



SRI MANAKULA VINAYAGAR ENGINEERING COLLEGE

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DEPARTMENT OF MECHANICAL ENGINEERING DESIGN AND FABRICATION OF AUTOMATIC TUBER DECORTICATOR

ABSTRACT

Tuber vegetables are vital in our Indian Food culture. As they grow under the soil, it is necessary to peel off the skin and clean it properly before consuming. Tuber vegetables like Potato, Onion, Sweet potato, Beetroot are very difficult to peel off the skin and consumes more time when comes to large scale consumptions like Hotels, Marriage functions, Other Festive occasions. Our main objective is to peel off the skin of various tuber vegetables effectively and in less time period using single machine with less power consumption.

We are going to design and fabricate a compact machine for effectively peeling off the skin of the Tuber vegetables in short span of times. The only work to be done by human is to drop the vegetables into the hopper. The machine will automatically clean and peel off the skin properly. All Tuber vegetables can be decorticated with this machine. There will be rotating abrasive drum and an abrasive base which rotates in opposite direction. The base has crest curves for effective peeling action without wastage.



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DEPARTMENT OF MECHANICAL ENGINEERING

DESIGN AND FABRICATION OF GREEN PEAS SHELLER

ABSTRACT:

Green peas, or "garden peas", are the small, spherical seeds that come from pods produced by the *Pisum sativum* plant. They have been part of the human diet for hundreds of years and are consumed all over the world. Green peas are seeds that come from a legume plant, but they are most often consumed as a starchy vegetable.

It is produced on a large scale in India and requires proper post-harvest value addition due to its high perishability nature before it reaches the market. A pea is a most commonly green, occasionally golden yellow, or infrequently purple pod-shaped vegetable, widely grown as a cool season vegetable crop.

Still, there is no prototype to peel the skin and separate the green peas, we can reduce the manpower and the time consumed for removing the skin. It increases the production rate in the small scale industry. So this makes the farmers make their own production and sales and earn a profit. This makes a mass amount of green peas.

The main objective of the "Green Peas Sheller" is to decrease the time consumption in peeling of the skin in the green peas and also the manpower acquired for shelling the green peas. Multiple green peas can be shelled at a time.



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DEPARTMENT OF MECHANICAL ENGINEERING

CUSTOMIZATION OF CONVENTIONAL HELMET WITH HUMAN ASSISTANCE SYSTEM FOR NIGHT RIDING

ABSTRACT

In present time, frequent bike accidents can be seen around us, causing injury or fatal. And one of the main reasons is, not wearing helmet. But data shows that the trend of rate of accident hasn't declined, which is due to other factors like low visibility of road during weathers like fog, smog, mist and rain & high beam glare of the approaching vehicles in the opposite lane. This seriously affects the rider due to hazy road visibility.

In order to overcome these problems, an I-helmet is proposed, which has an in-built processing system. The "I-Helmet for Motorcyclist" is the project undertaken to improve road safety for motorcyclists. This idea was conceived, noting the increasing number of fatal road accidents over the years. The I-HELMET is a Protective Gear (A Smart Helmet) for motorcyclists. It provides a third eye vision to the rider during night driving and in all weather conditions. This device acts like a driving assistant which has an ESP32 Wi-Fi BT/BLE Development board which acts as the heart of our system, along with an IR thermal camera with a 2.8 inch HD display. This assists the rider with a clear road vision in all conditions including high beam situations at night.

The ultimate aim of our product is to provide safety to the rider with all the assistant systems and interface units.



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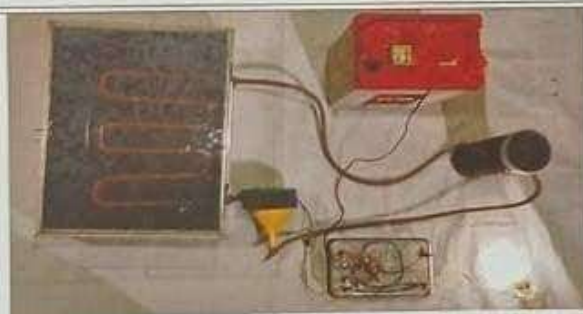
DEPARTMENT OF MECHANICAL ENGINEERING

DESIGN AND FABRICATION OF SOLAR ACETONE POWER GENERATOR

(ACESOL)

ABSTRACT

The gas generator is used to harness the energy liberated as heat in a variety of processes and converts it into a form of electricity which is useful for applications in the industry, medicine, agriculture, etc. The working fluid using in this model is Propanone (Acetone) which has a boiling point of (55-60°C). The fluid is heated by the solar radiation through Fresnel lens and it is typically produced intentionally for the production of gas for industrial and domestic purposes. The first step of the process is to transfer heat gotten from the Fresnel lens to the copper tube. This is done by having the heat source of lens to increase the temperature of fluid inside the copper tube and the produced gas is sent through the turbine to generate electricity which is boosted by a step-up transformer then it is used for applications. This system is implemented and the result shows that the power generated is adequate to run the appliances and that the generator economy is better and it also operates with three other sources. It will help society solve the energy shortage in the near years.



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PEARL MILLET DEHUSKER AND ASPIRATOR

ABSTRACT

The dehushing of pearl millet is done in many ways. There are some machines when it comes to this but they are very costly as well as complexly designed. These machines cannot be used for small scale use. By this process, separation can be done without breaking the ear head of the millet and also aspiration is easy. So this means, anyone can easily invest on and operate this dehusker machine. Our project has three stages of setups which includes a thresher, a filter with sieve attached, and an aspirator. The first stage is threshing the millet after getting into through the hopper. Second is filtering off the husk which is unwanted. Finally the third comes with an aspirator which is for grinding the dehusked millet pellets into pulverized form. A cam with an offset roller introduced to make linear vibration for filtering process. The machine's power is motorized and transmitted through V- belt drives so it has more than 85% efficiency.



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DEPARTMENT OF MECHANICAL ENGINEERING

DESIGN AND FABRICATION OF SUGARCANE CULTIVATOR

ABSTRACT

Sugarcane is an important cash crop in India. It is cultivated in various regions of India. The cultivation of sugarcane takes more time when it is done manually. So Sugarcane cultivator is used. It is driven by Wiper motor which uses 12v or 24v battery. Wiper Motor is used because of high torque. It is driven by chain drive, the motion is transferred to both shaft for forward and backward motion. The ditch ploughshare is for sequential dropping of cane on the ploughed mud. The cane dropping unit also contains a wiper motor and disc for holding and dropping of cane. Then the cane is enclosed with mud by using metal strips. It results in benefit of placed at front for ploughing of mud. A cane dropping unit is placed cost ratio. It used to reduce the labour cost and planting time period.



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DEPARTMENT OF MECHANICAL ENGINEERING

DESIGN AND FABRICATION OF SMART SOLDER

ABSTRACT

Soldering plays a major role in metal joining process by melting the filler material and joining two or more items by placing the melted filler material on the components and allowing it to cool. In normal soldering process, the solder which heats and melts the filler material is to be held on one hand and the filler material is to be held on other hand for efficient melting.

Our suggested solution is combining the filler material with the solder and controlling the amount to be melted, the temperature, feed and speed of the filler material to be melted. The smart solder combines the filler material and the solder as one piece by placing the roll of filler material on the top of the solder which is extruded onto the tip of the solder through the extruder. The speed of the extrusion and the temperature of melting and also the amount to be extruded is controlled by the Arduino NANO where the control codes are programmed. The tip of the suggested smart solder contains the heating element where the filler material is heated and melted.

Using smart solder, it makes the soldering process efficient and can be done in a quick manner.



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FLOWER STRINGING MACHINE

ABSTRACT

The project deals with design and fabrication of automated flower stringing machine. This machine is more effective in tying the flower compare to manual work. It increases the production rate which haven't achieved until now. Skilled labour is required for floral making flowers like mullai, malli, are tied using this machine.

This is a completely modified form of the existing project. The main aim of our project is to knot around the stalk of the flower to eliminate the manual effect in the conventional method of making of the garland. The project is innovative of its kind. The idea is totally unique.

The project is mainly done to improve the production of small scale industries especially during festival sessions when demand is more. There is no research work is being carried out in this area, if the project is successful it will meet the demand of small scale industries in flower knotting process.



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DEPARTMENT OF MECHANICAL ENGINEERING

SEMI AUTOMATED COCONUT CUTTING AND GRATING MACHINE

ABSTARCT:

The process of coconut cutting depends upon the sharpness of the cutter used and the effectiveness of the man power applied. This process is considered quite difficult due to the required shape and hardness of the outer shell of the coconut. The grating process is also considered unsafe even on use of both hand tool and machine and much time is consumed in this process. Our project satisfies most of the issues and provides a machine which would satisfy everyone's need in an effective manner. The coconut is placed in the carrier with help of man power. A cutting blade is used to cut the coconut into two halves and the water is collected in the duct. The bisected coconut is washed with help of water and collected in the storage tank. With the help of man power the coconut is placed in the holder. Specially created tool is used to grate the flesh of coconut from its shell. The tool is based on the principle of "Four Bar Mechanism." A spring is used to adjust the grating tool based on the diameter of the coconut shell. Then the coconut shell is collected in the waste duct.



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DEPARTMENT OF MECHANICAL ENGINEERING DESIGN AND FABRICATION OF SOLAR HYBRID PESTICIDE SPRAYER

ABSTRACT

The demand for energy is emergent day by day in the whole world special in developing country like India (four highest in the world). India is the seventh largest country in the world. India government facing energy issues that are why India takes various measurement and initiative to promote "make India Energy from Non-conventional source". As India is agriculture-based country and 70% people do farming and related work. More than 60% Indian economy depends on agriculture so we need to raise the production in the agriculture field. In order to meet the food requirements of growing population, modernization of agriculture has become a necessity. In agriculture, spraying of pesticides is an important task to protect the crops from insects for obtaining the high yield. Farmers mainly use engine operated or hand operated spray pump for this task. Conventional spray method is more costly and tiredness for the farmers. To overcome this problem hybrid pesticide spraying comes in a picture which uses solar energy to run the hybrid pesticide sprayer. This model will perform spraying at the maximum rate in minimum time at low running costs.



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4.	A. Vinidh (16TB0382)	

InnovativeProjectList(2018-2019)

Sl.no	TitleofProject	Guide
1.	DesignAndFabricationOf PortableGranularFertilizerSpreader	Dr.K.Velmurugan
2.	Design And Fabrication Of Smart Mirror UsingRaspberryPi3 AndConceptOfIotWithAduino	Mr.L.Martin
3.	DesignAndFabricationOfAutomaticFlour Mill GrindingMachine Plate	Mr.S.ArulPradeep

DESIGN AND FABRICATION OF PORTABLE GRANULAR FERTILIZER SPREADER

ABSTRACT

In current scenario, agriculture field is having its downtrend due to non-availability of skilled labours. By the latest technology, all the equipment's and machineries are mechanised. Fertilizers are commonly used for growing crops. Fertilizer spreader for large scale farming is effectively utilized but expensive.

Conventional method of spreading of fertilizers for small scale farming is done by manually. It has problems like uneven spreading of fertilizers, consuming more time and high human effort. Due to physical handling of the highly chemical composed fertilizers, that raises a hazardous situation for the farmers.

In this proposed project, we have designed a **PORTABLE GRANULAR FERTILIZER SPREADER** for small scale farming which involves less human effort and cost effect. Our work aims in reducing the time, cost and human effort. The main part of the design is rotating disc, which helps in spreading the fertilizer uniformly. Thus the spreader can be used even by a common man in small scale farming effectively.



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4.	VISHNUKANTH.V(15TB0393)	

DESIGN AND FABRICATION OF SMART MIRROR USING RASPBERRY PI 3 AND CONCEPT OF IOT WITH ADUINO

ABSTRACT:

The present quality of life of people has been enhanced by the prevailing interactive computing with wireless embedded device. we have psychological interaction with one mirror every

day, but this interactive mirror is an endeavor to augment the mirror with proper embedded intelligence to offer unique features such as weather of the city, updated information and the time of that particular location. The scope of the Smart Mirror would help in developing smart houses with embedded IOT which control music systems, tube lights, fans, etc. The proposed mirror is designed to perform several functionalities that can be summarized as follows:

a) A flat monitor is used for the mirror display. A one-way mirror is used to provide real time display of what is located in front of the Smart Mirror using Raspberry Pi thereby mimicking the function of a regular mirror.

b) Personalized Information services: Users will be able to obtain minute updates of latest news and public headlines; weather reports as well as get reports of four interests.

c) Control over necessary home appliances

d) Customized management of profiles: Users can create their own profiles and store them in the system. According to this profile, customized services are provided to the user.

Keywords: IOT, Raspberrypi3, Ultrasonic sensor, Microcontroller

PHOTOGRAPHS:



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DESIGN AND FABRICATION OF AUTOMATIC FLOUR MILL

PLATE GRINDING

MACHINE

Abstract

This automated world insisting technology by which a process or procedure is performed without human assistance. Automation is the use of various control systems for operating equipment with minimal or reduced human intervention.

As flour mills became the part and parcel of human life, using innovation in its structure is blindly required one. This proposed project flour mill plate grinding machine will replace the conventional machine by its cost effective way and economy of time in the process of re-grooving the plate. This new project will assure and support the flour mill owners who were facing many difficulties during festival season.



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3.	Rohan.S(15TE0281)	
4.	Saravanan. S(15TB0341)	

InnovativeProjectList(2017-2018)

Sl.no	TitleofProject	Guide
1	DesignAndFabricationOfCashewNut Separator	Dr.K.Velmurugan
2	DesignAndFabricationOf HelmetUsing BiaxialGlassfibre&GraphenePolymercomposi tes	Dr.G.G.Sozhamannan
3	Design And Fabrication Of PortableGroundnutThruster	Mr.P.SathiaPrathap

DESIGNANDFABRICATIONOFCASHEWNUTSEPARATOR

Abstract:

Nowadays, technologies are developed more and more, and it will never stop, because technologies are unstoppable. There is a machine to separate the cashew from the shell called cashew nut auto grading method (separation of shell from the nut). But till now there is no machine invented to separate the cashew nut from the cashew fruit, so we planned to do a project "DESIGN AND FABRICATION OF CASHEW NUT SEPARATOR". Nowadays, technologies are developed more and more, and it will never stop, because technologies are unstoppable. There is a machine to separate the cashew from the shell called cashew nut auto grading method (separation of shell from the nut). But till now there is no machine invented to separate the cashew nut from the cashew fruit, so we planned to do a project "DESIGN AND FABRICATION OF CASHEW NUT SEPARATOR".



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3.	Vaigundhan S	
4.	Varadharajan A	

DESIGN AND FABRICATION OF HELMET USING BIAXIAL GLASSFIBRE & GRAPHENE POLYMER COMPOSITES

Abstract:

- To reduce the weight of the helmet we prepare a composite material of biaxial glass fibre and graphene nanopowder along with the epoxy resin as the binder.
- This reduces the weight of the helmet and increases the strength against the heavy impacts and collisions on the helmet.
- It also consists of an RF transmitter and an RF receiver system, which enables the biker not to ignite without wearing a helmet by the rider, as the RF signal radiates from the transmitter to the receiver which is placed in the ignition switch which is an additional security system applied to this project.
- This project is expected to improve the safety and reduce accidents especially to the motorcyclists.



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3.	SrinivasanA	
4.	NandhakumarA	

DESIGNANDFABRICATIONOFPORTABLEGROUNDNUTTHRUSTER

Abstract:

To provide comfortable and hygienic way for removal of shells, Portable Lightweight, Pollution free and dust free, Reasonable price The portable groundnut thruster is designed to fulfill the necessity of human comfort zone. Houses, catering company, hotels, restaurant etc., making use of groundnut is 9 out of 10 food items. A portable groundnut thruster without polluting the environment gives a comfortable way of removing the shells from the groundnut and ensure hygiene.



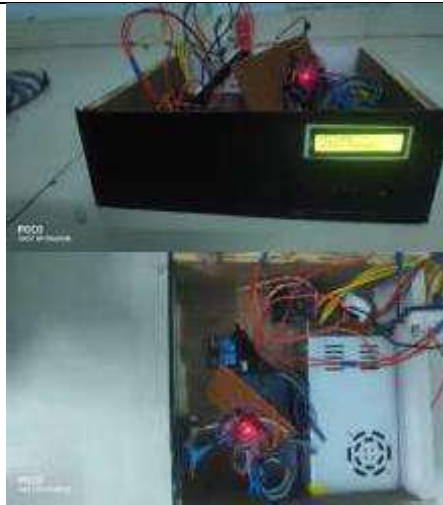
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4.	NandhakumarA	

DEPARTMENT OF ELECTRICAL AND ELECTRONIC ENGINEERING

Innovative Project List (2019-2020)

Sl.no	Title of Project	Guide
1.	Design And Implementation Of A Device For Catalysed Drying Of Food-Based Materials	Dr.S.Anbumalar
2.	Mustard Seed Processor (Msp) Machine	Mr.K.Thangaraj,
3.	Smart Energy Meter	Ms.N.Swarnalakshmi
4.	Detection And Prevention Of Ligament Injuries In Joints	Mrs. S.Punitha
5.	Intellectual Parking System	Dr. K. Suresh
6.	Smart Aqua-Gen	Mr.K. Arun
7.	Turbo Mixing Of Raw Materials By Dynamic Rotation Of Pipelines	Mr.K.Thangaraj,
8.	Electromagnetic Based Seed Injection Machine	Mr.S.John Powl
9.	Automatic Tender Coconut Water Extractor	Mr.V.Malarselvam
10.	Corona Ozone As Pesticides For Organic Farming	Mr.B.Parthiban

DESIGN AND IMPLEMENTATION OF A DEVICE FOR CATALYZED DRYING OF FOOD-BASED MATERIALS



Abstract

The only source to dry food based substances like copra, rice etc. is sunlight and this process usually takes a lot of time. There is no device to accomplish this process. Considering that we do not have sunlight throughout the year and to fasten this process a device is constructed. The objective of this project is to build a cost-effective device that extracts all forms of naturally occurring light energies and utilizes it to remove moisture in food-based products. The structural advantage of this device is used to extract maximum power from natural light energy available in its environment. A trapezoidal pyramid-shaped insulation is built in which coils are embedded. Aluminium reflectors are fixed on the inner surface of the insulator and they render the reflection of heat as well as the surface of eddy current. Thereby heat is generated. The coils are energized through a power drive system which is connected to solar power extraction panels and a back-up battery source.

