



V-Ideas

**Program: Electronics and Telecommunication
Engineering
(NBA Accredited)
2019-2020**



Preface

- **Vidyalankar is a 'Sanskrit' word combining two words Vidya + Alankar. Where Vidya means knowledge and Alankar means Ornament, the essence being that 'knowledge is the true ornament of a progressive mind'.**
- **Vidyalankar Polytechnic is one of the leading college in Mumbai, approved by AICTE, DTE Maharashtra State and Affiliated to MSBTE. It offers under graduate courses in engineering**
- **Vidyalankar Polytechnic was established by Vidyalankar Dyanapeeth Trust in 2002 under the dynamic leadership of Shri. C. S. Deshpande with the aim of imparting Technical Education in various fields of Engineering and Technology. It is located at the heart of Mumbai at Wadala(E).**
- **Courses offered are Computer Engineering, Information Technology, Electronics and Telecommunication Engineering.**
- **The college has excellent infrastructure for Class rooms, Technical library, Laboratories and latest computing facilities.**

Vidyalankar Polytechnic

Vision

To achieve excellence in imparting technical education so as to meet the professional and societal needs.

Mission

- Developing technical skills by imparting knowledge and providing hands on experience.
- Creating an environment that nurtures ethics, leadership and team building.
- Providing industrial exposure for minimizing the gap between academics and industry.

Principal Speak



Vidyalankar Polytechnic has always believed in providing quality technical education to the student who aspire to become skilled engineers .

We at Vidyalankar put forth for students a challenging ground; tracking them to learn and imply in their career and professional future. Emphasizing to skill and develop their opportunity to widen their innovative horizon.

V-Ideas is compilation of final year student's project ideas that have been processed and developed after fine scrutinizing and tuning by subject expertise. The selected projects were much appreciated by the judges boosting the morale of students.

Technovation the exploration of Technology and Innovation is the annual project exhibition and competition organised by Vidyalankar Polytechnic for final year students of various branches. Technovation enables students to exhibit and display their innovative skills, thus giving them an opportunity to manifest their hidden skills and ideas. This platform has privileged the students to think in new areas of their skills and present it in the best possible way.

V-ideas culminates V-Technovation 2020

"All of us do not have equal talent. But , all of us have an equal opportunity to develop our talents." - A.P.J Abdul Kalam

Vidyalankar Polytechnic has always believed in inculcating a synergetic and academic culture in its students, one that encourages them to be innovative and to be passionate about taking their ideas ahead.

V-Ideas are a collection of the final year project ideas of our students that have been nurtured after much rational thinking, fine-tuning and accurate reflection from teachers, guides and subject experts. The ideation stage is quite different from actual implementation; it is comparable to the transition from form to format, the regulated flow of ink from a nib which produces the actual writing. The Institute initiated an innovative idea of assembling the project ideas and transferring them into a hardcover book known as V-Ideas. This collection of projects acts as a future reference for First, Second and Third year students.

As a part of curriculum, students of diploma undertake a project related to their field and demonstrate the knowledge and skills gained on the subject of their choice. Students also take industry based projects for better and live exposure with the industry. The projects selected by the panel of experts are regularly monitored by the project guides. The innovative and creative projects are projected in V-Technovation. The projects won many awards at various competitions at other institutes.

V-Technovation provides a platform to diploma students to compete, interact and excel.

Program: Electronics and Telecommunication Engineering

Vision

To produce Electronics and Telecommunication engineers capable of effectively using technical knowledge and interpersonal skills to benefit the industry and society.

Mission

- Providing state of the art facilities and conducive environment enabling the students to sustain the challenges in the field of Electronics and Telecommunication.
- Educating the students to face the competitive world, develop leadership skills and to instill discipline and ethics.
- Promoting industry institute interaction.

Program Educational Objectives

- **PEO1: Core Competence:** To develop expertise amongst students to meet the needs of the employer by using mathematical foundation, electronic fundamentals and enable them to understand and solve engineering problems.
- **PEO2: Professionalism:** To inculcate life-long learning, codes of professional ethics and entrepreneurial mindset.
- **PEO3: Conducive Learning Environment:** To provide encouraging academic learning environment needed for a successful professional career so that students can become a noble soul and an asset to the society.

Program Outcomes

PO1. Basic knowledge: Apply knowledge of basic mathematics, sciences and basic engineering to solve the broad-based Electronics and Telecommunication engineering problems.

PO2. Discipline knowledge: Apply Electronics and Telecommunication engineering knowledge to solve broad-based Electronics and Telecommunications engineering related problems.

PO3. Experiments and practice: Plan to perform experiments and practices to use the results to solve broad-based Electronics and Telecommunication engineering problems.

PO4. Engineering tools: Apply relevant Electronics and Telecommunications technologies and tools with an understanding of the limitations.

Program Outcomes

PO5. The engineer and society: Assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to practice in field of Electronics and Telecommunication engineering.

PO6. Environment and sustainability: Apply Electronics and Telecommunication engineering solutions also for sustainable development practices in societal and environmental contexts.

PO7. Ethics: Apply ethical principles for commitment to professional ethics, responsibilities and norms of the practice also in the field of Electronics and Telecommunication engineering.

Program Outcomes

PO8. Individual and team work: Function effectively as a leader and team member in diverse/ multidisciplinary teams.

PO9. Communication: Communicate effectively in oral and written form.

PO10. Life-long learning: Engage in independent and life-long learning activities in the context of technological changes also in the Electronics and Telecommunication engineering and allied industry.

Program Specific Outcomes

PSO 1. Electronics and Telecommunication Systems: Maintain various types of Electronics and Telecommunication systems.

PSO 2. EDA Tools Usage: Use EDA tools to develop simple Electronics and Telecommunication engineering related circuits.

