inductive power transfers the power from source can be transferred to the chargeable batteries through transformer windings. For preplanned routes such dynamic charging stations can be set up for charging batteries. This will not only increase the use of electric vehicles but also make them efficient and reliable for large distances as well. The project presents an evaluation on how the future EV development and wireless charging methods can be implemented.	K Ravi Kumar
	18321A0260	Kota Vaishnavi			
	18321A0205	Mohammed Asfia Raheen			
	18321A0259	R Sushma Reddy			
13	18321A0214	Katra Pati Divya	Design And Development Of Precision Agriculture System Using Wireless Sensor Network	Our hardware project deals the sensing system is based on a feedback control mechanism with a about analysis of Crop farming in India. In India crop farming is labour intensive land centralized control unit which regulates the flow of water on to the field in the real time obsolete. Farming is still dependent on based on the instantaneous temperature and techniques which were evolved hundreds of and doesn't take care of moisture values. years ago The sensor data would be collected conservation of resources. The newer scenario of decreasing water tables, drying in a central processing unit which would take further action. Thus by providing right up of rivers and tanks, unpredictable amount of water we would increase the environment present an urgent need of proper utilization of water. efficiency of the farm. The farmer can also We have the technology to bridge look at the sensory data and decide course of action himself. We have made the interface the gap between water usage and water wastage. Technology used in some of our project keeping in view the developed countries is too expensive and education land financial background of complicated for a common farmer to average Indian farmer. In this project we are understand. proposed a low cost and efficient wireless Our project is to give cheap, reliable, sensor network technique to acquire the soil cost efficient and easy to use technology moisture and temperature from various which would help in! conservation of locations of farm and as per the need of crop and also in controller take the decision to make resources such as water automatizing farms. We proposed use of irrigation ON or OFF. This project will be pursued at R temperature and moisture sensor at suitable locations for monitoring of crops.	G Poorna
	19325A0204	Siri Chandana Prathigadapa			
	18321A0230	T Meghana			
	18321A0226	Kamartapu Layhya			

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14	18321A0217	P B Harshitha	Automatic Rain Roof Protection For Agricultural Purposes	This project deals about the protection of unseasonal rain fall on the harvested crops, which are kept to dried up, they rot up and get destroyed due to which farmers have to face enigma. So as farmer's face loss, this device is built up to protect them from severe loss. This device is used in agriculture purpose in a way when the rain drops falls on the rain sensor, the roof automatically gets over the crops kept for drying. This device consists of rain sensor, Arduino-Uno, motors and bio degradable plastic materials for shade. When the rain is detected by the sensor It gives signal to Arduino-Uno. Further Arduino gives signal to the motor due to which the roof gets over the crops and protect crops from being destroyed. And when the rainfall stops the roof automatically opens. This device is simple but very useful for farmers to save their money which they have invested and their time. And above all it runs on the solar energy making it more cost effective and ecofriendly.	Sk Vali
	18321A0202	Mohammad Afreen			
	18321A0215	Tanneru Gayatri			
	18321A0235	Mukiri Nissi Rebca			
15	19325A0202	Shailaja K	Closed Loop Speed Control Of Brushless DC Motor	The objective of this project is to control the speed of a BLDC motor using closed loop control technique. BLDC motor has various applications in industries like drilling, lathes, spinning, elevators, electric bikes etc. The speed control of the DC motors is very essential. This proposed system provides a very precise and effective speed control system. The user can enter the desired speed and the motor will run at that exact speed. Based on the principle of PWM, speed can be controlled. This is achieved by giving a speed signal to the BLDC motor through the microcontroller to which IR reflection arrangement is interfaced. An LCD is duly interfaced to the microcontroller to display the running speed. The desired speed in percentage of full speed is fed with the help of a keypad. The controller delivers desired pulse width to automatically adjust the DC power to the motor for required speed. The above operation is carried out by using one opto-isolator and a MOSFET for driving the BLDC motor with IR sensing forgetting the speed signal to the microcontroller.	S Asha Kiranmai
	18321A0212	Sanala Deepika			
	18321A0225	Baragada Laxmi Thirupathamma			
16	18321A0223	Depa Kavya	Design Of Elevator Operation In Industries Using PLC	This project explains about an elevators operation which uses a DC motor to drive the elevator cabin. The elevator is fully automated using PLC. Its control is based on the input that we get from the operator as well as from the Limit switches and Sensors. According to that signal PLC will make the drive motor to work correspondingly. Elevators are the important medium of vertical transportation in the industrial environment. Elevators ease the work of human being and keep them in the comfortable zone. Here we are using PLC for controlling of elevator which is efficient due to its flexibility, operational speed, reliability, easy to programming, security and it is easy in implementing changes and minimizing errors. All the functions of the elevator are realized using the PLC programs, the functions includes registration, displaying the messages about the floors, monitoring the safety system, monitoring the door opening and closing, prioritizing the hall-call, and car-calls. The main objective of this project is to replace the relay controlled elevator with the modern PLC based elevator. As these relay controlled systems have several limitations such as: high fault ratio, highly complex circuits, difficult to replace the defected parts of the automated system.	S Deepti
	19325A0206	Varsha Kurmathi			
	18321A0222	B Kavitha			
17	18321A0208	Siripuram Bhavana	Transmission Line Multiple Faults And Indication To Electricity Board	This project Deals with new method of single phase fault detection and also Auto switching based on arduino displayed over the fault. Our detection system deals with the current flowing through cables. Each cable will have its maximum current capacity. When short circuit fault occurs, current suddenly increases. Also in case of open circuit, current will be zero. Current transformers are used to detect current level, this output current will be given to I to V converter unit so as to make in readable in terms of voltage. This voltage is then fed to ADC pin of Arduino, which convert it into digital and take appropriate action if any fault condition (SC or OC) occurs. This fault is displayed on LCD display & on LEDs. When fault occurring time here get buzzer indication and the relays are disconnected mode, loads are get OFF condition. After fault clearing then the relays are automatically connected mode. When fault occurring time Authority will get notification or SMS when detection of fault.	R Manju Bhargavi
	18321A0211	Musku Chandana			
	18321A0241	Bollagani Sai Vidya			

S Asha Kiranmai
Project Incharge

R Manju Bhargavi
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