Features:

- It can be used in coconut oil extraction where coconut has to be dried
- It has a huge range of operation in manufacturing of spice powder
- It can be used by small and medium scale industries for quick drying process
- Mostly cottage industries will be benefitted through this device

Applications:

The application of this catalyzed drier is that it is used to fasten the drying process of a broad spectrum of food material. The basic scope is demystification. The removal of excess water molecules through heating is generally carried out by traditional heating methods in the presence of sunlight. By using resistance heating, the heat is generated to remove excess moisture.

Project by	Project guide
Aravind R Dharmesh V Pra neeth Kumar P Prav een G	Dr.S. Anbumalar Professor & Head

MUSTARDSEEDPROCESSOR(MSP)MACHINE



Abstract

Agriculture is the predominant sector of Indian economy. India is the world's largest producer of pulses, rice, wheat, spices and its products. Confronting the importance of innovation in the agricultural equipment we designed a prototype "Mustard seed processor (MSP) machine" to replace the conventional method in the process of mustard crop. This societal project integrates harvesting, grading and cleaning of mustard by using a single machine. The seeds are made to measure the quantity of the collected mustard seed. It has designed with some special features such as intimation of maximum quantity of load in the load cell using liquid crystal display, buzzer and red led is used as an emergency indicator. The normal working condition of the electronic circuit is indicated using green led. This machine will reduce manpower and it will be helpful for small scale farmers.

Features:

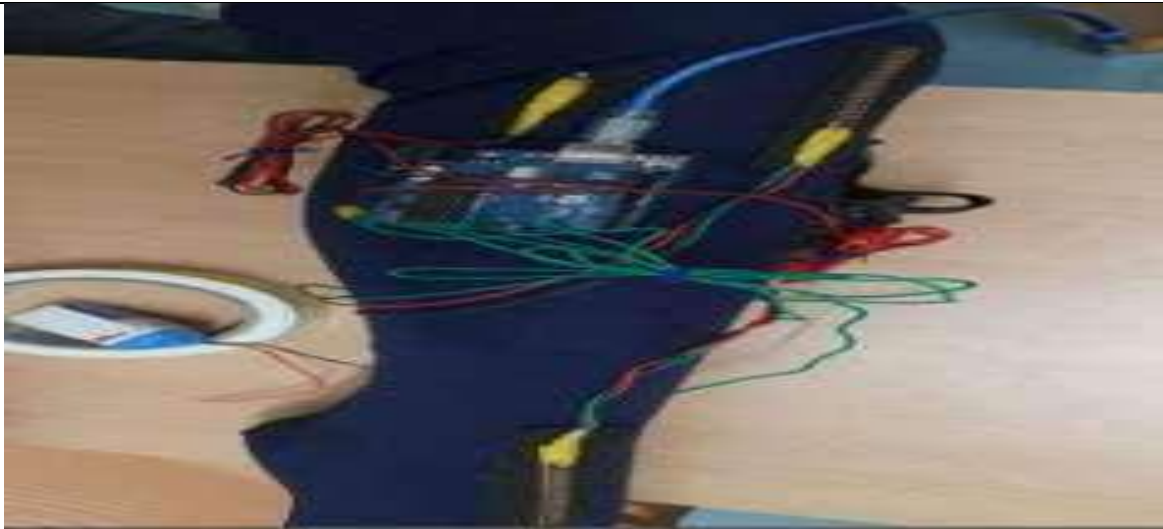
- The processor is designed similar to combine harvester for harvesting crops which is similar to mustard crop.
- It involves one-time investment of the machine.
- The intimation is given to the farmers regarding the collection of mustard seed.
- The emergency alarms are provided in the model.

Applications:

The harvesting of crop are done by manually in traditional methods. It involves labour, grain loss, and damage and increase the operation time. The utilization of mechanical tools and equipment enables to achieve timeliness, drudgery, grain loss and reduce operation time. Using mustard seed processor machine, cutting, threshing and grading is done on a single machine within less time. By using different sieve plate arrangement, similar crops can be harvested using this processor.

Project by	Project guide
N. Karpagam Nallam Ramalakshmi R. Soniya R. Aswini	Mr. K. Thangaraj, Assistant Professor,

DETECTION AND PREVENTION OF LIGAMENT INJURIES IN JOINTS



Abstract

One of the common traumatic sport -related injuries with potential short- and long-term morbidities is the tear of Anterior Cruciate Ligament (ACL). It occurs when the Tibial Shear Force (TSF) on ACL exceeds 2100N. Sportsmen cannot feel pain when they are applying an excessive amount of strain on ACL. Once the ACL tear occurs, surgery becomes mandatory and requires 6 to 9 months of rehabilitation. Knee Motion Sensor (KMS) has been developed to provide real time situational awareness for athletes alerting the transcend of TSF above the conditional limit. The strains applied on the Knee are identified using sensors and the player is alerted when the force exceeds the limit.

Features:

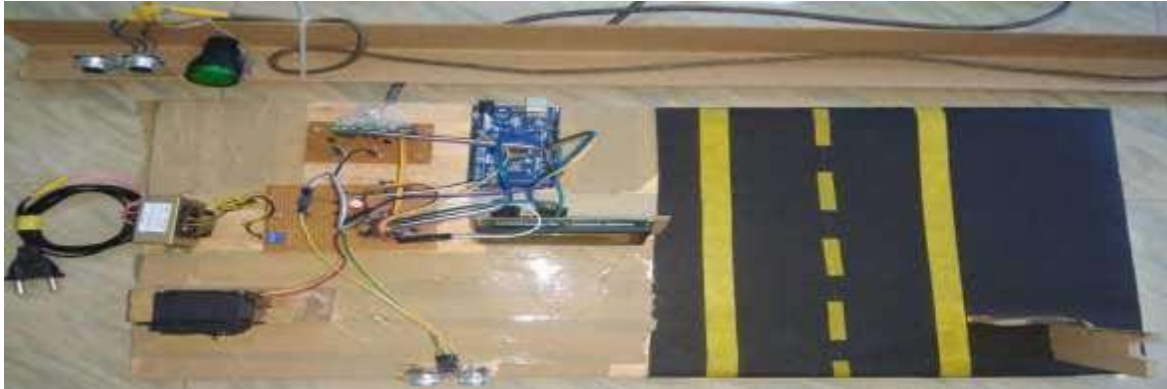
- Easy to wear
- Reduces risk of injury
- Contribution to sports

Applications:

Players and coaches of any sport can employ this for efficiency and safety. Insurance companies can utilize this on their customers. The Ministry of Youth affairs and Youth can sponsor this to athletes.

Project by	Project guide
Agilavathi BAkshaya SAnnapurana RArchanaS	Mrs.S.Punitha Associate Professor,

INTELLECTUAL PARKING SYSTEM



Abstract

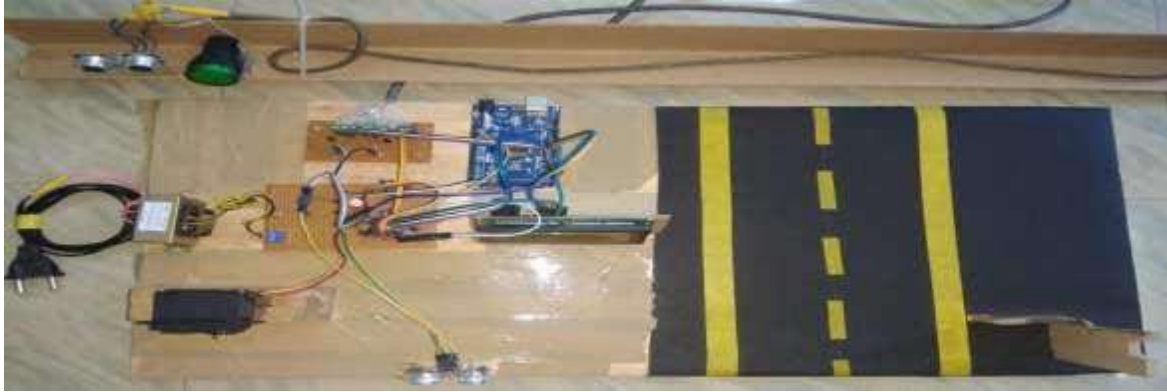
Due to the rapid increase in the number of vehicles on the road, traffic problems are bound to exist. This is due to the fact that the current transportation infrastructure and parking facility developed are unable to cope with the influx of vehicles on the road. To alleviate the aforementioned problems, the Intellectual Parking System using Arduino has been developed and by the implementation of this system, patrons can easily secure a vacant space at the parking deemed to them. Subsequently, the various sensor systems used in developing these systems in addition to the recent research and commercial system on the market are examined as vehicle detection plays a crucial role in the smart parking system. The parking system which we are practicing over a long period of time doesn't follow any discipline in arrangement of vehicles and also getting them out from the unmanageable and unwieldy parking area is very troublesome. Hence, the proposed parking system with the intervention of Image processing provides a better parking experience including time consumption and discipline in arrangement of vehicles. The principle of operation is based on differentiation of vehicle to identify the availability of car or bike slot with the help of Ultrasonic sensor and decides whether to open or close the port. The ultrasonic sensor indicates whether a vehicle is parked or not and this is displayed in the LCD display. This proposed system stands unique for its multipurpose use of both four wheelers and two wheelers which is done by Image Processing.

Features:

- Traffic congestion
- Time management
- Simple and easy to handle
- Increased automation

Project by	Project guide
K.Deepika A.Rachine T.Revathi K.Suvetha	Dr. K. Suresh Professor

INTELLECTUAL PARKING SYSTEM



Abstract

Due to the rapid increase in the number of vehicles on the road, traffic problems are bound to exist. This is due to the fact that the current transportation infrastructure and parking facility developed are unable to cope with the influx of vehicles on the road. To alleviate the aforementioned problems, the Intellectual Parking System using Arduino has been developed and by the implementation of this system, patrons can easily secure a vacant space at the parking deemed to them. Subsequently, the various sensor systems used in developing the systems in addition to the recent research and commercial system on the market are examined as vehicle detection plays a crucial role in the smart parking system. The parking system which we are practicing over a long period of time doesn't follow any discipline in arrangement of vehicles and also getting them out from the unmanageable and unwieldy parking area is very troublesome. Hence, the proposed parking system with the intervention of Image processing provides a better parking experience including time consumption and discipline in arrangement of vehicles. The principle of operation is based on differentiation of vehicle to identify the availability of car or bike slot with the help of Ultrasonic sensor and decides whether to open or close the port. The ultrasonic sensor indicates whether a vehicle is parked or not and this is displayed in the LCD display. This proposed system stands unique for its multipurpose use of both four wheelers and two wheelers which is done by Image Processing.

Features:

- Traffic congestion
- Time management
- Simple and easy to handle
- Increased automation

Project by	Project guide
K.Deepika A.Rachine T.Revathi K.Suvetha	Dr. K. Suresh Professor

SMARTAQUA-GEN



Abstract

Water is needed in all aspects of our life. In India it is difficult to consume water resources for drinking purpose. Yet nearly one billion people across the globe don't have access to safe and clean drinking water due to cost, contamination and climate change. The project is an attempt to provide drinking water to the people where there is shortage of pure and fresh drinking water so that we can overcome the problem mentioned above. The idea is to make use of the moisture present in air to produce water, because there is always certain percentage of humidity present in air even if we are in dry or sea regions (due to salt contamination). Hence this would be a reliable technology. The method is to cool the air available in the atmosphere which will convert the water from gaseous state i.e. from moisture into liquid. Here, the paper presents the method to develop a water condensation system based on thermoelectric cooler.

Features:

- Groundwater depleted areas.
- Desert areas.
- Seafarers who travel for long time in sea.
- Coastal areas with high humidity.
- Drought areas.

Applications:

The application of Smart Aqua-Gen is that it can generate drinkable water from the humidity present in the atmospheric air. Thereby it will be really useful for the people present in the places where the availability of drinking water is a major issue. Application of this product in desert areas will give us good results due to the presence of high level of humidity during the night time. Generally the coastal areas have high humidity level due to the evaporation of seawater. So it will be beneficial for people living in the coastal areas where the ground water is not usable due to seawater depletion.

Project by	Project guide
N. Seshan S. Veliyappan S. Vengadesh Vinod Chikala	Mr. K. Arun Assistant Professor

TURBOMIXING OF RAW MATERIALS BY DYNAMIC ROTATION OF PIPELINES



Abstract:

The mixing of raw materials is a very time-taking process in any industry that involves mixing of raw materials. There is an additional requirement of a tub to mix and the line is stopped for more than 90 minutes so to make it time efficient the mechanism of dynamic mixing of raw materials is introduced. In the process the raw materials to be mixed from different pipes are passed to a single pipe and the pipe to the destination is rotated using motors where fins are fixed inside $\frac{3}{4}$ th of the mixing is done in pipes while in motion and final mix is done in a small gallon a micro-controller is installed in the gallon to check the ratio of mixture and the remaining mix is mixed in gallon thus time is reduced and extra number of batches can be run on the saved time therefore production is increased.

Features:

- Dynamic Mixing.
- Industrial surveillance.
- Automatic mixing is performed.
- Easy and Efficient Mixing.

Applications:

The application of this Turbo Mixing Mechanism is that as the world is in global pandemic, chemical industry needs to increase their production for satisfying the demand of products like sanitizers and detergent to keep up hygiene. This type of mixing if adapted in industry can increase the scale of production and the time taken also can be reduced.

Project by	Project guide
Athul VBharathi SPraveen R Marineedi Akhil Raju	Mr. K. Thangaraj, Assistant Professor,

ELECTROMAGNETIC BASED SEED INJECTION MACHINE



Abstract:

In the farming process, often used conventional seeding operation takes more time and more labour. The seed feed rate is more but the time required for the total operation is more and the total cost is increased due to labour, hiring of equipment. The conventional seed sowing machine is less efficient, time consuming. Today's era is marching towards the rapid growth of all sectors including the agricultural sector. To meet the future food demands, the farmers have to implement the new techniques which will not affect the soil texture but will increase the overall crop production. In the farming process, often used conventional seeding operation takes more time and more labour. The seed feed rate is more but the time required for the total operation is also more and the total cost is increased due to labour, hiring of equipment. This machine reduces the efforts and total cost of sowing the seeds and fertilizer placement.

Features:

- Adjustable seeding rate.
- Seed monitor and hectare counter.
- Spring loaded plunger for seed dropping.
- No extra manpower required.
- It is compact in size

Applications: The model has been proposed with the aim to establish a 12kg per hour capacity seed processing plant. As is evident from the financial analysis that the project is sound and estimated results are encouraging and hence the model may be considered for financing under the scheme of GOI for boosting seed production in private sector.

Project by	Project guide
Sriram P Seenuvasan V Gowtham A Sunderkiran G	Mr.S.John Powl Associate Professor

AUTOMATIC TENDER COCONUT WATER EXTRACTOR



Abstract: Automatic Tender Coconut Water Extractor is a design that uses an innovative framework and motorized mechanisms to effectively collect water from the tender coconut minimizing the intervention of human. It will be an affordable (Rs. 20000-25000) and portable machine (maximum 5Kg) which is able to collect water from coconut within a timeframe of 3 minutes per tender coconut without any external help from the user. Tender coconut will be placed in the supporting clamp where it holds the tender coconut in a stable position. In the top of the tender coconut, a drill is given to penetrate the tender coconut to its bottom layer; it is controlled using a linear (motion) actuator mechanism. The drilling process is controlled using limit switches for forward and reverse direction of the drill bit, which is of HSS (high speed steel) material. Though the two AC induction motors employed for linear motion and for drilling are controlled using a 4-channel relay, all the operations are controlled with Arduino NANO. Finally, the tender coconut water is collected in a collecting tray through a filter. Experimental results obtained for the extraction of water from different sizes of tender coconuts are represented.

Keywords—AC Induction motor, Arduino NANO, Limit switch, 4-channel relay.

Project by	Project guide
S. Abilashvaran M. Logesh A. Mark Antony R. Raghuraman	Mr. V. Malarselvam Assistant Professor

CORONA OZONE AS PESTICIDES FOR ORGANIC FARMING



Abstract: The main objective of the project is the replacement of the chemical synthetic pesticides by non-hazardous bio-vital active oxygen element as natural pesticides to micro and macro-organisms in agricultural farming. The elemental nascent oxygen is highly hazardous and poisonous to micro-organisms (entomopathogens). This nascent elemental oxygen [O] is formed from Ozone [O₃] which is the tri-atomic molecule of oxygen element. Three oxygen molecules combine together and form Ozone [O₃] molecules. In this project, the ozone [O₃] is produced artificially. This artificial production of ozone is done by applying high electrical voltage across two dielectric electrodes that produce electrical corona, the oxygen gas passed through the corona and the ozone gas formed by combination of oxygen [O₂] on the surface of the corona.