Program: Electronics and Telecommunication Engineering

Area ID	Project Area	Project ID	Project Title	Page No.
EJ1	EMBEDDED SYSTEMS	EJ1.1	Automatic touchless motion sensor trash can	1
		EJ1.2	Wireless grass cutter with solar panel	2
		EJ1.3	Amphibious robot	3
		EJ1.4	All terrain robot	4
		EJ1.5	Self driving electric car	5
		EJ1.6	Wi-Fi controlled notice board using cloud MQTT Raspberry Pi	6
		EJ1.7	Dehydration monitor	7
		EJ1.8	Automatic billing system using Lora WAN	8
		EJ1.9	Automatic parking system	9
		EJ1.10	CNC laser engraver	10
		EJ1.11	Automatic Road quality detector	11
		EJ1.12	Keypad door lock with Bluetooth and Android app	12
		EJ1.13	Smart transportation	13
EJ2	IOT	EJ2.1	Fruit maturity detector	14
		EJ2.2	Heart rate monitoring system using GSM module	15
		EJ2.3	Advance version of smart bag	16

Program: Electronics and Telecommunication Engineering

Area ID	Project Area	Project ID	Project Title	Page No.
		EJ2.4	Gesture control car	17
		EJ2.5	Vending machine with cashless payment	18
		EJ2.6	Smart mirror	19
		EJ2.7	Surveillance robot using raspberry pi	20
		EJ2.8	Mind controlled car	21
EJ3	WIRELESS COMMUNICATION	EJ3.1	Smart agriculture system	22
		EJ3.2	Automatic Solar glass cleaner	23
		EJ3.3	Radar system for object detection	24
		EJ3.4	Bird feeder	25
		EJ3.5	Automatic BMI calculator using load cell and height sensor	26
EJ4	POWER ELECTRONICS	EJ4.1	RF presentation remote	27
EJ5	ELECTRICAL AND ELECTRONICS	EJ5.1	RFID door lock	28
		EJ5.2	SMS based prepaid water meter	29
EJ6	BIOMEDICAL	EJ6.1	Braille lipi keyboard	30
EJ7	INSTRUMENTATION AND CONTROL SYSTEM	EJ7.1	Automatic bottle filling plant	31

Program : Electronics and Telecommunication Engineering

Project Title : Automatic Touchless Motion Sensor Trash Can

Domain : Embedded System



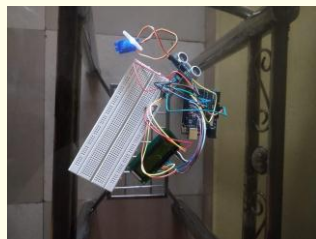
Name of Project Guide : Er. Rohit Sharma

Name of Students : 17201A0010:Danish Ukaye

: 17201A0050:Irshan Siddique

Brief idea of project:

Dustbins (or Garbage bins, Trash Cans, whatever you call them) are small plastic (or metal) containers that are used to store trash (or waste) on a temporary basis. They are often used in homes, offices, streets, parks etc. to collect the waste. In some places, littering is a serious offence and hence Public Waste Containers are the only way to dispose small waste. Usually, it is a common practice to use separate bins for collecting wet or dry, recyclable or non-recyclable waste. In this project, I have designed a simple system called Smart Dustbin using Arduino, Ultrasonic Sensor and Servo Motor, where the lid of the dustbin will automatically open itself upon detection of human hand.



Application :

- It can be used by BMC.
- IT can be used in Home , hospital & Mall etc.

Program : Electronics and Telecommunication Engineering

Project Title : Wireless grass cutter with solar panel

Domain : Embedded System



Name of Project Guide :Er. Arpit Bankar

Name of Students :17201A0007 Siddhesh Chavan
17201A0008Yash Gupta
17201A0011 Shivani Nimbalkar
17201A0036Prajakta Darade

Brief idea of project:

This project is an autonomous grass cutter that will allow the user to the ability to cut their grass with minimal effort. Unlike other robotic grass cutter on the market, this design requires no perimeter wires to maintain the robot within the grass. In this project we have designed remote control grass cutter that eliminated the need of physical power. Throughout this paper you will learn more on how we were going to complete this project and what various parts were used that replaced the physical power needed in moving the grass cutter. Documentation includes all major design aspects. This project will continue in hopes to market the design

Screenshots of the Project



Applications:

In grass land at university and departments of the office. In the backyard or garden at home.

In Public Parks to remove the unwanted grass/weeds. Playground like, cricket ground, football ground, etc.

Program : Electronics and Telecommunication Engineering

Project Title : Amphibian Robot

Domain : Embedded System



Name of Project Guide : Er. Pranesh Naik

Name of Students 17201A0005 : Amneet Singh Bhatti

17201A0029 : Chinmay Gaikwad

Brief idea of project :

The term “amphibian” is referring to a robot that is capable of functioning in dual environments, which is in terrestrial and aquatic. In order to meet that purpose, the ability of driving and surfing are implemented into this RAV. This innovation mends to assist and help human in aquatic operation as well as terrestrial activity. A robot device is an instrumented mechanism. Robotics is generally a combination of computational intelligence and physical machines (motors). Computational intelligence involves the programmed instructions. The objective of this project is to make a robot to explore land and water surface without human interference

Screenshots of the Project :



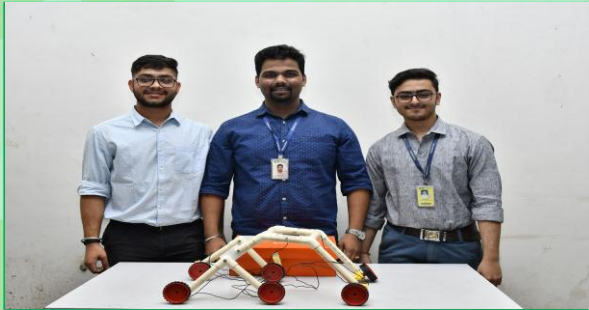
Applications:

- Military.
- Transporting

Program : Electronics and Telecommunication Engineering

Project Title : All Terrain Robot

Domain : Embedded System



Name of Project Guide : Er. Pranesh Naik

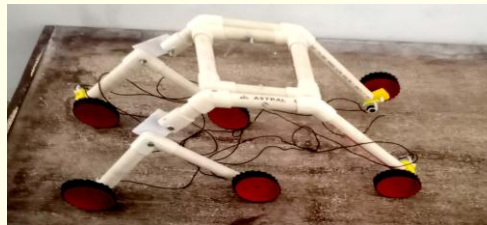
Name of Students : 17201A0023: Siddhant Zingade

17201A0040: Fazil Shaikh

Brief idea of project:

- All-Terrain Robots (ATRs) are the category of mobile robots that are capable of showcasing excellent off-road performances. They are able to navigate across bumpy and rough terrains. They mainly have wheels or tracks for locomotion.
- ATRs have various link mechanisms in order to overcome various sized obstacles. It is always desirable that the ATRs will be autonomous, that is, it will sense its environment with the help of sensors and then will take further decision on its own, with the help of instructions

Screenshots of the Project:



Applications:

- It can be used for smooth movement on bumpy roads.
- It can easily operate over most of the martian rocks.