The produced ozone is mixed with spiral flow barrier waterline at high pressure. Then the mixture is sprayed to the plants through high pressure nozzle. This mixture applied to the plants as pesticides instead of heavy hazardous chemical synthetic pesticides. By the application of this process, environmental pollution, water pollution and health hazards on animal and human beings can be eliminated. These eco-friendly ozone [O₃] pesticides are also financially beneficial to farmers. The pesticide characteristics of ozone [O₃] are the action of nascent oxygen formed from the deformation of ozone [O₃] into nascent oxygen. This nascent oxygen is poisonous to microorganisms (Entomopathogens) but acts as a bio-vital active to plants and macro-animals. Due to the spraying the enriched oxygen of water, there is quality and high yield of crops.

Features:

- Non-hazardousness for any living organisms except entomopathogens.
- Transporting, shifting and spraying are very handy to handle.
- Cost is cheap.
- Useful for Organic Agricultural farming.

Applications: The Ozone act as poison to the entomopathogens and act as the bio active vital to the crops due to rich oxygen. Hence the growth and yielding of the crops are quantity and quality wise better. The consequent ozone utilized crops consuming animals and humans are healthier without affected by the hazardous chemical activities. The environment also protected from the heavy hazardous chemicals (pesticides). Totally the entire ecology will be protected.

Project by	Project guide
M. Hariharan Jang a Prithvi L. R. Ravi ndranath S. Viknes h	Mr. B. Parthiban Associate Professor

InnovativeProjectList(2018-2019)

Sl.no	TitleofProject	Guide
1.	ArthospiralIncubator	Dr.S.Anbumalar,
2.	Low Cost Hydrogen Gas Production Using SolarEnergy	Dr.P.Jamuna
3.	AutoAgriculture Water And PesticidesManagement System	Mr.D. Durairaj

ARTHOSPIRA INCUBATOR



Abstract

Spirulina is a cyanobacterium that plays an important role in Algae culture. Spirulina market is a huge unnoticed market with high ROI and well known for its small scale production. Nowadays Spirulina are cultured in open tanks or tank like equivalent structures. With this conventional method, every farmer faces N number of problems in growing, harvesting and selling of spirulina. Since the tank is open to environment, the culturing medium is affected by natural turbulences and various other external factors. Presence of unconditional weather reduces the yield. Restricted seasonal availability of sunlight delays the multiplication process and limits the algae growth to particular seasons. Inability to provide constant agitations in conventional methods also affects the cultivation cycle. Major Key parameters change due to these external factors which results in degradation of its nutrient content. These contaminations will make the algae die which makes a huge loss for farmers both in terms of their revenue and time spent. Thus to solve the above mentioned problem statements, we hereby engineer a Tech-incubator that constantly monitors and controls the important parameters of spirulina and thereby to safeguard the farms from external factors. This incubator is an artificial environment provider with 24/7 real time farm monitoring, control and transmission. Not stopping with just monitoring, it also controls the parameters and maintains it from crossing the reference parameters. It monitors and controls the parameters like temperature, light intensity, etc. It also analyses the pH levels and indicates the farmers when gets violated. Constant agitation systems with dual agitators and pneumatics are also provided. With this incubator, the nutrient and bio-mass content of the spirulina enriched and the yield in terms of Kg are also increased.

Features:

- 24/7 real time farm monitoring & control
- Artificial environment with efficient algorithm
- User centric design
- Parameters controller by data analytics
- Single window monitoring and control of entire farm

Project by	Project guide
Megavaruman.P Mohamed Riaz.F Mohamed H Bhabu.K Mohamed Hussain.M	Dr.S.Anbumalar, Professor & HOD

SEMIAUTOMATEDMILKADULTERANTDETECTOR



ABSTRACT

Now-a-days, adulteration of milk is taking place all over the world. Due to adulteration, purity of the milk is reduced and the nutrients in the milk has affected. To overcome this a small prototype is designed to identify the adulterants in the milk. It helps in easy identification of the adulterants present in the milk without any basic knowledge about these process

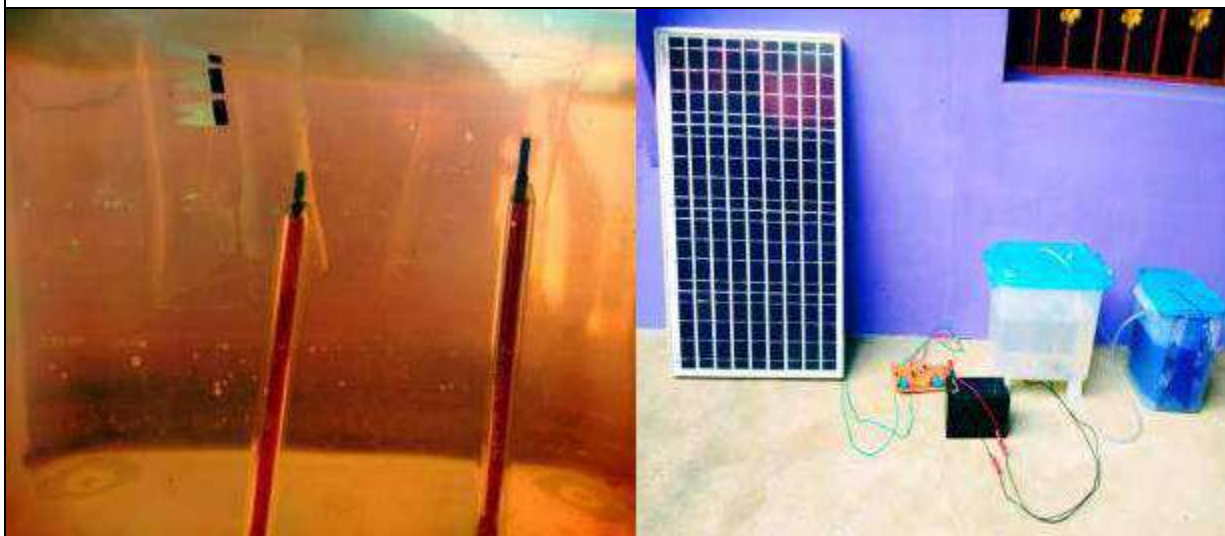
The main theme of our project is to detect adulterants in milk in simple manner. This prototype consists of chemicals and milk, in which chemicals are added in required concentration in the container. Arduino mega 2560 sends the control signal with help of keypad which is used to get input. The relays turn on and off solenoid valve with specified time to get required amount of chemicals. The chemicals are mixed with the help of vibration motor and mixed chemicals produce colour change. The temperature chamber produces high temperature in case if heating is required. Raspberry Pi 3B is connected through usb camera which transfers captured image and algorithm is set to recognize the image and observe the colour by using cluster algorithm and displays whether the adulterant is present or not and also the colour name in the LCD connected with raspberry pi.

FEATURES:

- The proposed system is semi-automated and the manpower is reduced.
- Image processing is used to detect the color change.
- Efficient than the current system.

Project by	Project guide
K.Ramachandiran N.Devaraja P. Aanadha Geethan M. Gautham	Dr.S.ANBUMALAR Professor & HOD

LOWCOSTHYDROGEN GASPRODUCTIONUSING SOLAR ENERGY



ABSTRACT

The most in exhaustible element in the universe includes H_2 , N and O_2 . In this hydrogen is the most existing component which occupying 75% of the universe and it plays a vital role in sustainability of life, besides helping other living species to survive hydrogen is also used to generate electricity. Hydrogen gas can be extricated by the process of electrolysis, in which high electric current is passed into the water to separate hydrogen and oxygen atoms. Electrolysis process is quite expensive since it involves high energy outlay. The energy used to generate electricity for electrolysis process is acquired from fossil fuel like oil, natural gas or coal. This makes the electrolysis process unacceptable for practical applications. Prospectively when electrolysis process combined with renewable energy source, can harness completely clean and renewable source of energy. In that circumstance electrolysis can be coupled with photovoltaic power to reduce the expense of electrolysis. Hydrogen is the pure form of energy and eco-friendly. As a gas it can be used in fuel cell to power various engines. Hydrogen gas when continuously applied to the fuel cell electricity is generated as long as the fuel passed. Hydrogen gas is non-poisonous which does not ruin the human health compared to other sources of fuels such as nuclear energy, natural gas which are tremendously hazardous to human safety and environmental ecosystem. This technique makes the hydrogen to be utilized in places where other sources of fuel cannot be allowed. As hydrogen gas is portable, it can be easily used for any application.

FEATURES:

- Used to produce hydrogen gas at low cost this serves as a promising alternative source of energy.
- Used to reduce the carbon emission to overcome the environmental pollution and produce clean energy.
- Used to build a alkaline fuel cell for electricity generation.

Project by	Project guide
S.Abinaya V. Anbarasi G.Shrineshruthi	Dr.P.Jamuna Associate Professor,

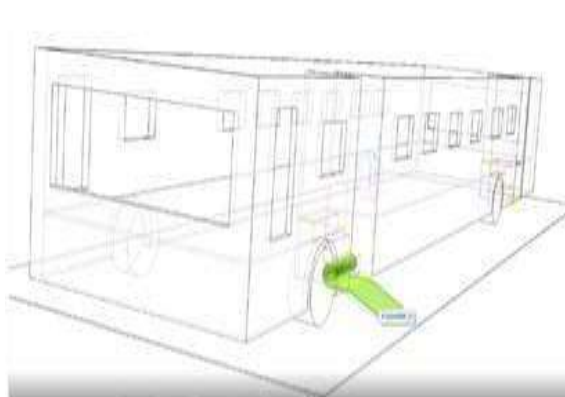
InnovativeProjectList(2017-2018)

Sl.no	TitleofProject	Guide
1.	Semi-Automated Adjustable Boarding System inBusesforSeniorCitizens	Dr.S.Anbumalar
2.	Design And Fabrication Of Pmdc MotorOperatedWater PumpForIrrigationPurpose	Mr.D.Durairaj
3.	Design Of Hybrid Power Generation Using SolarAndPeltier	Mr.K.Thangaraj.

Semi-Automated Adjustable Boarding System in Buses for Senior Citizens



Position of the Bus Steps



Position of the Ramp

Abstract

The buses in India provide the cost effective and convenient mode of transportation. Over 50% of the public transportation in Indian cities is by buses. The senior citizens and differently-abled find it difficult to board and de-board the bus easily because the clearance between ground and steps is high. The project is proposed in such a way to bridge the gap which varies with every bus. The proposed setup can be fixed in the bus to the rear side of the steps. Whenever it reaches the stop, a ramp will be projected out automatically. The ramp material is selected in such a way that it is durable for a very long time, lightweight and could withstand weight of two average persons. The ramp design is made rollable so

that the length of the ramp may not hit the transmission assembly. The gap constraint is checked in the bus stopping by sensors. The operation of the proposed setup in the bus stops is based on the RFID Technology. In case of emergency, the buses have to be stopped in the midway and hence the setup can also be operated manually. Thus, the fatal injuries and difficulties of the senior citizens and differently-abled can be eliminated.

Features:

- No need to change the construction of the existing Buses
- It is semi-automated i.e., that it can work automatically and also can be operated manually in case of emergency
- CFRP Material is robust in nature and can withstand huge amount of load.

Project by	Project guide
B.Canagasundar S.NandaKrishnan	Dr.S. Anbumalar Professor & HOD

DESIGN AND FABRICATION OF PMDC MOTOR OPERATED WATER PUMP FOR IRRIGATION PURPOSE



ABSTRACT

Permanent Magnet DC motor (PMDC) has wide applications because of its high performance. The low price and high energy characteristics of PMDC motor made to promote the utilization of motors in a wider range of applications such as fans, pumps, blowers, centrifuges, pumps and robotic arm controls. There is no input power consumed for excitation which improves the efficiency of PMDC motor. Permanent Magnet DC motor (PMDC) has a great advantage because it does not need any commutation circuits for providing power to the PMDC motor from solar panel unlike, induction motors. PMDC motor does not need converter circuits for providing power from the solar panels. For analysis of PMDC motor in detail Finite Element Analysis (FEA) tools such as MAGNET and MOTOR SOLVE for providing the various analysis parameters of the PMDC motor are used in this proposed project. These tools provide the various experimental results of the developed machine which is useful for analyzing the performance under operating conditions. The efficiency of the motor has been improved by varying the design parameters using these FEA tools. The motor magnetic material can be replaced by using many alloys, so we can minimize the electrical parameters and improve the operating characteristics of the motor. Also the parameters as per the results are changed such that the proposed design is very much suitable for irrigation purpose. The prototype has been developed at the laboratory and tested under various physical conditions such that it can operate at higher efficiency other than existing models used for irrigation. Adding to this various test results are obtained and discussed by integrating with solar panels. It is found that the performance is better and the developed prototype can be a suitable replacement for existing induction types. Variable speed control is a challenging one as we felt, and can be left as future scope of our project work.

Features:

- High discharge
- Energy efficient
- Robust
- Less maintenance

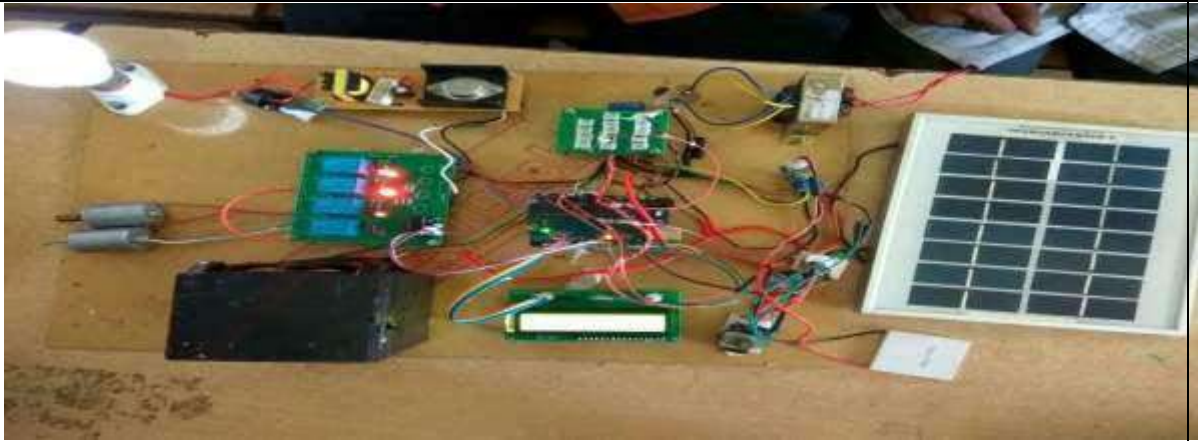
Students

Arun Kumar.R
Krishna.A
Lokkesh.CMu
gundhan.M

Project guide

Mr. D.
Durairaj Assistant
Professor

DESIGN OF HYBRID POWER GENERATION USING SOLAR AND PELTIER



ABSTRACT

Nowadays, there is a demand to increase the power generation capacity because of steadily rising electrical energy consumption. In order to achieve this, renewable energy sources are the best option. However, the reserves of fossil fuels will soon be depleted, since oil is a limited resource. So to overcome this we can use the renewable energy sources as it will also provide a cleaner environment for future generations. Renewable energy can be created by many methods; for example, solar energy, wind energy, hydro energy, nuclear energy, and many more. For each of these different forms of creating electricity, there are certain limitations.

Among all the renewable energy sources, solar power generation system tops the list. But solar energy can only be created when there is sunlight; to overcome this we can hybrid with other technologies, so here we are using hybrid generation using solar and Peltier plate. So when there is no sunlight, we can generate energy using the Peltier plate. The solar and Peltier energy obtained is stored to a battery. The battery which is used can be recharged with the two generation inputs like solar and Peltier. The battery is connected to the inverter. From this energy the AC loads can be operated with the help of inverter. The hybrid power generation which increases cell life, improves performance and provides operational benefits under different environmental conditions.

Features:

- Aftermath of disaster
- Industrial surveillance.
- Military surveillance.
- Agricultural surveillance.
- Underground monitoring system.

Project by	Project Guide
S.RAJESH.K.D E.E.PAKK.KALI APPAN	Mr.K.Thangaraj Assistant Professor

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Innovative Project List (2019-2020)

Sl.no	Title of Project	Guide
1.	Automatic Intravenous Drip System	Dr.P.Raja
2.	Mechanized System Of Integrated Shoe Cleansing & Polishing	Dr.V.Bharathi
3.	Virtual Assistant Car Using Raspberry Pi	Dr.R.Kurijimalar
4.	Android Based Robotic Arm	Mr.P.Arunagiri
5.	IoT Based Smart Power Management System	Mr.Pushparaj
6.	Student Attendance Monitoring System Through Rest Api	Mrs.M.Julie Therese
7.	Human Identification Using Finger Vein Recognition	Mrs.A. Vijayalakshmi
8.	Biometric Security Deployment In ATM	Mrs.M.Julie Therese
9.	Farmer Friendly Agri Bot	Mr.K.Uthayasuriyan
10.	Smart Pill Dispenser	Mrs.S.Jayanthi

ANDROID BASED ROBOTIC ARM

ABSTRACT

The technology keeps on evolving and the control system of instruments gets evolved and everything can be controlled under one roof. Nowadays android application is an important tool for controlling devices and instruments. In our project we choose to automate and ease the control of robotic arm which plays an important role in various industries. At present, industries use robotic arms which are controlled by individual control units and each arm needs a individual to operate. As a solution to this, we propose a system in which the robotic arm is controlled by using an android application for multiple operations. The user gives the command from an android application and the command is decoded with the help of Node MCU. It has an inbuilt wi-fi module which helps to receive the various commands from the application by the microcontroller. IC L293D is used to interrupt the command from the microcontroller. The system is designed in a way where two or more robotic arms performing the same task can be operated simultaneously from a single application.