Program : Electronics and Telecommunication Engineering

Project Title: Self driving electric car

Domain : Embedded System



Name of Project Guide : Mr. Servesh Gupta

Name of Students : 17201A0046:Ashwini Agwane
17201A0047:Sakshi Motiwale

Brief idea of project: A basic task to be performed by an autonomous robot is to navigate safely among possible obstacles towards a goal destination. A large number of methods for solving this motion planning problem have been reported in the literature. In particular, local methods are widely used for implementing real-time navigation thanks to their simplicity and suitability for sensor-based navigation through partially unknown environments. Several local methods based on neuro and fuzzy paradigms have been reported recently. Many of them employ fuzzy rules extracted from heuristic knowledge. They are usually simple but often require a tedious and unreliable trial-error adjustment which does not obtain optimal results.

Screenshots of the Project



Applications:

1. Autonomous trucks and vans
2. Transport systems

Program : Electronics and Telecommunication Engineering

Project Title : Wifi controlled notice board using cloud MQTT and raspberry pi

Domain : Embedded System



Name of Project Guide : Er. Sheetal Shelar

Name of Students : 17201A0009: Aayush Berde
17201A0019: Abhiraj Raghunath

Brief idea of project:

Notice boards are playing a very important role in our day to day life. By replacing conventional Analog type notice board with digital notice board we can make information dissemination much easier in a paperless community. So information can be sent anywhere in the world and can be displayed within seconds. Information may be in the form of text, image, pdf etc. PC is used for sending information and Raspberry Pi is connected to the internet at the receiving side.

Screenshot of the Project:



Applications:

Digital Notice Board in Offices to display their goals and targets of month.
Digital Notice Board can be used in Schools.

Program : Electronics and Telecommunication Engineering

Project Title : Dehydration monitor

Domain : Embedded System



Name of Project Guide : Er. Rohit Sharma

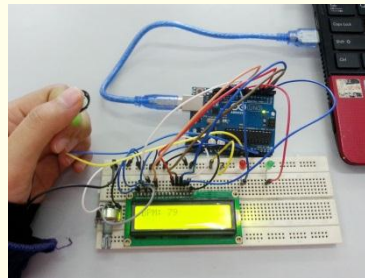
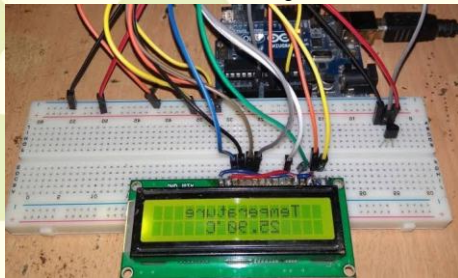
Name of Students : 17201A0012 : Druman Patil

17201A0035 : Pranav Patil

Brief idea of project:

Wearable healthcare monitoring systems provide a ubiquitous and unobtrusive solution to collecting real-time physiological data. The most common bio signals collected by such systems include heart an desperation rate, body temperature and daily activity counts. While recent years have experienced a considerable grow thin the wearable industry, there still remains a wide gap in adapting these technologies for personal health monitoring features in the everyday life of users. This project is aimed at designing a wearable health monitoring system which will help users in developing a healthy hydrated lifestyle.

Screenshots of the Project:



Applications:

- Detection of water present in human body With digital values.
- Detection of body temperature and heart rate with digital values.

Program : Electronics and Telecommunication Engineering

Project Title : Automatic billing system using Lora WAN

Domain : Embedded System



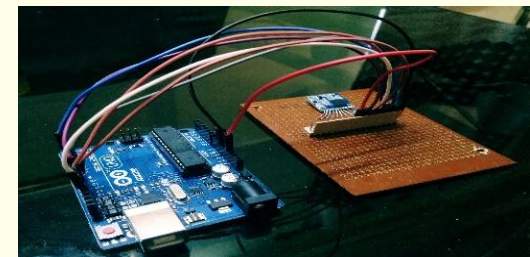
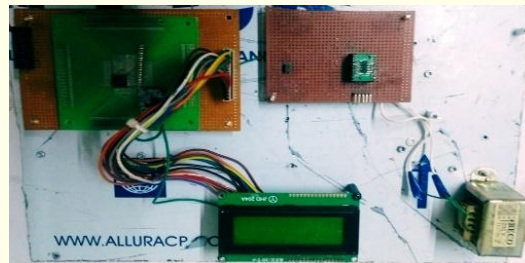
Name of Project Guide : Er. Helina Tandel

Name of Students : 17201A0006:Aditi Kahate
17201A0039: Ayush Nagvekar

Brief idea of project:

Automatic meter reading (AMR) is the technology of automatically collecting consumption, diagnostic, and status data from water meter or energy metering devices (gas, electric) and transferring that data to a central database for billing, troubleshooting, and analyzing. This works by translating the movement of the mechanical dials on a meter into a digital signal, does not require physical access or visual inspection. The data is transmitted from the meter to the utility company using LoRaWAN (Long Range Wide Area Network) low power wireless standard intended for providing a cellular style low data rate communication network.

Screenshots of the Project



Applications:

- The users can be aware of their electricity consumption.
- A web server facility is inherited in our project to ensure there is no theft of electricity.

Program : Electronics and Telecommunication Engineering

Project Title :Automatic parking system

Domain :Embedded System



Name of Project Guide : Er. Kalyani Pawar

Name of Students : 17201B0006. Siddesh Sanjay Kadam
17201B0009. Mrunalini Chetan Vernekar

Brief idea of project:

To solve the problems of parking, we are introducing new car parking system. The system works as follows: The driver will place the vehicle in front of the garage door and there will be a monitor available where the number of available parking slots will be displayed. The user will have to provide his mobile phone number and car's registration number and the operator will give command to open the gate, a car parking tray will come & will park the car in the garage.

Screenshots of the Project



Applications:

- Shopping malls
- Restaurants
- Theatres
- It is very convenient to use in Railway stations and Airports.

Program : Electronics and Telecommunication Engineering

Project Title : CNC laser engraver

Domain : Embedded System



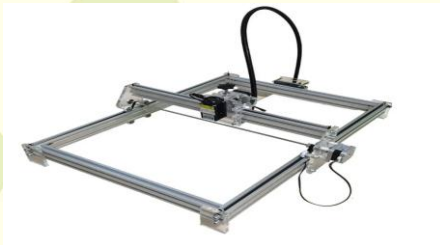
Name of Project Guide : Er. Anjali gharat

Name of Students : 171201C0017:Tanzeem Ansari
17201C0008: Ifad Wasgare

Brief idea of project:

CNC-Computer numerical control is the automated control of machining tools (drills, boring tools, lathes) and 3D printers by means of a computer. A CNC machine processes a piece of material (metal, plastic, wood, ceramic, or composite) to meet specifications by following a coded programmed instruction and without a manual operator. Laser engraving – laser engraver which is a subset of laser marking is the practice of using lasers to engrave an object. Laser marking, on the other hand, is a broader category of methods to leave marks on an object.

Screenshots of the Project



Applications:

Laser engraving is extensively used in industries such as aerospace, automotive, electronics, medical and also in semi-conductor manufacturing.

Laser Engraving (or Laser Etching) is a Subtractive Manufacturing method, that uses a laser beam to change the surface of an object. This process is mostly used to create images on the material, that may be seen at eye level.

Program : Electronics and Telecommunication Engineering

Project Title : Automatic road quality detector.

Domain : Embedded System



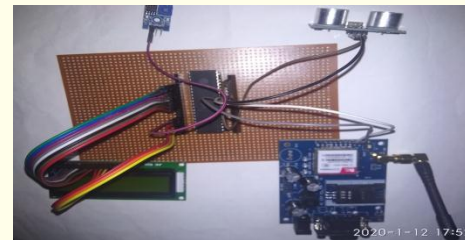
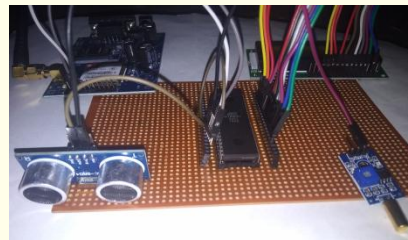
Name of Project Guide : Er. Servesh Gupta

Name of Students : 17201C0007 Aman Shaikh
17201C0012 Chinmay Mulik

Brief idea of project:

This project proposes a cost effective solution to identify potholes and humps and tilt on roads and provide timely alerts to drivers to avoid accidents or vehicle damages, and also sends message to authorities. Ultrasonic sensor is used to identify potholes and humps and also to measure their depth and height respectively and tilt sensor detects tilt The sensed-data includes pothole depth, height of hump and tilt of the road.

Screenshots of the Project:



Applications:

It can be used in railways for identification of cracks.

It can be used in bridges and flyovers.

Program : Electronics and Telecommunication Engineering

Project Title : Keypad door lock with Bluetooth and Android app

Domain : IOT

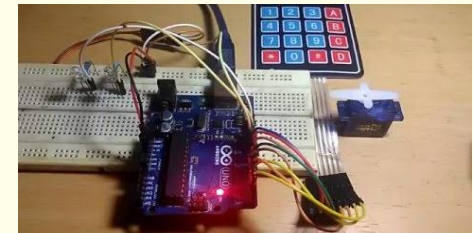
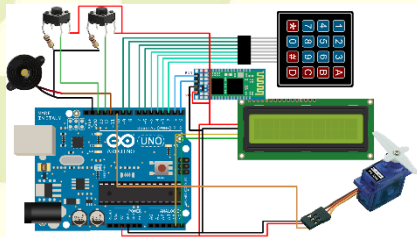


Name of Project Guide : Shrinivas Paivernekar

Name of Students : 18201B1011: Ravindra Patil
18201B1012: Aditya Shinde
17201A0037: Vaishnavi Jalgaonkar
17201A0049: Adit Yadav

Brief idea of project: The need of safety can be achieved by making locks which can be electrical or mechanical with one or a few keys. Nowadays every device's operation is based on digital technology. These locking systems are used to control the movement of door and are functional without requiring a key to lock or unlock the door. These locking systems are controlled by a keypad and are installed at the side hedge of the door. The main objective of this project is to give safety at every common places like home, public places. In this user would give a known password. The information will be stored in database. When the correct passcode will be entered, the microcontroller will give instruction to servo motor. Servo motor will perform the action on door unlocking.

Screenshots of the Project



Applications:

Security Purpose in domestic and commercial places.