Keywords: Android application, Node MCU, Robotic Arm. Ap

plications

- Used in Logistics, Chemical Industries and Assembling unit of Automobile Industries.



Sl.No	Name of the Student	Name of the Guide
1.	Aroop Siddharth.A.S(16TC0222)	Mr.P.Arunagiri A Associate Professor
2.	Dhileep Kumar.R(16TC0247)	
3.	Govindaraj.T(16TC0258)	

IOTBASEDSMARTPOWERMANAGEMENTSYSTEM

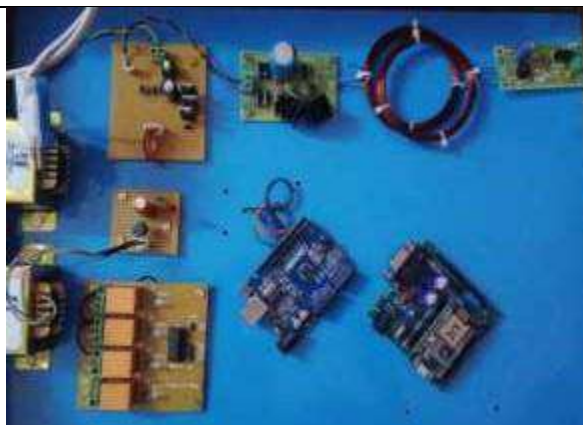
ABSTRACT

The electrical wire plays a vital role in transmitting power to all the appliances and devices in the home. Therefore, it causes a tremendous increase in usage of wires in the house. However, creating a new power connection requires huge man-power. The main objective of the system is to control all functionalities and the voltage consumed by appliances in home. The system uses primary and secondary coils to transfer power to the home appliances based on wireless power transmission technique (WPT). Arduino UNO and Node MCU 8266 microcontroller boards are used, so that the end user could control the home appliances by sending instructions to microcontroller boards by using a web application. These connections are pluggable and it can be used easily whenever it is needed. Hence, this system removes the use of residential wires in the house and provides the user to have a full-fledged control over the home appliances remotely using an internet connection.

Keywords: Wireless power transmission (WPT), Arduino UNO, Node MCU 8266, Internet of Things (IoT), Web application.

Applications

- Control of voltage consumed by all the home appliances.



Sl.No	Name of the Student	Name of the Guide
1.	Bharathkumar.(U16TC0231)	Mr.Pushparaj As sistant Professor
2.	TamilChandiran.T(16TC0402)	
3.	Anishmaran.S(16TC0214)	
4.	Mugundhan.N(16TC0318)	

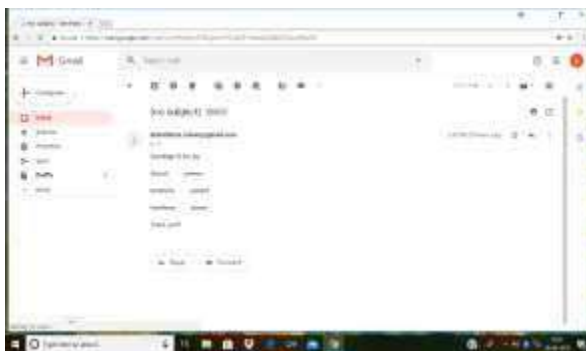
STUDENT ATTENDANCE MONITORING SYSTEM THROUGH REST API

ABSTRACT

In school and college student's attendance plays a vital role and if taken physically it leads to time consumption. The ordinary approach of taking the student's attendance is a greater reason for students to behave undisciplined. Students take advantage of the traditional practice of attendance by improving their cheating behaviour. There are several automated techniques obtained for this determination. All these methods are similarly tedious because the students have to make a track to keep their thumb on the skimming device. In order to overcome these shortcomings, a framework called Smart Attendance Tracker is proposed using Haar Cascade Algorithm. This effort defines an efficient algorithm that automatically marks attendance without human interference. This attendance is documented by using a webcam placed in front of the classroom that is endlessly capturing images of the student, identify the faces in images and equate the detected faces with the database and update the attendance. The updated attendance list sent to the Head of the Department (HOD) and Administration wing via Electronic-mail. Day-to-day absentees list is updated to the class advisor through Short Message Service (SMS). Finally, the absentee parents are automatically notified over SMS. This process develops system performance by time management.

Keywords: Attendance system, Haar Cascade Algorithm, time management Applications

- It can be used for both rural and urban areas



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1.	Dharaneeswari.A(16TC0245)	Mrs.M.Julie Therese Assistant Professor
2.	Kanishma.M(16TC0284)	
3.	Keerthana.N(16TC0290)	

AUTOMATIC INTRAVENOUS DRIP SYSTEM

ABSTRACT

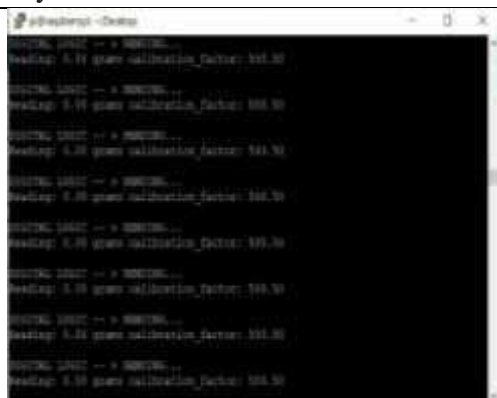
Intravenous Drip System (IDS) is used to regulate the fluid administered from IV bag to patient vein. The thin tube called as catheter, is inserted into one of the veins. The rate of medicated fluid that is administered relies on gravity alone. The dependence in gravity can result in receiving either too much or too little medicated fluid. The flow in an IDS is generally regulated manually by nurses or caregivers, the roller clamp which is used to control the rate at which the IV fluid infuses by squeezing the catheter. If the medicated fluid runs out in the drip chamber then due to reverse flow of blood occurs from the patient body and may lead to formation of air bubble in the catheter leading to air embolism when pressurised IV bag is used. To overcome the problem faced in hospital, a framework is proposed. The framework consists of a load cell which detects the absence of fluid by measuring IV bag. A control mechanism will immediately stop the flow of fluid without any airflow in patient's vein when the IV bag becomes empty. In this method, drip chambers are monitored and controlled using Raspberry Pi automatically rather than manually. This results in avoidance of reverse flow of blood.

Keywords—

Air embolism, Drip chamber, Infusion process, Doctor unit, Patient unit, Load cell, Bluetooth transceiver, BO Motor, Raspberry Pi.

Applications

- Automation of monitoring and controlling Intravenous Drip System (IDS) rather than manually



Sl.No	Name of the Student	Name of the Guide
1.	Siva Suriya V (16TC0274)	Dr. P. Raja Professor and Head
2.	Bhuvaneshwar P (16TC0235)	
3.	Jagadish M (16TC0276)	
4.	Manoj Prabhakaran .B (16TC0308)	

MECHANIZED SYSTEM OF INTEGRATED SHOE CLEANSING & POLISHING

ABSTRACT

The “Mechanized System of Integrated Shoe Cleansing & Polishing” is a machine that was designed to polish the shoes in an effective and efficient manner. The main aim of this invention was to provide an all rounded complete finish of the polishing of shoes in less time. We employ special type of brushes arrangement to ensure the complete polishing of the shoes. The other objective is to provide both the cleaning and various colors of polishing in a compact and single compartment. The cleaning process and polishing process is made possible by the automatic switching of the two mechanisms during the operation. The eminent issue that is addressed to be solved is the reduction of manpower and in-turn providing an efficient, smart and automatic alternative method of polishing the shoes integrated with the cleaning facility. Most of the people are unable to spend time in polishing their shoes properly while getting ready for their occasions and important meets, so this innovation can help them with the best efficiency of cleaning and polishing all types of shoes. **Keywords:** Integrated, Polish, Shoes, All rounded, Cleaning and Polishing, Compact, Automatic switching.

Applications

- Integration of shoe cleansing & polishing with increased efficiency
- Multiple colors can be availed with drying mechanism

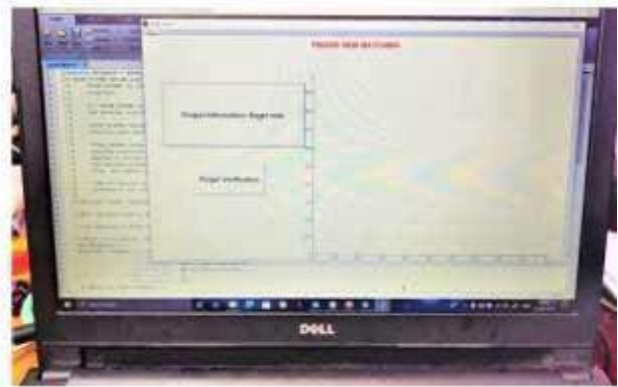
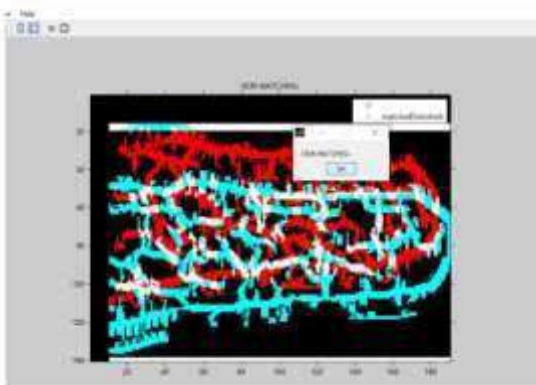


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HUMAN IDENTIFICATION USING FINGER VEIN RECOGNITION

ABSTRACT

Security systems are the most essential necessity of spoofing attacks in today's world. Consumer electronics products demand high security with high precision and fast authentication speed. Human physiological characteristics in biometrics are of tremendous importance as a solution to security problems. There are several cases of biometric duplicity especially which caused severe loss to the public and governments throughout the world. To avoid these issues there was a strong need to make a project of human identification based on vein as the vein location of the people are also unique. Thus, a finger-vein and texture recognition system for authentication is proposed. Our solution is to establish a finger-vein location-based recognition method. In the finger-vein recognition system, there are certain characteristics algorithms using which the finger vein and texture features are extracted and are matched. This system is implemented using a score combination logic which uses a combination of algorithms for the fusion of the vein and texture blocks and checks whether the resultant fusion is genuine or fake. The previously proposed finger-vein identification approaches are examined to develop a new approach that illustrates its superiority over prior published efforts.



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BIOMETRIC SECURITY DEPLOYMENT IN ATM

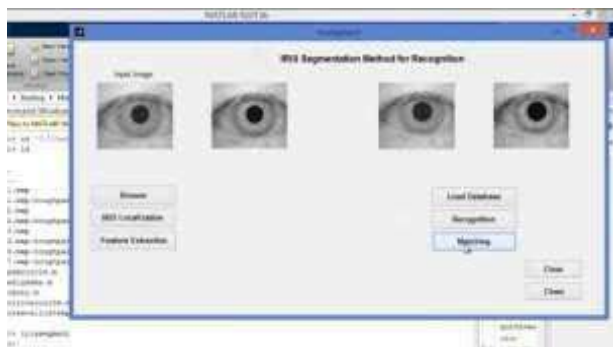
ABSTRACT

This proposed system intends to provide high level of security to the users while performing ATM transactions. The security is assured by the use of biometrics and computer vision. The biometric used in this system are Fingerprint and IRIS patterns. The computer vision application is to detect burglars and robbers by picturing out the live camera feed to identify if any user is trying to hide their identities. The security is deployed in two stages of the ATM handling process by the users as present outside ATM entrance and in the ATM cabin. Users have to pass these two stages of security checks to ensure successful transactions.

Keywords: Biometrics, ATM Security, IRIS Recognition, Object detection, Fingerprint, ATMBurglars.

Applications

- Money deposit and withdrawal ATM machines



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FARMER FRIENDLY AGRIBOT

ABSTRACT

This system was mainly devised to overcome the use of weedicides for the removal of weeds in the agricultural land. Farmers mainly use the weedicides to kill the weeds. They not only kill the weeds but also affect the native plants. To overcome this robot was designed. This is mainly controlled using Raspberry-Pi coded in python language. There is a camera called as Pi-Cam which is used to check for the weeds. This camera is interfaced to an app via Internet of Things. Through this setup the robot can be controlled for the removal of weeds. The cutter is activated once the weed is identified. This cuts the plant from its root preventing its regrowth. This entire setup is solar powered and there is no need of any fossil fuel for its operation. This significantly reduces the amount of pollution caused. This bot can be monitored in real time via a mobile app and helps the farmer to keep in track of the happenings in the agricultural land. The future advancement of this project is to make it fully automated and also grind the removed plants to turn them into manure for the particular land.

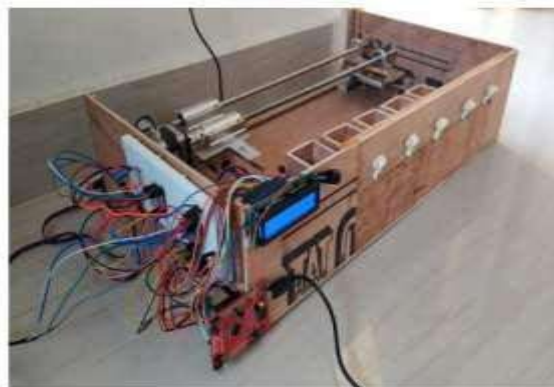
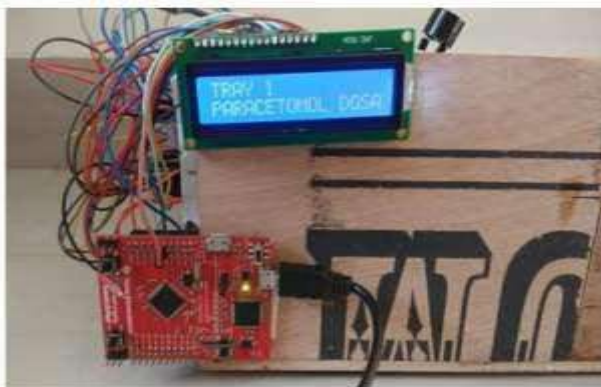


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4.	Srivaresh.B(16TC0389)	

SMARTPILLDISPENSER

ABSTRACT

The issues in the previous work are the small size of the dispensing hole that makes it inconvenient to take the tablet, assembling tablets in the compartments in accordance with the time of the day were difficult and there are chances that the tablets are prone to the moisture from the environment. The product is specially designed for taking medication, without any special supervision mainly for geriatric patients. It is a rectangular box which contains medicine strips in each tray. The prescription along with tray number is uploaded to the machine using a mobile application. According to the time mentioned in the prescription, the alarm rings and when button is pressed respective trays are opened. A display shows medication name along with number of pills to be taken. When person fails to take the medicine from the compartment, notification will be sent to the caretaker's and patient's mobile. The problem is intended to solve taking wrong drugs, which may lead to serious health issues and also sometimes to death. A survey shows that about 9.5% of death is due to medical error in which about 3.2% is due to wrong intake of drug. So the product can considerably reduce the death rate and confusion in taking medicine among people.



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3.	Sariga.S(16TC0364)	
4.	Pavitra.G(16TC0338)	

InnovativeProjectList(2018-2019)

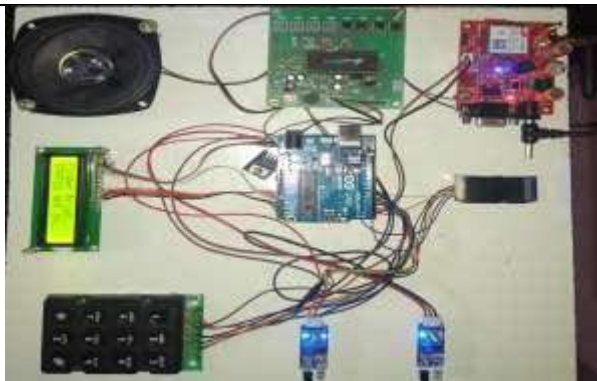
Sl.no	Titleof Project	Guide
1.	Smart RailTicketBookingSystem	Dr.A.Jayachitra
2.	Smart Helmet For Accident And AlcoholDetection	Ms.C.Janani
3.	SmartDiabeticFootwear	Mrs.N.Jothy

SMARTRAILTICKETBOOKINGSYSTEM

ABSTRACT

India's population increase day by day, mostly common peoples are depending on the railway for traveling to their destinations. The passenger reservation system of Indian Railways is one of the world's largest reservation models. Daily about sixteen million people travel with unreserved tickets in Indian Railways. One of the biggest challenges in the current ticketing facility is QUEUE while buying railway tickets. For the passenger safety, convenience and the need to improve the performance of existing public transportation is driving demand for intelligent transportation system in the market. This project is used for providing sophisticated ticket reservation and collecting system. The hardware design has an ATMEGA328 Microcontroller and R307 Fingerprints scanning sensor which is used to compare the finger print of the user with the pre-stored finger print of the user in the database. During booking the finger prints are checked for matching and if it matches, the user can select source and destination using keypad. Fingerprint recognition with the Banking service provides real financial transactions, and engenders concerns from both financial institution and users on secure authentication methods. LCD and ARP Voicemodule is used to exhibit the corresponding status and GSM module provides a short message service to the users.

Keywords: ATMEGA328 Microcontroller, R307 Fingerprints sensor, ARP Voicemodule, IR sensor, Banking transaction.

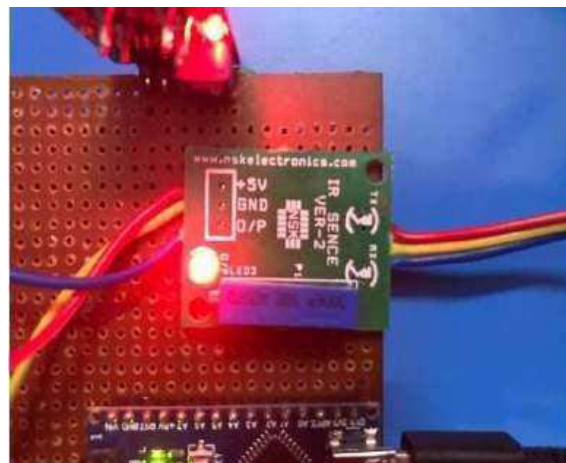
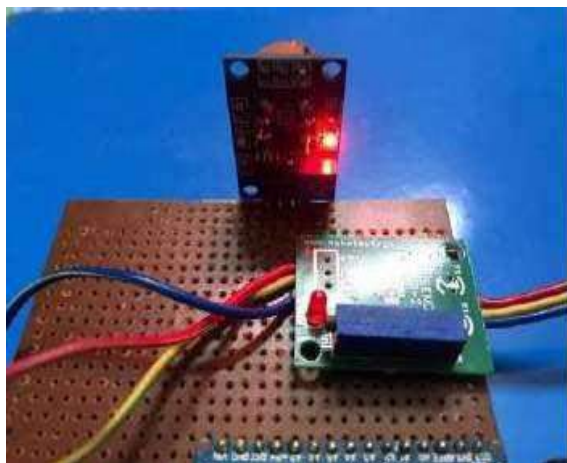


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1.	S.DANASEKARAN(15TC0236)	Dr. A.Jayachitra Professor
2.	LK.KEERTHIVASHAN(15TC0279)	
3.	E.SRINIVAS(15TCL011)	
4.	P.SURYAKUMAR(15TC0384)	

SMART HELMET FOR ACCIDENT AND ALCOHOL DETECTION

ABSTRACT

Nowadays, the road condition is becoming worse and people lose their life because of preventable causes like driving without a helmet, drunken driving and late report of accident with inaccurate Global Positioning System (GPS) location so it is becoming more and more complex for the people living in urban areas. The main aim of this project is to design an intelligent system which detects and gives alert to the authorities in order to take appropriate precaution. This system consists of sensors, Radio Frequency enabled processors and microcontroller. The MQ3 breath analyzer checks whether the person is drunk before the ride and the drowsiness is identified by using an eye-ball sensor which is indicated by an alarm sound. If the person fails to wear the helmet and has consumed alcohol exceeding the Blood Alcohol Content (BAC) limit, the processor will not allow the person to ride the bike. The impact sensor detects the collision of vehicle with the ground, if the sensor reading is above the threshold value the microcontroller will accurately detect the falling of the vehicle. When an accident occurs the details are sent to the emergency contacts by using Global System for Mobile Communication (GSM) Module and the location of the bike is tracked by using GPS.



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2	NAVARSHIGA. N (15TC0310)	
3	NIRANJANI. C (15TC0312)	
4	REENASHRI.R (15TC0346)	

SMARTDIABETICFOOTWEAR

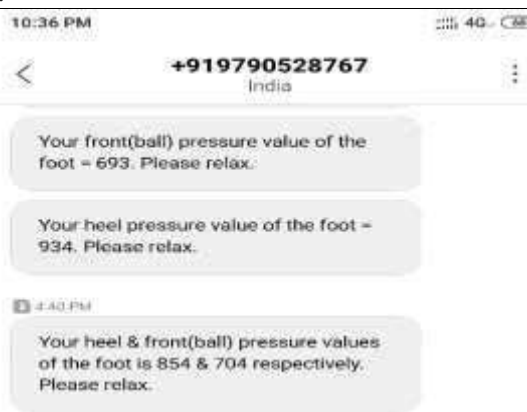
ABSTRACT

Diabetes is one of the major causes of illness and premature death worldwide. Diabetic neuropathy causes nerve damage which can ultimately lead to amputation or ulceration and can be prevented by the early detection of abnormal pressure patterns under the foot.

This project is to design and build a low-cost foot pressure system, embedded within smart footwear which a patient can wear at any place to monitor his or her foot pressure distribution to identify and diagnose foot neuropathy as early as possible. It is a fully wireless, customizable „Smart Diabetic Footwear“ that measures the pressure exerted under and all around the foot in real life conditions. The foot pressure distribution is measured by a set of FlexiForce pressure sensors located on the insole of the footwear and in the case of risk alert is sent to the person. A watch or a smart phone or a distant laptop can be used for providing alert. To improve the blood flow the smart footwear has a set of miniature Vibrating Motors that stimulate the nerves by vibrating in different amplitude.

Application

- Used in hospitals and medical industries.



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2.	R.Vidyasree(15TC0357)	
3.	A.Yogeswary(15TC0220)	

InnovativeProjectList(2017-2018)

Sl.no	TitleofProject	Guide
1.	ELECTRONICHEALTHMONITORINGANDOPTIMIZATIONUSINGWIRELESSBAND	Dr.P.Raja
2.	INTELLIGENT TRAIN OPERATION CONTROLFORUNMANNED GATESCENARIO	Dr.R.Ramya
3.	REMOTE CONTROLLED GREEN CLEANERFORSWEEPING ANDMOPPING OFFLOORS	Dr.V.Bharathi

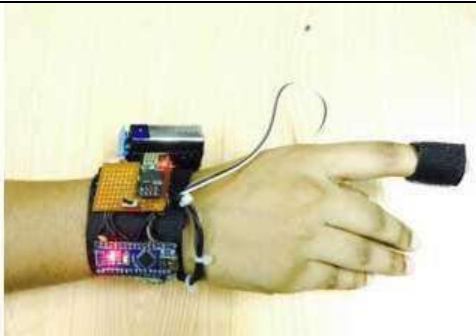
ELECTRONIC HEALTH MONITORING AND OPTIMIZATION USING WIRELESS BAND

ABSTRACT

The Electronic health record is a digital version of patient's medical history that makes the information available instantly and securely to authorized users. The existing EHR faced the liability issues, tension between flexible access to data, cost and security concerns. These drawbacks thrive to design a wireless monitoring device called as wireless band which records patient's pulse/heart rate, blood pressure, temperature and also send the data to the server periodically. This band comprises of wireless module (Wi-Fi) which is connected with the main server of the hospital. The doctors can access the patient's condition annually through server and need not check the patient physically. The necessary steps can be initiated based on the database available in the server. The same information can also be accessed through the webpage, unless anyone is connected to the Wi-Fi of the hospital. Also, the outpatients can be surveilled using the ThingSpeak (IoT platform)

Applications

- It can be used in Hospitals to monitor the patients and reduce the workload of the doctors.
- The outpatients can be monitored using cloud.



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1.	D.Akshaya(14TC0209)	Dr.P.RajaProfessor and Head
2.	R.Akshaya(14TC0210)	
3.	A.Rajeswari(14TC0313)	
4.	S.Monisha(14TH0255)	

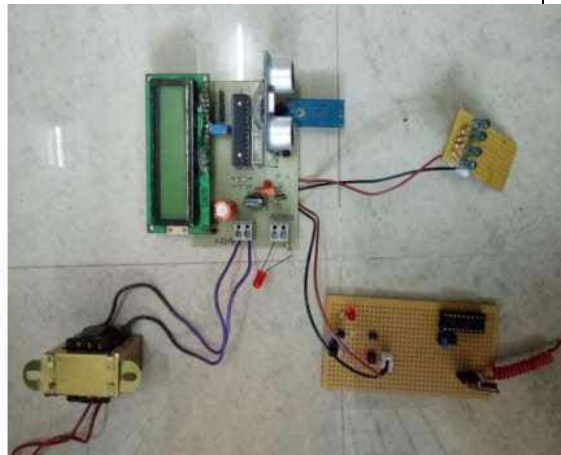
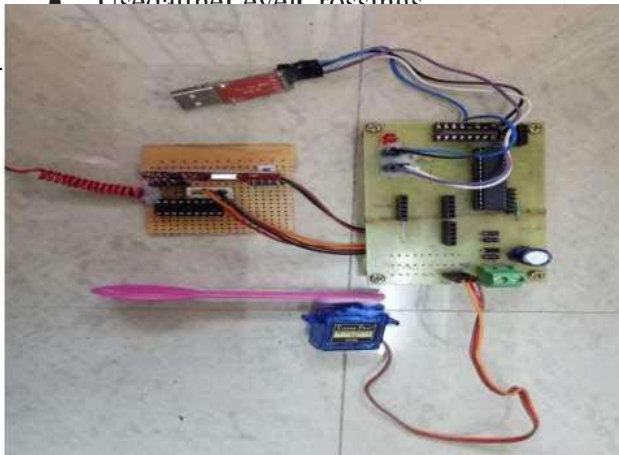
INTELLIGENT TRAIN OPERATION CONTROL FOR UNMANNED GATE SCENARIO

ABSTRACT

Railway train control systems are used to protect and manage the operation of train over the railway infrastructure, including wayside signaling systems and train on board controllers with components that communicate with each other. Train control systems are typical safety critical systems since they prevent collisions between trains and ensure the safety of train operations in general. We propose an intelligent train control system using bidirectional communication between train and gate. The work mainly focuses on avoidance of accidents in unmanned gate scenario. For that we take the obstacle at a distance at a time period, vibration, IR signals as input parameters to take actions accordingly. Meanwhile these predicted variations in sensor are updated wirelessly to the gate terminal.

Applications

- Implemented in Future Indian Railway Industry.
- Used at the Level Crossings



Sl.No	Name of the Student	Name of the Guide
1.	S.Arthi(14TC0218)	Dr.R.Ramya Professor
2.	K.Harini(14TC0256)	
3.	R.Jegadeeswari(14TC0265)	
4.	B.Vigneshwary(14TC0355)	

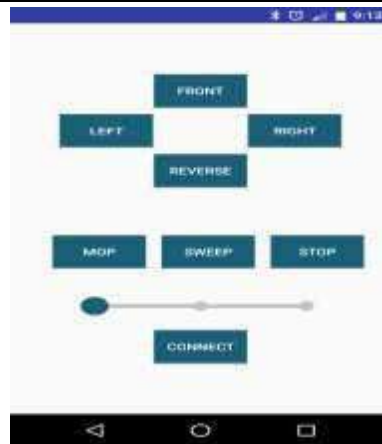
REMOTE CONTROLLED GREEN CLEANER FOR SWEEPING AND MOPPING OF FLOORS

ABSTRACT

Effective cleaning and sanitizing helps to protect the health of the human beings directly and indirectly. The existing floor cleaning methods such as dry and wet mopping either by human or vacuum cleaner needs physical effort from human and not provides efficient cleaning. The proposed remote controlled green cleaner (RGC) is a system that enables cleaning of the floor with the help of highly stabilized. During the cleaning and moving operation of vehicle a propulsion mechanism such as driven wheels and guide wheels for the dry tracking on the floor surface to be cleaned is utilized. Mopping is carried out by moppads, scrubbing action is done by the scrubber towards the rear end. The RGC can operate in different modes such as sweep mode, mop mode or sweep and mop modes.

Applications

- Useful for easy cleaning and sanitation.
- Can be used at domestic as well as in industries.



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2.	Inti Vignesh Vishal(14TL0213)	
3.	Edwin J Mathews(14TC0242)	

DEPARTMENT OF COMPUTER SCIENCE ENGINEERING

Innovative Project List (2019-2020)

Sl.no	Title of Project	Guide
1.	SuPULVI	Dr.J.Madhusudanan
2.	Oculus	Dr.V.Vijayakumar
3.	TrainMaster-Chatbot	Mr.S.Kumarakrishnan
4.	Networking And Cloud Computing Setup Simulation	Mr.M.Ganesan

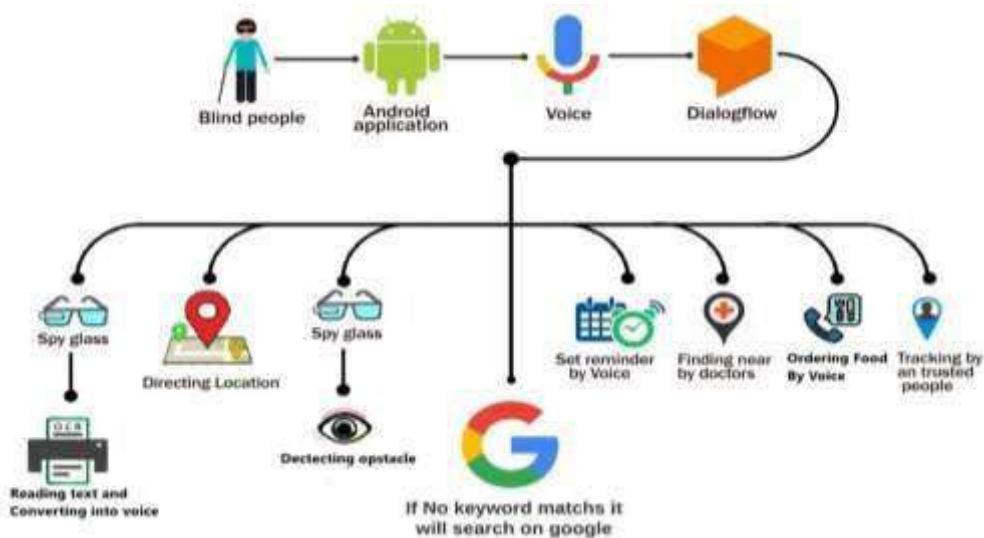
ABSTRACT

Sl.No	Nameof theStudent	Nameof theGuide
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2.	ENIYANILAVAN.R(16TD0241)	

OCULUS

ABSTRACT

It is observed that, nearly 37 million people across the world are blind and among them 15 million (i.e.) 15% are from India. Although there are various accessible systems developed for the visually challenged masses, they are not fully feasible and they find it difficult to adapt in their everyday life. The difficulties faced by these people while crossing the roads are massive and a lot of deaths are recorded in past years. On fact-finding, availability of applications in the market to address blind people is limited with voice recognition and object detection. Thus, the idea behind our proposal **OCULUS** is, a smart glass which mainly aims to reduce the death rate of the visually challenged groups while crossing the roads. This can be achieved by attaching a spy camera with the oculus to detect the objects and instruct the user by voice commands to either wait or move in other direction in order to proceed further. There are some added features like reading the document and delivering it by voice, Navigation, Finding Nearby Doctors, Emergency which will send message to the trusted people when in need any help, Face Recognition of the people.

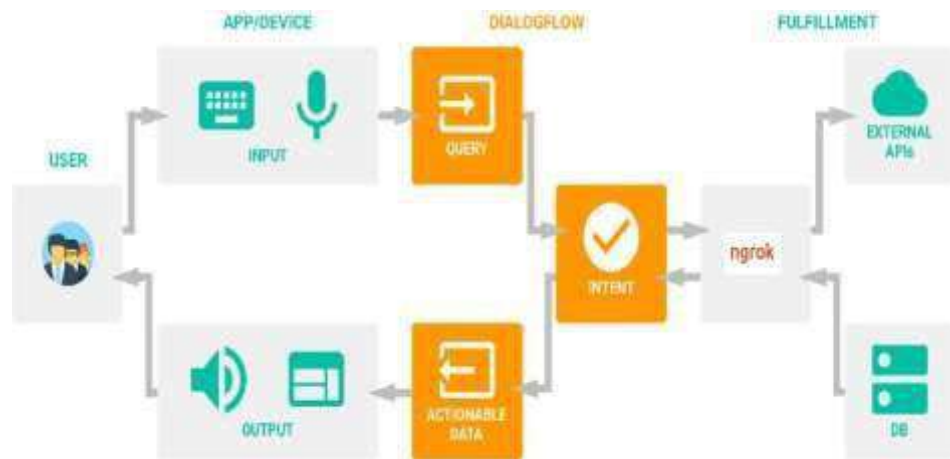


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2.	MOHANRAJ.S(16TD0285)	

TRAINMASTER

ABSTRACT

INTERACTIVE RAILWAY RESEVERVATION CHATBOT The user interactive chatbot should be created for booking the tickets, answering to the queries asked by the passengers. This chatbot is created using the approach of DIALOG FLOW using the python language. The process booking the tickets by this chatbot will be done by getting the source and destination with additional details. Once the details are obtained and user confirms the reservation the chatbot will book the ticket and send a confirmation reply message to the user. The chatbot is created mainly based on the ARTIFICIAL INTELLIGENCE technology where the machine can automate the work of a human with the previous experience.