Program : Electronics and Telecommunication Engineering

Project Title : Smart transportation

Domain : Embedded System



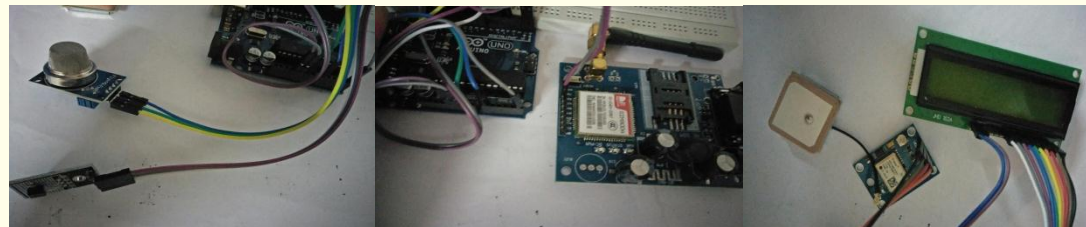
Name of Project Guide : Er.. Helina Tandel

Name of Students : 18201B1022: Yash Kotian
18201B1023: Aditi Pokale
18201B1004: Pranali Narkar

Brief idea of project:

In this project of Smart Transportation an advanced vehicle monitoring and tracking system is proposed for the purpose of monitoring vehicles which are moving from one place to another in order to provide safety and security. The system includes Global Positioning System (GPS) and Global System for Mobile Communication (GSM) for vehicle tracking and monitoring purpose using SIM900 module. The GPS provides present site of the vehicle, GPRS sends the tracking information to the server and thus an alert message generated is transmitted to the owner of the vehicle. Thus traveller's safety mechanism also gets provided using temperature and Gas leakage sensors.

Screenshots of the Project:



Applications:

- Tracking of location of vehicle
- Provides safety with the help of temperature sensor and gas sensor

Program : Electronics and Telecommunication Engineering

Project Title : Fruit maturity detector

Domain : IOT



Name of Project Guide : Er. Kirti Gupta

17201A0045: Zaid Maniyar

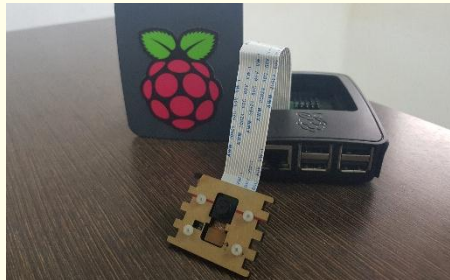
Name of Students : 17201A0018: Rutwij Mulye

17201A0028: Akshay Joil

Brief idea of project:

Humans depend on their vision quality to check whether the fruit is ripe or unripe. They grade the maturity level of a fruit based on their vision-based features that lead to inaccuracy, inconsistency and inefficiency in the results. Harvested fruits are normally consumed after four to five days of time period. Some fruits must be consumed within very less time period whereas some variety of fruits can be consumed after ten days after harvesting. Damage present in the fruits may also vary based on fruits. Damage is visible to naked eye whereas pest or insect damage may not be visible to naked eye. Manual picking of fruits and classifying them according to maturity and damage done may be time consuming and may not prepare for sending fruits to consumer within stipulated time.

Screenshots of the Project:



Applications:

- In very large farms.
- In warehouses where fruits are stored

Program : Electronics and Telecommunication Engineering

Project Title :Heart Beat Monitoring System using GSM Module

Domain :IOT



Name of Project Guide : Er. Minal Tandale

Name of Students : 17201B0020: Amay .M Malusare
17201B0011: Varad Shedolikar

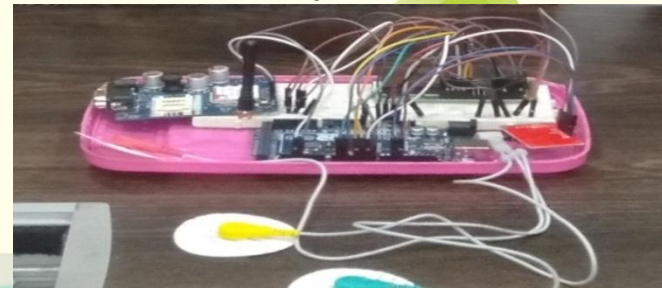
Brief idea of project:

- In this proposed device, the heart beat of patients are measured by using sensors, the input to sensor is analog data which is later converted into digital data using analog to digital converter (ADC) which is suitable for wireless transmission using SMS messages through GSM modem.
- For a patient who is already diagnosed with fatal heart disease, their heart rate condition has to be monitored continuously. This project proposes and focuses on the design of the heartbeat monitor that is able to monitor the heart beat rate condition of patient continuously.
- This signal is processed using the microcontroller to determine the heart beat rate per minute. Then, it sends short message service (SMS) alert to the mobile phones of medical experts or the patient's family members, or their relatives about the condition of the patient and abnormal details.

Applications:

- It is used for periodic monitoring of patients those who are suffering from heart disease
- The heart beat sensor named pulse oximeter is interfaced with GSM modern to send the heart rate to the user interfaced with the system

Screenshots of the Project:



Program : Electronics and Telecommunication Engineering

Project Title : Advanced version of smart bag

Domain : IOT

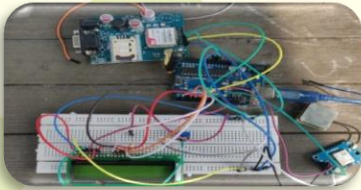


Name of Project Guide : Er. Pratik Tawde

Name of Students : 1705680174: Malhar Shenolikar
1805680302: Anmol Singh
1805680305: Sujant Sasane
1805680307: Vaibhav Tawde

Brief idea of project:

- A Smart Bag is an application which can be used by almost everyone in the society, the bag will be equipped with unique solutions in order to carry out day to day activities with much more efficiency and security. Smart bag is modern concept which was invented just few years back, as this concept being new to masses very few modifications made in the backpack. Our bag is equipped with modern amenities like GSM + GPS tracker, Solar panel will not only charge devices like phones, tablets etc. but also the panel will be used to charge the entire circuit. Thus our backpack is ecofriendly since no external charging is required.
- **Screenshots of the Project**



Applications:

- It can be used by School, College and Office goers.
- It can be used by Travelers, Mountaineers, Trekkers & Hikers.
- It can be used by the blind and autistic community.
- It can be used by Defense personal's and official's for carrying secure/important documents.
- It can be used in our Day to Day life.