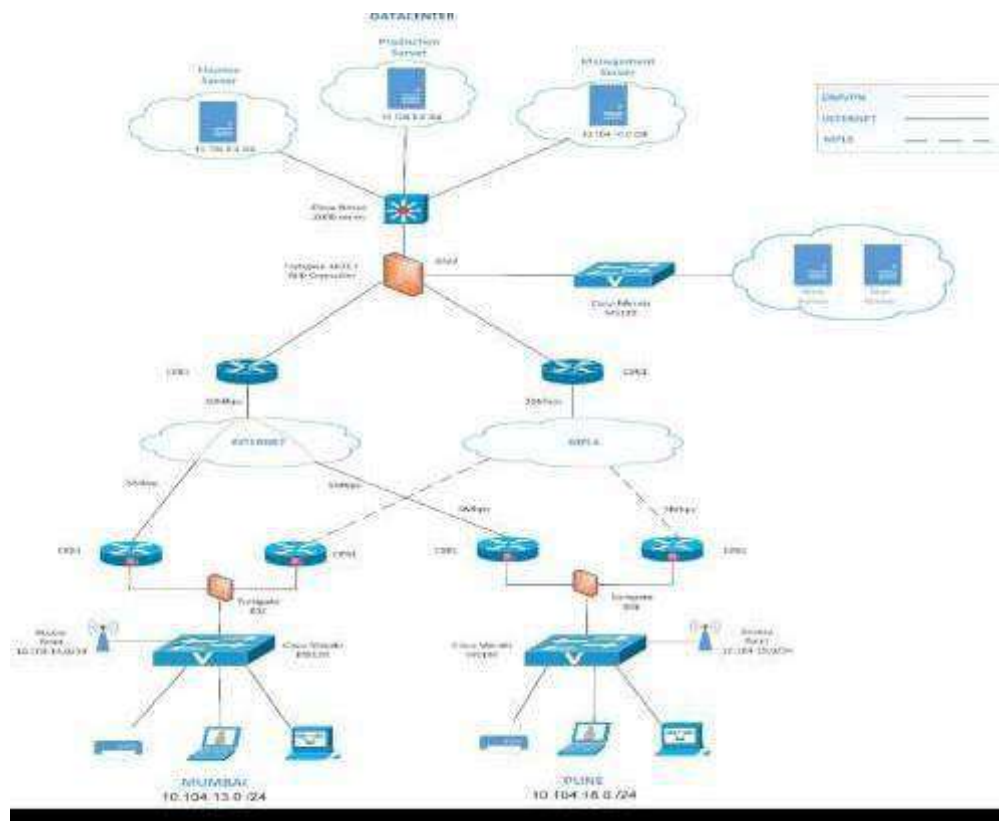


Sl.No	Name of the Student	Name of the Guide
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NETWORKINGANDCLOUDCOMPUTINGSETUPSIMULATION

ABSTRACT

Nexis is a Banking company and planning to open three offices in India:Delhi, Mumbai and Pune. Delhi will be the Datacenter where all critical applications anddevices are hosted. Mumbai and Pune will be branch offices from where users will beaccessing the applications hosted in the Data Center. Please plan the network designarchitecturebased on below inputs.



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1.	GAUTHAM.A(15TD0241)	Mr.M.Ganesan
2.	KILLIVALAVAN.S (15TD0269)	

InnovativeProjectList(2018-2019)

Sl.no	TitleofProject	Guide
1.	JEWEL-O-TRACK	Dr.E.Kodhai
2.	SmartEnergyMeter	Mr.P. Iyappan
3.	Arquideficeo	Mr.M.Shanmugam
4.	DigitizationOfUserDetails	Mr.M.Shanmugam

JEWEL-O-TRACK

ABSTRACT

The fascination for the act of gold theft or robbery has never diminished. This fascination of theft has to be slacked for the welfare and betterment of the society and people. With the current generation of improving technology, there has to be an easier and sophisticated way to solve this problem. JEWEL-O-TRACK is one such technology which can be considered as a step towards the diminishing of jewel theft, which has been a prominent issue in our country. Jewel-o-track is an android cum web application, with the motive of assisting the people by tracking their stolen or missing jewels and providing them up to date information about the everyday changing rates of jewellery. **Jewel-O-Track enables us to manage the details of the jewel stored during manufacturing in the web application through Cloud Computing. It further helps Customer to socially integrate with the jewellery shop owner and pawnshop owner by landing in the common application platform and allow customer to clarify queries about any specific needs of the jewellery.**



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2.	VAIBHAV SHANKAR PAWARS (14TD0322)	
3.	HARIRAJK (14TD0234)	

SMARTENERGYMETER

ABSTRACT

The communication link between the device and the EB station server is through the GSM Network where the communication is independent of the distance. The message passing to the device is highly confidential that the customer can't get access to the device directly. The customer can also take the control of their main switch through the mobile phone by requesting the server. In case the customer is failed to pay the payment the main switch can set to OFF state so that the payment can be made in well advance. The device is made with microcontroller AT89S52. The estimate cost of the device to manufacture is around 1,500. The device can be implemented with no change in the existing prototype. The accuracy of calculating the pulse is also efficient.

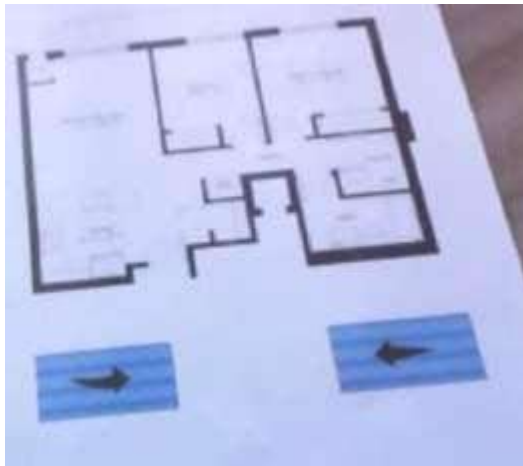


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2.	FREDRIC.S(14TD0227)	
3.	SHEIKTHAJITH.C(14TD0299)	

ARQUIDEFICEO

ABSTRACT

Many people will find it difficult to make decisions on how their dream house must be. To overcome this difficulty augmented reality concept is used. Augmented Reality (AR) is alive, copied view of a physical, real-world environment whose elements are augmented (or supplemented) by computer-generated sensory input. With the rise of personal mobile devices capable of producing interesting augmented reality environments, the vast potential of AR has begun to be explored. This application creates a 3D structure of the building enabling the user to get an idea of how the house would be so that the user can make any changes if they want to do. The application differs from others by generating good 3D structure and accurate navigation.



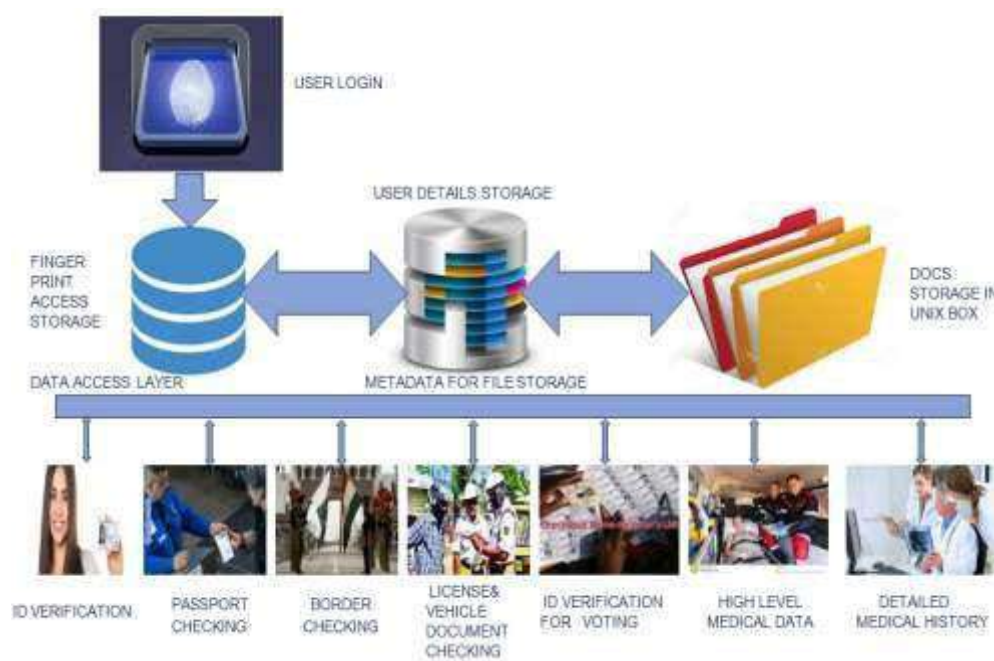
Sl.No	Name of the Student	Name of the Guide
1.	SENDHILBALAN.P(14TD0298)	Mr.M.Shanmugam
2.	RAMALINGAM.S (14TD0284)	
3.	VINOTH.K(14TD0327)	
4.	SOZHAN.N(14TD0305)	

DIGITIZATION OF USER DETAILS

ABSTRACT

Main scope of the system is to provide complete digitization in areas like Identification - (Identity of citizen in Airport, Public places, Voting Booth), Vehicle related documents and Medical facility system.

Digitization is achieved through bio-metrics system of accessing user details via (Fingerprints /Iris). Once the citizen are registered their details like existing identity proof (Family card, Voting identity card, Driving license card, school/College identity card, Aadhaar card), contact address, photos and their vehicle related documents.



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2.	FATHIMANILOFER.J(14TD0226)	

InnovativeProjectList(2017-2018)

Sl.no	TitleofProject	Guide
1.	RIDOPSY	Prof.K.Premkumar
2.	ENVIRINSTA	Dr.J.Madhusudanan
3.	BrainyCooker	Dr.N.Danapaquiame
4.	BayCare	Mr.V.Vijayakumar

RIDOPSY

ABSTRACT

Time is precise and valuable. The practice of calling someone to know where he is and when he would reach is now over. Information gathering about transport location and travel is tedious. Ridopsy is an android mobile application that serves to pinpoint any identity in a Google map, its status, route, distance from you and the time to hit you. Ridopsy is all about easing the way of locating, tracking, monitoring, analyzing, scheduling and **lifestyle upgrading**. As a one liner: Ridopsy is an app which conveys the user with extreme precision about the current location of a transport, person or a service. For example it simply tells the user where his pick up ride is currently moving, how long it would take to reach his pick up point, how far away it is located, and even at which minute he should start off to his pick up point, to board it. Ridopsy includes **two diverse usages**. You may login as a rider constantly updating the lat long positions in the cloud or sit at home and watch the units moving in the map, and finding the closest ride available.



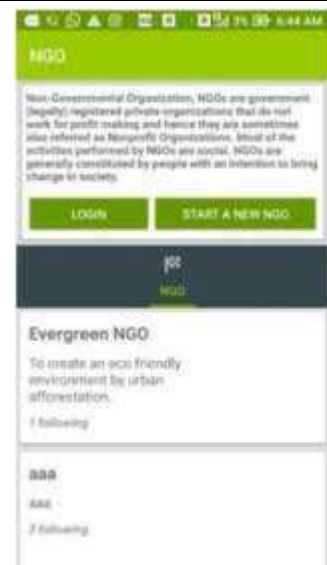
Sl.No	Name of the Student	Name of the Guide
1.	SHYAM SUGANTHI (13TD0516)	Prof.K.Premkumar Professor and Head
2.	THAMARAISELVAN S(13TD0537)	

ENVIRINSTA

ABSTRACT

Envirinsta is an android application that allows people of a particular region(maybe a city) to be constantly updated with the knowledge of their surroundings, public issues and social problems. It is a platform where people can easily convey their fellow inhabitants about how public departments function and other locality problems. Envirinsta allows fast exchange of media particularly related to these social issues of their locality such that they are finally brought to light to the concerned officials. It is also a good platform

for NGOs to connect with people, convey their operations, the events they perform regularly and thus allow interested people to join and work with them. Social media has been used only as data sharing or messaging completely random details. Filtering information related to a particular domain or issue is extremely tough and will contain lot of unwanted junk. Our objective is to eliminate this filtration and allow people to easily share information related to their own localities and contact the respected officials.





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2.	THAMARAISELVAN S(13TD0537)	
3.	SARATHI (13TD0509)	

BRAINYCOOKER

ABSTRACT

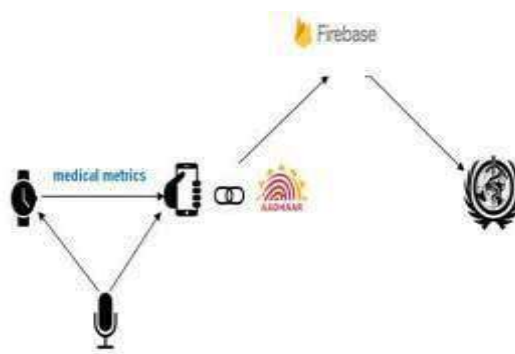
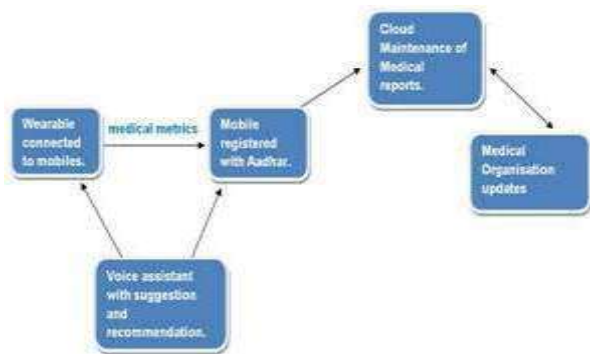
Wireless Sensor Networks (WSN) is a collection of nodes “sensors” organised into aco-operative networks .It consist of a sensor node that are deployed over a geographical areafor monitoring physical phenomena such as temperature, humidity, vibration and so on.People who leave their hometown and go abroad for job usually endure from healthdifficulties. For these people, food is a major problem they are facing in day to day lifebecause they don’t get their habitual food which they have in taken from their childhood. Itseems to be very difficult for them to suddenly adapt to the food which isavailable overthere.Thisproduct whichinstantlycooksfood toone’s sour.

			
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BAYCARE

ABSTRACT

Health is wealth. **Pervasive and mobile computing** makes it possible to achieve a system of personal healthcare, emergency alert and tracking which can monitor personal health status in a **real-time manner** and automatically issue alert for medical aids in case of emergency by tracking user's location. So we propose a **health-assistant system based on accessory-type physiological signal sensing device via Android Wear** as an intermediate route for healthcare to support daily life activities. It is not completely possible to track each and every person's health condition, status, medical care they need, food and pills they need to intake in time. Some application may provide health assistant but **BayCare** is a **full 24/7 monitoring user's health**, and update with it under the respective Aadhar card number in cloud. **BayCare** is an encapsulation of many health services. For example, a person is involved in an accident around 10.00 AM. It takes an Ambulance to reach him by approximately 15 minutes. By 10.16 AM, i.e. as soon as the first aid team reaches the patient the full track record of his medical information is retrieved. If the Ambulance has this **Aadhar card based medical report system**, it can retrieve the medical status of that patient within a minute and can provide correct first aid according to that patient's medical report. According to TOI 27% of death is due to improper first aid attention at a required short period of time after the emergency situation, including one of my close friends.



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DEPARTMENT OF INFORMATION TECHNOLOGY

Innovative Project List (2019-2020)

Sl.no	Title of Project	Guide
1.	SOW	Dr.N.Arunachalam
2.	ENTRENCH GADGET	Dr.N.Arunachalam
3.	VEYER-Eye Check Up Using Virtual Reality	Mr.R.Suresh

SOW

ABSTRACT

To avoid cash crop loss, an android application for identification of agricultural crops in realtime has been proposed. Diseases in plants cause major production and economic losses as well as reduction in both quality and quantity of agricultural products. The automatic identification of diseased crops as early as possible will avoid the cash crop loss. → Initially, the leaf of crop is scanned using device's camera. If the leaf has any defects, then the name of defect along with the solutions to overcome those defects has been given in simplified manner. If the leaf has no defects, then basic information of that crop such as average profit, rainfall rate, suitable soil, Season to grow the crop, time period to harvest, Demand for crop in market etc. has been given. Also, the farmer can communicate with nearby KVK's to know further information of the crops to avoid loss. Our application is useful not only to farmers also to any user who doesn't know farming to improve agriculture in India. → Video suggestion of how to apply fertilizers, pesticides etc., has been given.