Program : Electronics and Telecommunication Engineering

Project Title : Gesture control car

Domain : IOT



Name of Project Guide : Er. Minal Tandale

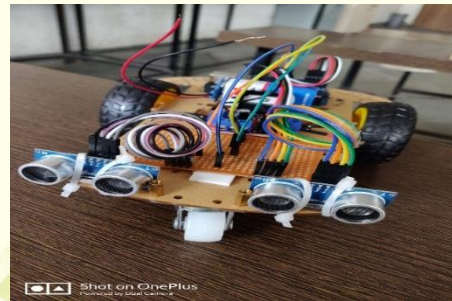
Name of Students : Abdullah Mastan

: Yasser Khan

Brief idea of project:

- Gesture control is the ability to recognize and interpret movements of the human body in order to interact with and control a computer system without direct physical contact.
- This car uses ultrasonic sensors to measure the distance of the hand and according to the received signal it makes changes to the output of the car i.e the wheels..
- Thus Gesture Control reduces the efforts that are needed to control electronic devices and can be understood by any ordinary person.

Screenshot of the Project



Applications:

- Controlling mobiles, TV's, household appliances, etc.
- To have a touchless interface to electronics devices.
- Can be used in the gaming sector, where gestures might be required.
- Can be used to control movable devices through gesture.

Program : Electronics and Telecommunication Engineering

Project Title : Vending machine with cashless payment

Domain : Embedded System



Name of Project Guide : Er. Tanvi Gursale

Name of Students :
17201B0012: Arun Kumar
17201B0019: Adwai Shinde
18201B1005: Pradnya Singh
18201B1026: Rujala Patil

Brief idea of project:

A Vending machine with cashless payment is a machine which dispenses items such as snacks, beverages, lottery tickets, cologne, consumer products and even gold and gems to customers automatically, after the customer scans his/her id card in to the machine. This vending machine will dispense the required component as per the users choice. A cashless vending machine, where we register the user information by scanning their barcode on the id card. It withdraws exact amount of cash for the product and hence no balance amount is needed to return back to the respective user.



Applications:

- Can be used in ticket vending machines.
- Hospitals for medicine vending machines.
- College campuses for electronic products or snacks.

Program : Electronics and Telecommunication Engineering

Project Title : Smart mirror

Domain : Internet Of Things(IOT)



Name of Project Guide : Er. Apurva Sawant

Name of Students : 17201B0002 : Prathamesh Rakesh Jadhav
17201B0001: Ashutossh Mukesh Gupta

Brief idea of project:

Smart mirrors are the mirrors of the future. A part of the connected world where we would be able to see news, temperature, weather and more just while looking and grooming in front of mirrors. Our proposed system allows to build such mirrors that enables user to receive news online and display it on the screen to improve futuristic and modern lifestyle. This system uses a raspberry pi based processor board along with display. We use a precisely modeled panel to construct the outer frame and then we use specialized glass with a back frame to encase the system.

Screenshots of the Project



Applications:

- Smart mirror would be useful for busy individuals that want to multitask and stay informed while on the go. Instead of constantly pulling out a device, one could get informed while finishing daily grooming tasks.
- Smart mirror can be used for Playing music and learn an individual's habits as a part of a smart home.

Program : Electronics and Telecommunication Engineering

Project Title : Surveillance Robot using Raspberry Pi

Domain : IoT



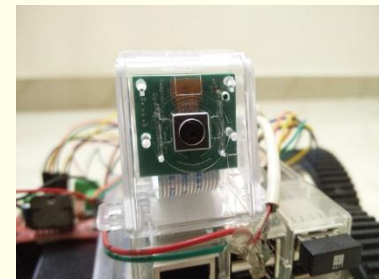
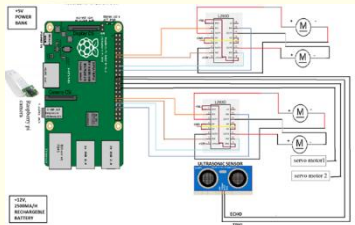
Name of Project Guide : Er. Anjum Mujawar

Name of Students : Nilay Puranik (17201C0014)
Rajnish Singh (18201C1005)
Satyajeet Nirmal (18201C1004)

Brief idea of project:

A surveillance robot is used to monitor premise with intruder detector using PIR sensors mounted on it. ultrasonic sensor to avoid collision of the robot with the walls is used. At every point, the robot is capable of streaming the video feed from camera in real time on a specified network. This video can be accessed by the mobile device being used on the network.

Screenshots of the Project



Applications:

- Premises, factories
- Military Purpose.

Program : Electronics and Telecommunication Engineering

Project Title : Mind controlled car

Domain : IOT



Name of Project Guide : Er. Kirti Gupta

Name of Students : 17201C0004:Vaibhavi Masurkar
17201C0013:Siddhesh Gupta

Brief idea of project:

This chapter considers the development of EEG-based brain-controlled car, which can serve as powerful aids for physically disabled people. It captures EEG (electroencephalogram) signals from the driver's brain using EEG head set which contains three electrodes. The car works on the asynchronous mechanism of artificial intelligence.

Screenshots of the Project



Applications:

- It can be used educational and self-regulation.
- It can be used Games and entertainment.

Program : Electronics and Telecommunication Engineering

Project Title : Smart agriculture system

Domain : Wireless Communication



Name of Project Guide : Er. Shilpa Gaikwad

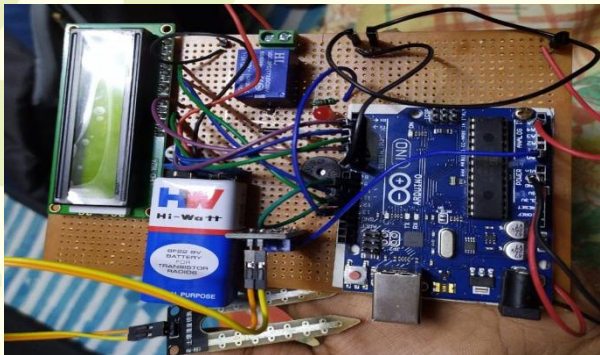
Name of Students : 17201A0044 Sonali Sonawane
17201A0021 Saail Choughule

Brief idea of project:

In Smart Agriculture system, it describes the way of Irrigating the land with the use of different sensors and it give the information to landowner when the percentage of moisture levels decreases below 30%.