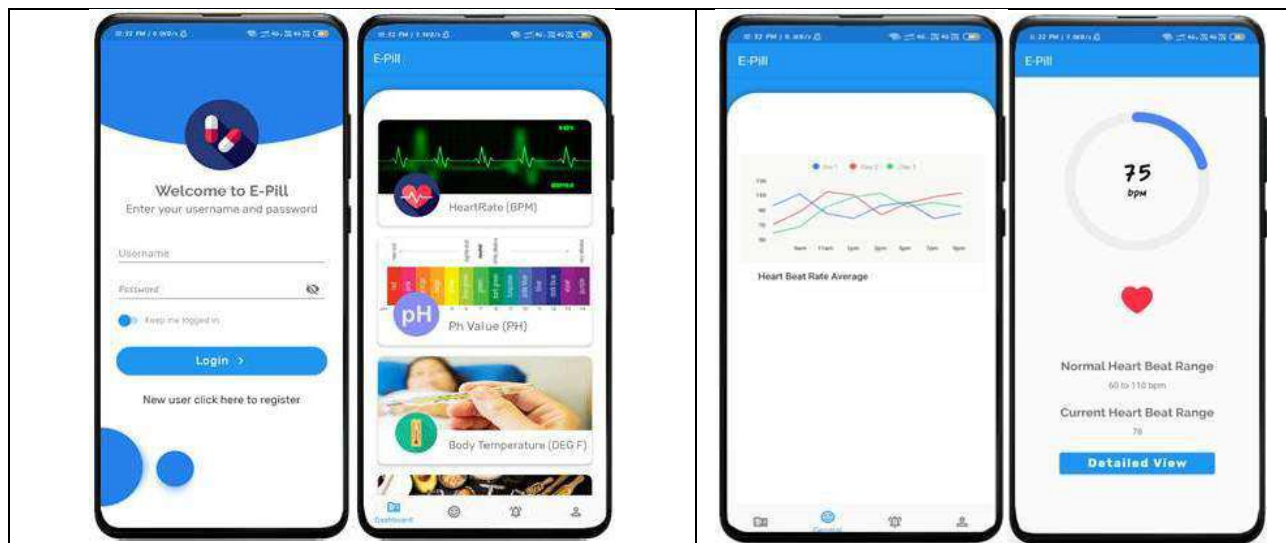


Sl.No	Name of the Student	Name of the Guide
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2.	Agasthiya.S(16TH0210)	
3.	Arvind.R (15TH0211)	
4.	SathishKumar.S(16TH0323)	

ENTRENCHGADGET

ABSTRACT

A person having a heart attack can be saved only if he takes the treatment within 2 hours. Else the situation will be worse, what if the person is alone and is having a heart attack. In today's world mobile computing makes it possible to achieve system of personal health, emergency alert and tracking which can monitor personal health status in real time and automatically issue alert for medical aids in case of emergency. Even though there are more advancements in recent technologies still we can't prevent a person from sudden death. So, we have proposed a health assistant system ENTRENCH GADGET to support daily life activities.


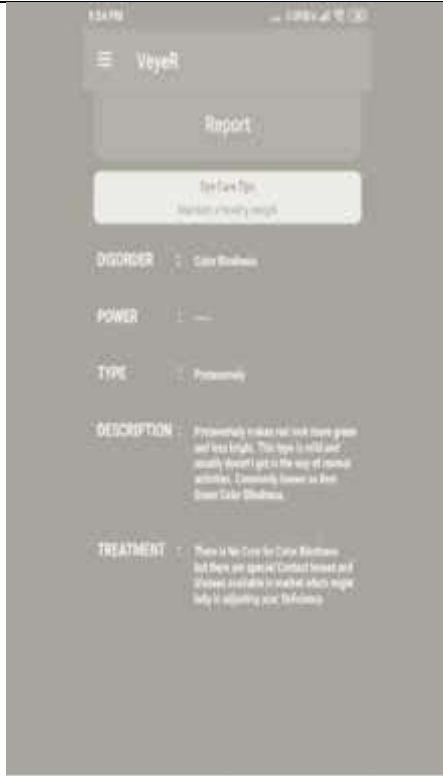


Sl.No	Name of the Student	Name of the Guide
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2.	Bharath.M(17TH0231)	
3.	Chandru.S(17TH0233)	
4.	Surya.S (17TH0337)	
5.	Jayalakshmi @ Madhumitha. J(16TH0254)	
6.	Pavethera.K (16TH0299)	

VEYER-EYECHECKUPUSINGVIRTUALREALITY

ABSTRACT

The Virtual Optics Application is an eye checkup app in which makes a primary eyecheck-up that can be done by any Individual at any instance using Virtual Reality without thehelp of an Optometrist. All it need is a VR Headset and the Android app. The App provides aVirtual Environment where the user can see boards with letters / symbols / colors around himplaced at different distances. Then the user should select the colors based on his sight whetherthe board is visible or not. To the extent where the letters are not clearly visible to the user ismeasured internally and based on that readings Virtual lenses are slotted into the VR until theletters are clearly visible to the user. After eye check the user will be asked some questionsbased on colors what they saw to ensure that they don't have Color Blindness problem. Thefinal report contains the type of sight issue, the lens power to the subject and some suggestionthatmight help the user to control their sight issue.

			
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2.	C.Suganya(16TH0338)		

InnovativeProjectList(2018-2019)

Sl.no	TitleofProject	Guide
1.	DimensionalAnalysisof carforsmartparking system.	Dr.T.Vigneswari
2.	AutomatedIrrigationSystem	Dr.G.Shanmugasundaram
3.	TheftDetectionandSurveillancesystem	Mr.R.Suresh
4.	I-SEE-U	Dr.N.Arunachalam

DIMENSIONAL ANALYSIS OF CAR FOR SMART PARKING SYSTEM.

ABSTRACT

Locating a parking spot during peak hours in most populated areas like shopping malls, universities, exhibitions or convention centers is difficult for the drivers. The difficulty rises from not knowing where the available spots may be at that required time. Smart parking is a solution to metropolitan cities to reduce congestion, cut vehicle emission totals and save persons' time by helping them in finding a spot to park. Smart Parking is a parking system, usually a new one that is equipped with special structured devices (things) to detect the available parking slots at any parking area. This is an application based on Internet of Things (IoT) that in Real-Time environment have sensors and devices embedded into parking spaces, transmitting data on the occupancy status; and the vehicle drivers can search for parking availability using their mobile phones or any infotainment system that is attached to the vehicle. Hence the driver would know where there is an available spot to park his vehicle in less time, reducing the energy consumption and air pollution. The Client or the sensor posts the parking slot occupancy status to a web service URL. The Java based web service is built using Spring and Hibernate to connect to the back end system. The web service (.war) file is deployed on Apache Tomcat Server and the back end used is MySQL database. This project helps in providing solution for the parking problems.

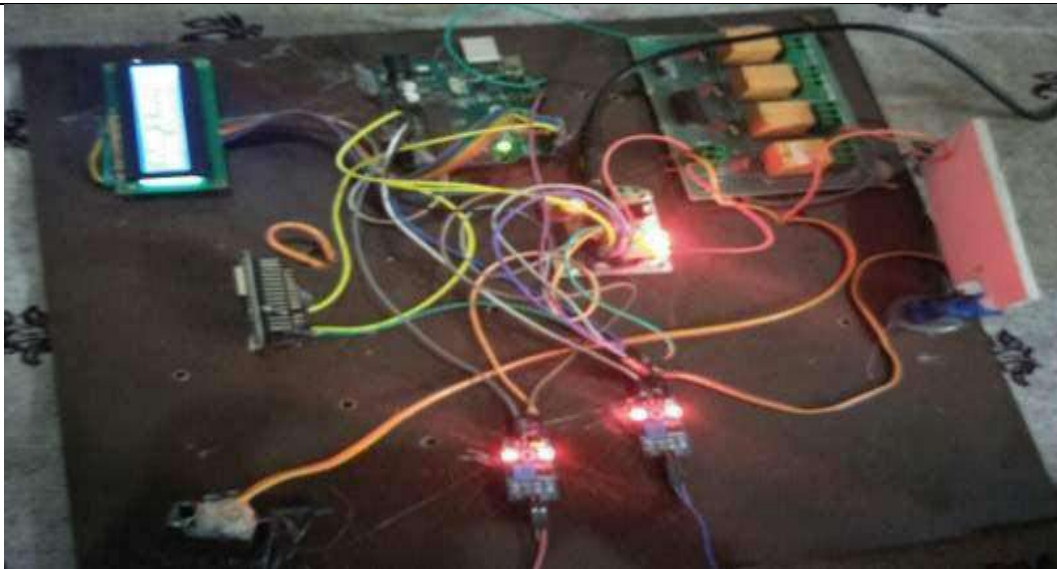


Sl.No	Name of the Student	Name of the Guide
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2.	Jane Nemisha V (15TH0239)	
3.	Monisha M(15TH0270)	

AUTOMATED IRRIGATION SYSTEM

ABSTRACT

Automation is key concept in most of the sectors. Agriculture has many automation processes in it. Still it faces several problems such as water scarcity, lack of human resource and so on. Due to these problems crop yielding will be reduced and it cause the risk of increase in cost of agricultural products. In order to overcome these issues an optimized automatic irrigation system is developed. This system collects datasets from the field using sensors. The collected datasets are analyzed using linear regression algorithm in weka tool. The obtained values from the data analysis are used as threshold value. Live values from the sensors is mapped with the threshold value, if both the values matches water is either irrigated to or drained from the field. Instead of wasting the drained water it can be stored as underground water and it can be reused. Outcome of this system will increase the groundwater table and does not require any human interventions. The system is separated into different modules and implemented on a whole. The modules present are data collection, data analysis, value mapping, notification and water management. Implementing an automated irrigation system in irrigation field will make effective utilization of water and prevent waste of rain water. Drowning of crops due to excess of rain water is prevented.



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3.	Sriram.B(15TH0301)	

THEFT DETECTION AND SURVEILLANCE SYSTEM

ABSTRACT

Theft has become a major issue to be dealt with. It is not possible for a human to monitor for several hours continuously. To overcome the complication in thefts, surveillance cameras are used. The main ability of surveillance camera is to just record the act of theft from which only the knowledge of the intruders will be gained. The information about the theft will be received only after the theft had occurred. It fails to detect the intruders and stop the crime earlier. Most probably the theft is happening in night time at shops, residential places, etc. When an intruder enters into that place, the owner gets information only after the theft has happened, so they need a surveillance monitoring system to detect the intruders.

A wireless device incorporates the RSSI signal to detect and track the movement about intruders but the drawback is that if there is a variation in RSSI signal, which leads to incorrect decision of the person movement. This system aims to design a device for detecting the intruders using PIR sensor with moving surveillance camera. After detecting that person, a device makes a call to the owner for conveying the message with the particular location of that device. The owner has the capability to access the moving device in all the four directions through the android application on internet with live video monitoring after the owner gets an alert. This system helps to prevent the theft earlier.



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I-SEE-U

ABSTRACT

Recent data suggest 51% of intensive care unit (ICU) patients are infected, and 71% receive antimicrobial therapy. Infection more than doubles the ICU mortality rate, and the costs associated with infection may be as high as 40% of total ICU expenditures. People are admitted to an intensive care unit (ICU) because of their illness or injuries may be life-threatening and they need intense support while they are being treated, constant monitoring and nursing care that cannot be performed on general wards. Patients stay in ICU for varying lengths of time, depending on the nature of the illness, and during much of this time they may be sedated or unconscious. A solution can provide a virtual visit platform in VR application to the relatives and friends of the patient the application gives the user a real time visit experience.



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2.	Surya.S(17TH0337)	
3.	Venugopal. A(17TH0347)	



InnovativeProjectList(2017-2018)

Sl.no	TitleofProject	Guide
1.	Chotubot	Mr.R.Suresh
2.	Intruderpinprevention	Mr.R.Suresh
3.	VIBEROOM-(LearningVirtually)	Dr.N.Arunachalam

CHOTUBOT

ABSTRACT

In our project, we have designed an autonomous robot with interactive capability in order to serve in offices, school, colleges and public places. This bot is configured with the help of IoT sensors. It will respond for the simple queries for the employee and normal public who are working in that company and passing away in the public places. It reduces the burden for the HR people to deliver the common information and simple queries about the company and it also recognizes the face of the employee and behaves accordingly as well as the robot doesn't have any language barrier. In the day to day life, when we use these bots in shopping mall and other public gathering places, it would be easy for the people to know the map and it would be fun to have a bot guiding them. Here, IoT sensors are used for bot movement and python language for face recognition and NLP API to break the language barrier.



		
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INTRUDER PIN PREVENTION

ABSTRACT

When A User enters a personal identification number(PIN) as a numeric password in mobile or stationary systems, including smartphones, tablet computers, automated teller machines(ATM), and point of sale (PoS) terminals, a direct observation attack based on shoulder surfing becomes a great concern. The PIN entry can be observed by nearby adversaries, more effectively in a crowded place. Since the same PIN is usually chosen by a user for various purposes and used repeatedly, a compromise of the PIN may cause the user a great risk. To cope with this problem, previous methods presumed limited cognitive capabilities of a human adversary as a deterrent, but there was a pitfall with the assumption. In our proposed method, we propose the novel approach called covert attentional shoulder surfing, indeed can break the well known PIN entry method previously evaluated to be secure against shoulder surfing.

We also devise a defense technique in the modeling paradigm to deteriorate severely the perceptual performance of the adversaries while preserving that of the user. Finally, our experimental results show that our proposed method improves the security.

		
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VIBEROOM-(Learning Virtually)

ABSTRACT

Education is the most important and foremost sector which needs a major updating to be done. We believe this is because the more the students are enlightened the better doctors, engineers and teachers we get. Current AI systems are focused on scientific studies and in commercial markets. We say AI needs to be introduced to students in a far earlier time period. Here is where our Viberoom comes into play. Viberoom is a classroom in Virtual Reality that helps people from all over the globe connect and take online classes, video tutorials and online tuition in a much more immersive and interactive way. It comes with all the tools that students normally use in a classroom and more. Viberoom can also be used as your own alone work space. Viberoom also comes with its own AI that helps you learn in class through the day!



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2.	Niranjankumar.R(15TH0274)	
3.	Ramkumar.M(15TH0286)	
4.	George(15TH0226)	

DEPARTMENT OF INSTRUMENTATION AND CONTROL ENGINEERING

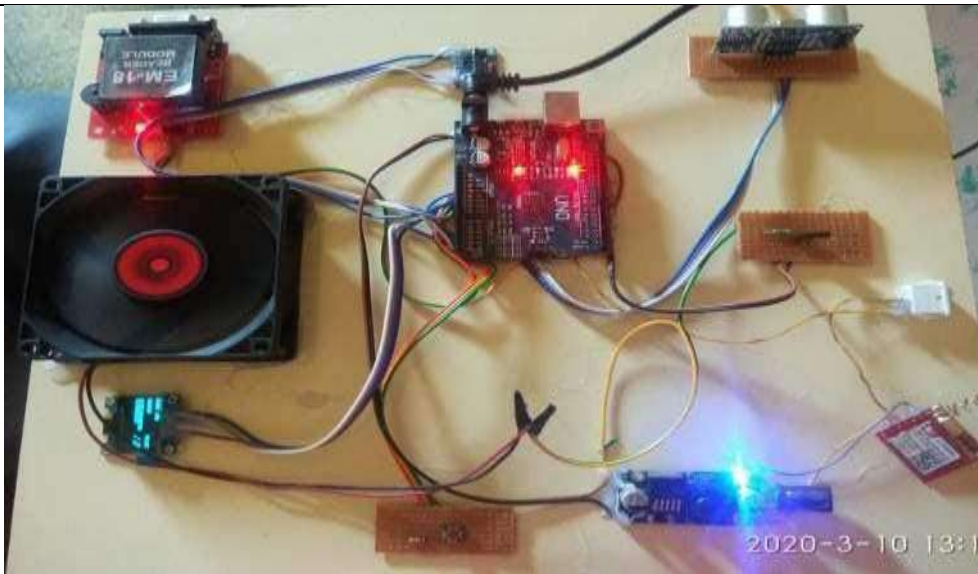
Innovative Project List (2019-2020)

Sl.no	Title of Project	Guide
1.	A Black Box For Crash Recovery System	Mrs.T.Sudha
2.	Centralized Monitoring Of Distribution Transformer Oil	Mrs.T.Sudha
3.	Smart Ambulance With Automatic Traffic Control System Using IoT	Mrs.M.Rekha
4.	Biometric Based Two-Wheeler Security System Using GPS And GSM Technology	Mr.J.Jeevanantham

ABLACKBOXFORCRASHRECOVERY SYSTEM

ABSTRACT

The main objective of this paper is to develop a system of the Advanced Driver Safety Awareness and Assistance System for Vehicle Control that can be installed into any vehicle all over the world. This paradigm can be designed with minimum number of circuits. This Black Box Crash Recovery System (BBCR) can contribute to constructing safer vehicles, improving the treatment of crash victims, helping insurance companies with their vehicle crash investigations, and enhancing road status in order to decrease the death rate. This system is committed chiefly to two approaches. The primary one is a way to sight and record information from the vehicle. The second shows the information recorded to the user during a simplified way. To implement the primary approach, some major parts and completely different kind of sensors were used. whereas the second approach was enforced employing a GSM module. This program receives the info serially from the system memory. In order to grasp what variety of sensors ought to be put in into the vehicle, analysis was dispensed to spot the most data required for higher accident analysis.