This system avoids over irrigation, under irrigation, top soil erosion and reduce the wastage of water. The main advantage is that the system's action can be changed according to the situation (crops, weather conditions, soil etc.). By implementing this system, agricultural, horticultural lands, parks, gardens, golf courses can be irrigated. Thus, this system is cheaper and efficient when compared to other type of automation system.

Screenshots of the Project



Application

- The circuit can be used to measure the loss of moisture in the soil over time due to evaporation and intake.
- Minimizes water waste and improves plant growth.
- The circuit is designed to work automatically and hence, there is no need for any human intervention.

Program : Electronics and Telecommunication Engineering

Project Title : Automatic solar glass cleaner

Domain : Wireless Communication



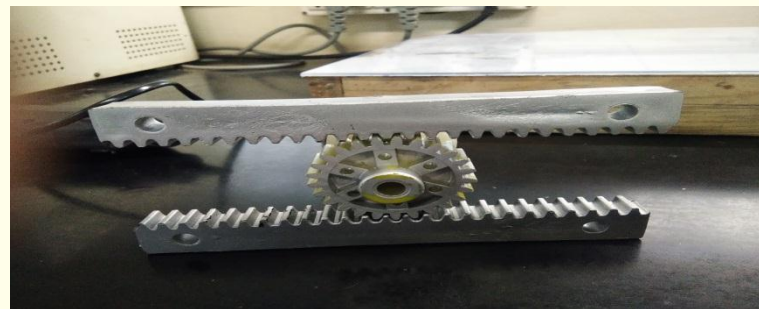
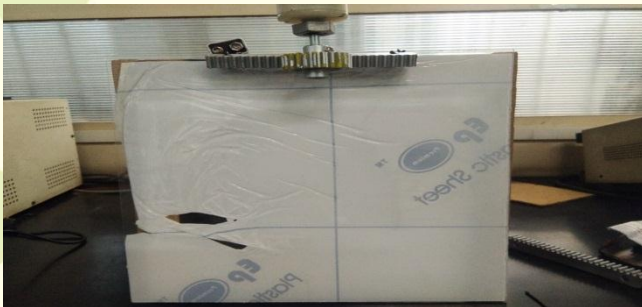
Name of Project Guide : Er. Rupali Bhosale

Name of Students : 17201A0042 : Kedar Vichare
17201A0032 : Shubham Erande

Brief idea of project :

The automatic solar glass cleaner is used to clean skyscrapers buildings , historical monuments etc. Automatically without using any of the man power & it also reducing the risk of human life . It works on the Arduino processor & solar panel which helps to save the cost

Screen shot of project :



Application :

1. Cleaning building / tower
2. Cleaning historical monuments
3. Cleaning large plane surface using eco – friendly manner

Program : Electronics and Telecommunication Engineering

Project Title : Radar system for object detection

Domain : Wireless System



Name of Project Guide : Er. Shilpa Gaikwad

Name of Students : 1701B0003: Ramya Raghavan
1801B1021: Shruti Karad

Brief idea of project:

Radar is an electronic device which utilizes electromagnetic waves to determine the altitude, range, direction, or speed of both moving and immovable objects. The main features of the ultrasonic radar to be devoted in several applications such as security purposes, object detection and avoidance systems in robotics.

Screenshots of the Project:



Applications:

Air Traffic Control, Ship Navigation and safety, Remote Sensing and Environment, Military area these are the application fields where radar is used.

Program : Electronics and Telecommunication Engineering

Project Title Bird feeder
Domain Wireless Communication



Name of Project Guide :Er. Rupali Bhosale
Name of Students :18201B1018: NP Rohan murali
18201B1019: Dhanesh Mohite

Brief idea of project:

This is a huge problem for biodiversity and ecosystem. That's why it is important to help bird populations and collect data on their habits and environment. The main goal of our project is to give birds a little help to feed themselves during cold winters.

Birds spend most of the day looking for food, especially to resist the cold. And that is not so easy! Their energy needs to maintain their body temperature, increasing while food resources decrease.

Feeding wild birds creates an important link between homeowners and conservation. These above statement are full filled by our project.

Screenshots of the Project



Application:

Used in local areas to feed bird automatically

Program : Electronics and Telecommunication Engineering

Project Title : Automatic BMI calculator using load cell & height sensor

Domain : Wireless Communication



Name of Project Guide : Er. Trupti Dudhat

Name of Students

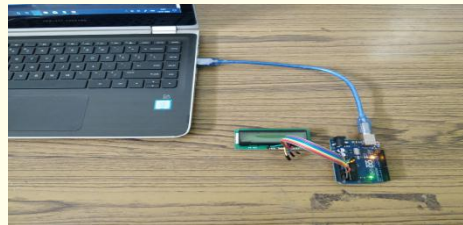
:1710900113 Atin Rane

171090099 Makarand Revdekar

Brief idea of project:

This thought is fundamental thought about the automatic BMI calculator using load cell and height sensor. In this you can get the body mass as well the height of the body index of a human body. In this device the main component are the load cell and the height sensing circuit, in this circuit the ultrasonic sensor is used which is installed at the top of the human body in such position that it can cover all body of human. The load cell which is used to measure the body mass of the human body.

Screenshots of the Project



Applications:

Use to measure body mass accurate and height sensing using height sensor and load cell.

Program : Electronics and Telecommunication Engineering

Project Title : RF presentation remote

Domain : Power Electronics



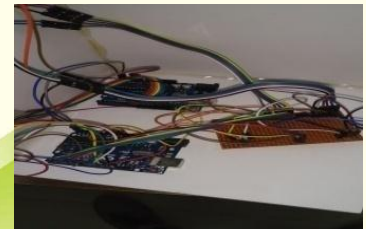
Name of Project Guide : Er. Sandhya Kumar

Name of Students : 17201A0015:Devraj Shigwan
17201A0016:Tanishq Raut

Brief idea of project:

This RF Wireless Presenter will offer us increased control for more effective presentations. In this we are going to use the RF transmitter and receiver modules .using this we are able to increase the range of sight and also the problem of line of sight. To send signals we are using push button and encoder IC HT12E is used.as we have less no of buttons that's why we are using only one IC.At the receiver end HT12D a decoder IC is used which is opposite to encoder IC. As controlling element, we are using ATmega 324, Arduino. This is a multi-time programmable, so we can add more buttons in future if required. This set up is very compact. It is the mixed of RF wireless control of PowerPoint keyboard shortcuts and the laser point. This device enables us to control presentation slides wirelessly up to 150 meters away indoors, while the laser pointer up to over 150 meters from the target.

Screenshots of the Project



Applications:

1. Useful for speaker in big Conferences like ted x etc.
2. Class room presentations.
3. In Big events (like college fest, lottery).
4. Training seminar or small group presentation.

Program : Electronics and Telecommunication Engineering

Project Title: RFID door lock

Domain: Electronics



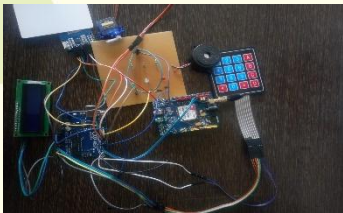
Name of Project Guide: Er. Madhvi M.

Name of Students: 18201B1017:Aayush singh
17201A0041:Omkar sakpal
18201B1015 :Shreyansh mishra
17201A0038: Swapnil shetye

Brief idea of project:

The main objective of this project is to provide security using simple electronic equipment. The RFID Door Lock is a lock that is simple to install and allows the user to easily unlock door. It contains RFID reader/writer, Arduino, GSM module, motor and LCD display. The user needs an RFID tag and a password to unlock the door. By scanning the right tag and entering right password, the door will open and send confirmation message through GSM module. If the tag/ password is wrong alert message will be sent. The components included in the module is small and compact and easy to install. It does not require the consumer to dismantle the door or doorframe as the door lock are merely attachments. It also gives the option of using their original lock and key to the consumer to choose. RFID door lock is a simple and cost effective upgrade to the average consumer's security and convenience.

Screenshots of the Project:



Applications: Lockers, RFID attendance system

Program : Electronics and Telecommunication Engineering

Project Title : SMS based prepaid water meter

Domain : Power Electronics

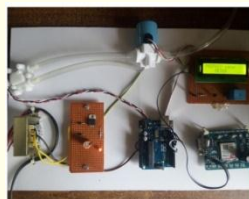


Name of Project Guide : Er. Shanti Sankara Krishnan
Name of Students : Rohan Golam (1705680121)
Saurabh Chorge (1705680139)
Sandeep Prajapati (1805680313)
Ankit Koli (1805680319)

Brief idea of project:

The purpose of the project is to avoid water scarcity and provide clean drinking water take it for granted and do not use it wisely. Automatic meter reading is the technology of automatically collecting consumption, diagnostic, and status data from water meter. The aim of the project is to help the water service providers to monitor the meter readings from the location. The customer can buy water by sending SMS from his phone to control station and automatically receive the bill in his phone through GSM.

Screenshots of the Project:



Applications:

- Household Purpose.
- Schools & Public Places

Program : Electronics and Telecommunication Engineering

Project Title : Braille lipi keyboard

Domain : Biomedical



Name of Project Guide : Er. Apurva Sawant

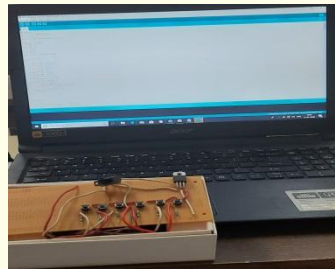
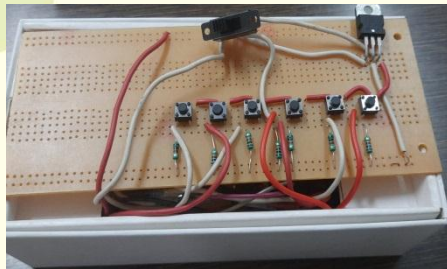
Name of Students : 18201B0013 : Komal Darade

: 18201B1016: Durgesh Lotankar

Brief idea of project:

The Braille system is a world-wide system used by blind and visually impaired people for reading and writing. Braille is read by passing the fingers over characters made up of an arrangement of one to six embossed points. Braille code is available for alphabets, numeral and punctuation marks

Screenshots of the Project



Applications:

- Braille Lipi keyboard can be helpful for blind people for reading and writing document.
- By using Braille Lipi keyboard blind people can appear for Exam.

Program : Electronics and Telecommunication Engineering

Project Title : Automatic bottle filling plant

Domain : PLC



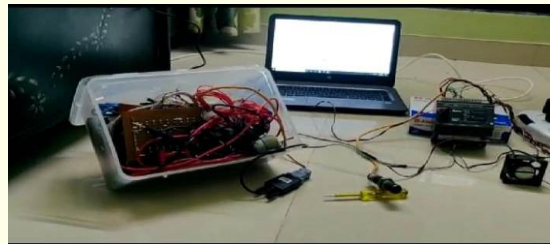
Name of Project Guide : Er. Imran Sayyed

Name of Students : 1710900100 Dipesh Dhangar
1710900107 Harsh Jain
1805680324 Ankit Singh
1605680198 Ankit Barai

Brief idea of project:

Filling is a task carried out by a machine that packages liquid products such as cold drinks or water. Traditional methods of bottle filling involved placing bottles onto a conveyor and filling only one bottle at a time. This method is time consuming and expensive. Our project aims at filling bottles simultaneously. It also includes a user-defined volume selection menu through which the user can input the desired volume to be filled in the bottles.

Screenshots of the Project



Applications:

- Water management system
- processes industries
- Paper Making
- Chemical Plant

Final Year Project Committee
Program: Electronics and
Telecommunication Engineering



Er. Anjum Mujawar
(Head, Department of Electronics and Telecommunication Engineering)



Er. Apurva Sawant
(Project Coordinator)