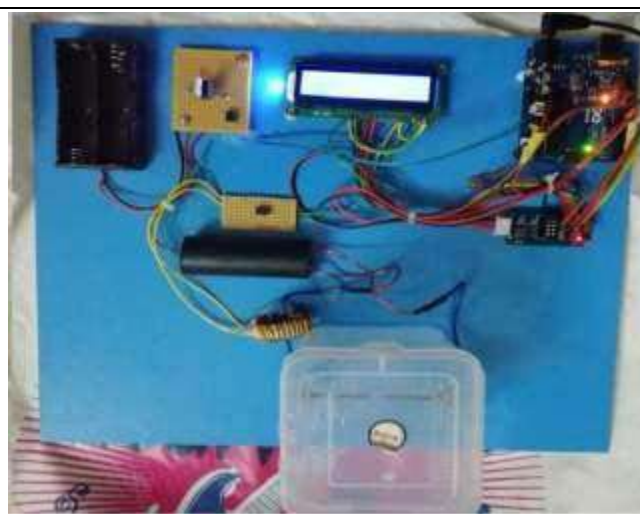
Sl.No	Name of the Student	Name of the Guide
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2.	T.Mokana Sundari	
3.	P.Shivasangari	
4.	J.Silambarasi	

CENTRALIZED MONITORING OF DISTRIBUTION TRANSFORMER OIL

IL

ABSTRACT

The main objective of this paper is to develop a system of the Advanced Driver Safety Awareness and Assistance System for Vehicle Control that can be installed into any vehicle all over the world. This paradigm can be designed with minimum number of circuits. This BlackBox Crash Recovery System (BBCR) can contribute to constructing safer vehicles, improving the treatment of crash victims, helping insurance companies with their vehicle crash investigations, and enhancing road status in order to decrease the death rate. This system is committed chiefly to two approaches. The primary one is a way to sight and record information from the vehicle. The second shows the information recorded to the user during a simplified way. To implement the primary approach, some major parts and completely different kind of sensors were used. Whereas the second approach was enforced employing a GSM module. This program receives the info serially from the system memory. In order to grasp what variety of sensors ought to be put in into the vehicle, analysis was dispensed to spot the most data required for higher accident analysis.



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2	Nanthini R	
3	Pavithra Devi K	
4	Santhiya B	

SMART AMBULANCE WITH AUTOMATIC TRAFFIC CONTROL SYSTEM USING IOT

ABSTRACT

With a large population and large amounts of vehicles, there is also a big trouble of car accidents or road accidents and with these overcrowded roads, there is a problem of delay in first aid service. To overcome this delay, the paper describes a solution that is "Intelligent ambulance with automatic traffic control" which includes the accident detecting, alerting and tracking mechanism. Here we also have a patient monitoring system. In a health monitoring system, the patient vital health parameters such as heart rate and body temperature can be measured. These parameters are sent to PC in ambulance via serial communication and this data will be sent to the hospital server. The proposed system consists of a traffic control system. An RF transmitter on the ambulance will communicate with an RF receiver mounted on the signal post.

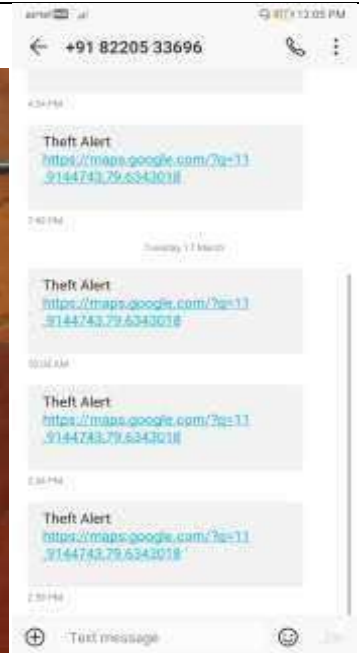
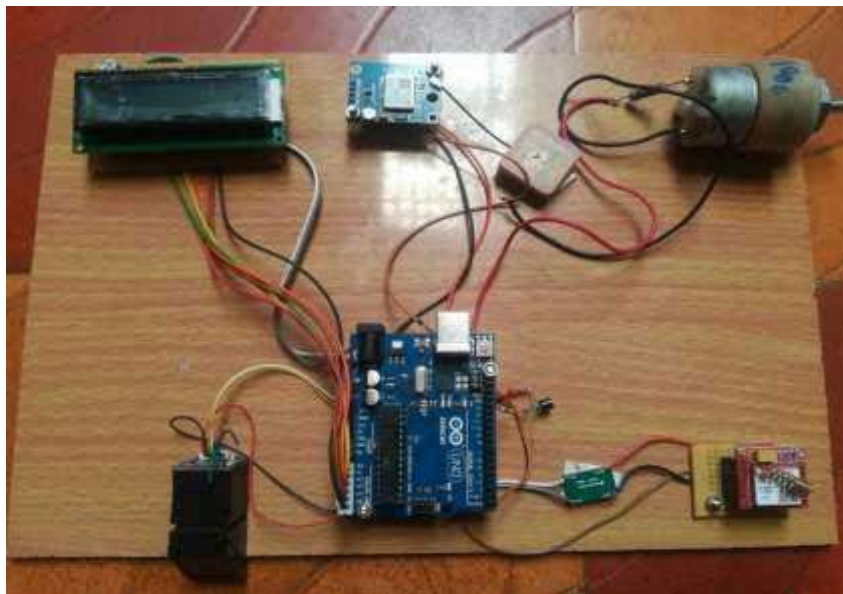


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3.	G.Brigitte	
4.	S.VinceyElizabeth	

BIOMETRIC BASED TWO-WHEELER SECURITY SYSTEM USING GPS AND GSM TECHNOLOGY

ABSTRACT

The automobile will have fingerprint sensor installed which will help in safeguarding the vehicle in terms of theft. Every automobile driver has to authenticate with their respective fingerprints in order to drive the automobile. Accessing with the fingerprint reads the details of that particular driver with previous stored data and all the necessary details. If the sensor placed detects the false fingerprint then the automobile will be immobilized. In order to avoid these situations in emergency situations we have come up with the idea of storing up to 3-4 trustworthy people's finger print. In addition to this, in order to know the whereabouts of the vehicle we have implemented the use of GSM and GPS which will send the information about the vehicle to whatever the number we store in that device. Thus, by implementing this technology we can prevent the possible theft of vehicle with much ease and at lower cost. It can be implemented in a short time as well. The entire security system is executed as a prototype model.



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2.	Keerthibhooshan.S	
3.	Vijayaraj.G	
4.	Prathaban.A	

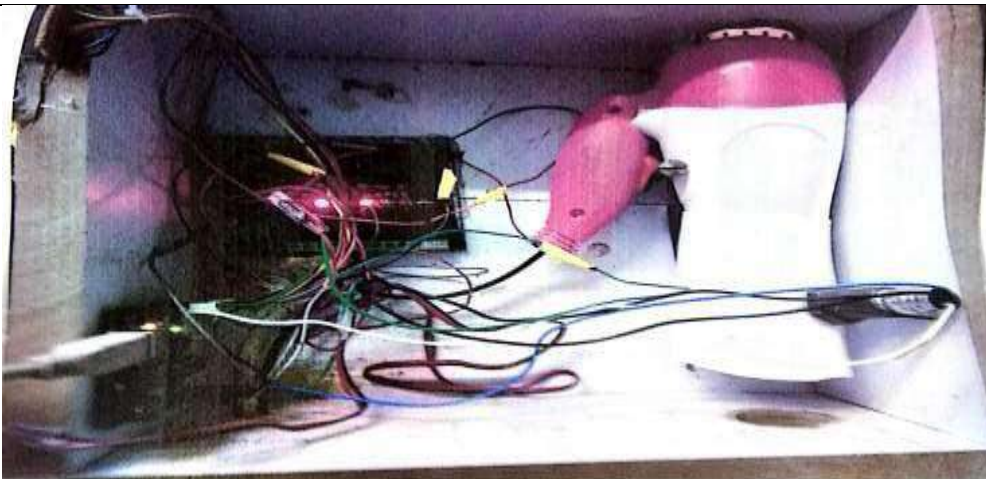
InnovativeProjectList(2018-2019)

Sl.no	TitleofProject	Guide
1.	FilteringOf AirUsingZeoliteMembraneAnd DeterminingOxygenLevel	Mr.K.Karthikeyan
2.	Boiler Oil Skid And Ignitor Assembly AutomationUsingPlc	Mr.SaiNisshhokkKrishnaa
3.	Real-TimeFlowMeasurementSystemUsingHall EffectPrinciple	Dr.M.Subba
4.	HaemoglobinAndHeartbeatRateMeasurement UsingOpticalSensor BasedSystem	Mrs.M.Omameswari
5.	IntelligentTrafficControlSystem	Mrs.M.Subba

FILTERING OF AIR USING ZEOLITE MEMBRANE AND DETERMINING OXYGEN LEVEL

ABSTRACT

Oxygen is the third most abundant chemical element in the universe, after hydrogen and helium and is one of the most important elements required to sustain life. Oxygen is vitally important not only to the existence of the human and animal life with ~3 million tons daily of oxygen consumption just for the respiration. In our project, the amount of oxygen and carbon-di-oxide in a closed room is continuously monitored using the oxygen sensor and the CO₂ sensor. The sensors are connected to the ARDUINO Microcontroller. If the oxygen content is low then the oxygen is supplied to the room to maintain the level of the oxygen.



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3.	S.Karthik	
4.	K.Yokesh	

BOILER OIL SKID AND IGNITOR ASSEMBLY AUTOMATION USING PLC

ABSTRACT

In thermal power plant boiler plays the main role. So, to maintain the function and process without any malfunction we have automated one of the main parts in the boiler (i.e.) the corner oil skid & ignitor assembly which we can see in all the 4 - corner & elevations of the boiler. The main focus of this project is to automate the oil skid system fully along with the ignitor assembly. These two setup plays the main role in coal fire boilers for initial light up process. But in the existing system both the oil skid and the ignitor assembly is operated by manual interruption by giving command from control room. So the main focus of this project is that to automate the assembly by using PLC.



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2	S.Lowgesh	
3	M.kishore	
4	D.Bhuvaneshwaran	
5	M.Purushoth	

REAL-TIME FLOW MEASUREMENT SYSTEM USING HALL EFFECT PRINCIPLE

ABSTRACT

In our project, a non-contact flow rate measurement technique using magnetometer sensor and rotameter is designed, developed and tested. In this design, a float carrying a thin circular permanent magnet is used and a magnetometer sensor placed outside the rotameter tube has been used to sense the variation of magnetic field of the magnet with the variation of float position. The signal from the magnetometer is connected to the I2C communication pins of the ARDUINO UNO. The PC based flow indicator has been designed using ARDUINO IDE software.

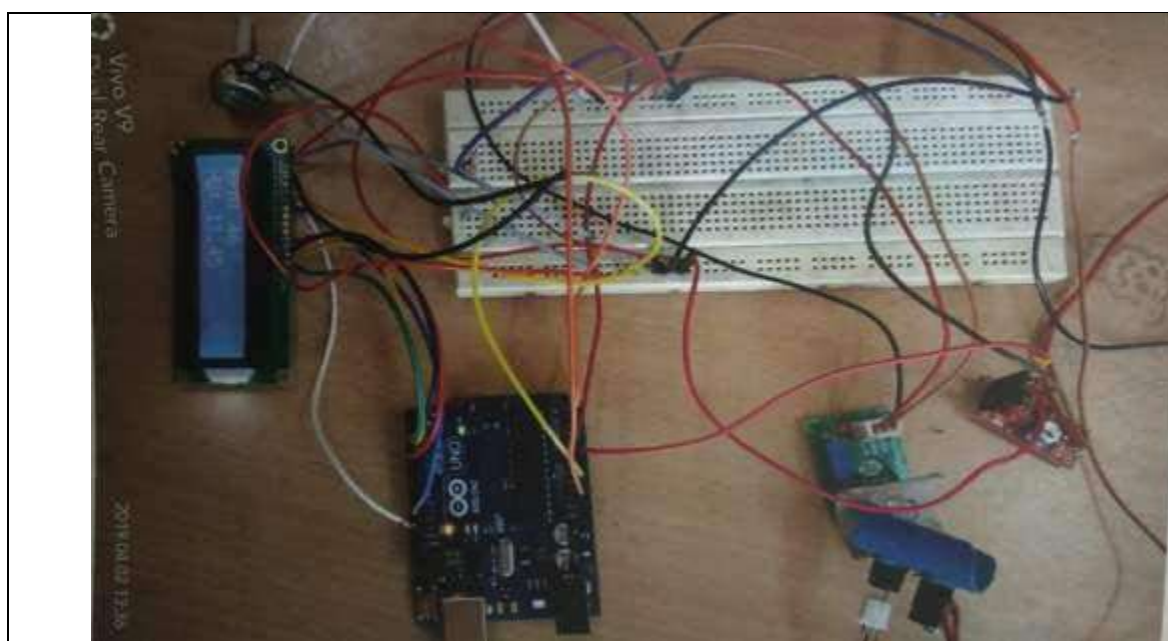


Sl.No	Name of the Student	Name of the Guide
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2.	A.Arun Kumar	
3.	M.Vikramadhithan	
4.	K.Suriya	
5.	V.Kesavan	

HEMOGLOBIN AND HEARTBEAT RATE MEASUREMENT USING OPTICAL SENSOR BASED SYSTEM

ABSTRACT

Health is the universal challenges for humanity. Our project deals with the measurement of haemoglobin and heartbeat rate using optical sensor based system. We develop this system based on the principle of photo plethysmography, which is non invasive and simple method for the measurement of Hb and heart rate. .

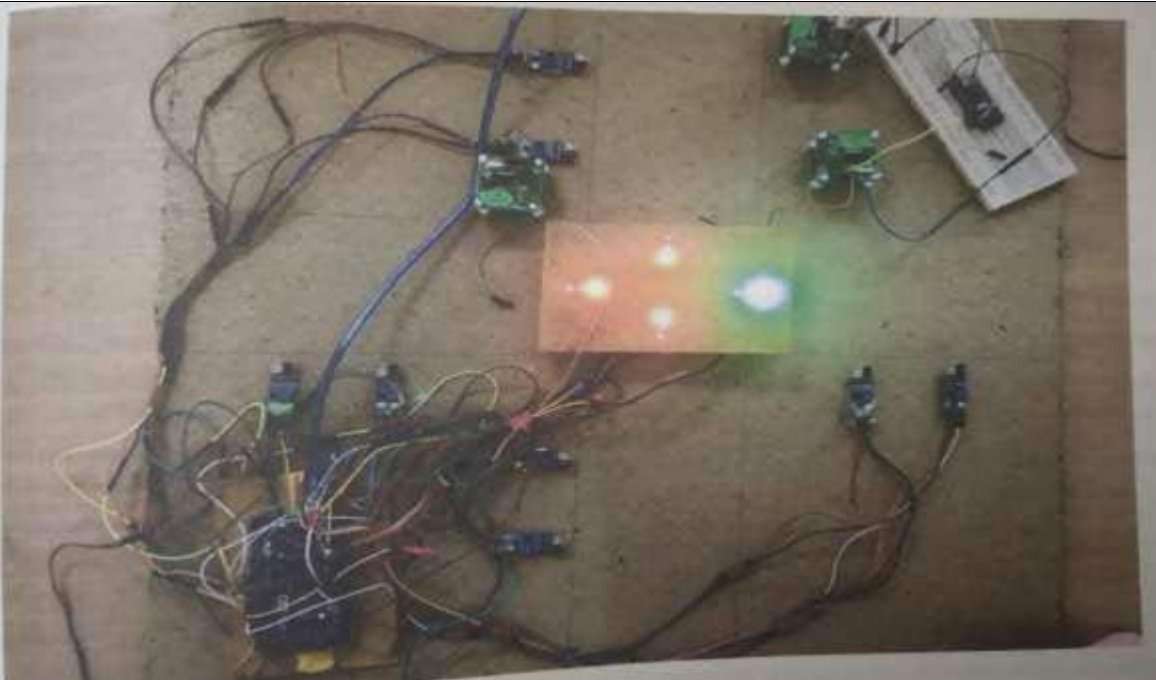


Sl.No	Name of the Student	Name of the Guide
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2.	P.Gulomiya	
3.	S.Shakthipriya	

INTELLIGENT TRAFFIC CONTROL SYSTEM

ABSTRACT

Over the past decades, the vehicle capacity has been increased in India. Due to the fixed and predefined nature of the traffic light switching traffic congestions became often. For which we propose a closed loop traffic control system to switch traffic signals based on traffic density at the junctions with the help of IR sensors. The emergency vehicles in the traffic congestions can be cleared easily by reading the RFID present in the vehicle.



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2.	M.Mohanbabu	
3.	S.Mohanvelan	
4.	R.Mughilan	
5.	T.Kamalnath	

InnovativeProjectList(2017-2018)

Sl.no	TitleofProject	Guide
1.	PlcAndMobileApplicationBasedLabAutomation	Mr.N.Nagarajan
2.	Analyzing Emr From Mobile And Minimizing ItsHazards	Mr.N.Nagarajan
3.	A Wearable Remote Patient Monitoring SystemUsingRaspberryPi	Mr.J.Jeevanantham
4.	Separation Of Non-Degradable Waste UsingArduino.	Ms. R.Hiemaja

PLC AND MOBILE APPLICATION BASED LAB AUTOMATION

ABSTRACT

In order to save energy and time, to ensure safety as well as to reduce the human intervention, automation plays a vital role in today's human life. Though there has been significant development, individual's routine task has to be automated. In our proposed work, smart phones are used for automation as they are used throughout the day. In addition to above, PLC and Microcontroller are also used for automation. Lab automation (Industrial automation lab) allows us to control lab appliances such as computers, Programmable logic controllers, pump, lights and fans. Using this technology, in lab, fire accidents due to short circuits can be prevented, the usage of high power handling equipment or hazardous equipment in the absence of lab in-charge can be sensed and automatic ON/OFF of devices can be done. Lab automation has been done with low cost using Programmable logic controller (PLC) and Mobile application to monitor and control lab equipment remotely using the smart phone. The most efficient technology for short range wireless communication - IR blaster is used to automate the system. Unexpected fire accidents due to the carelessness of the lab in-charge can be prevented and the lab equipment can be switched OFF with the smart phone.

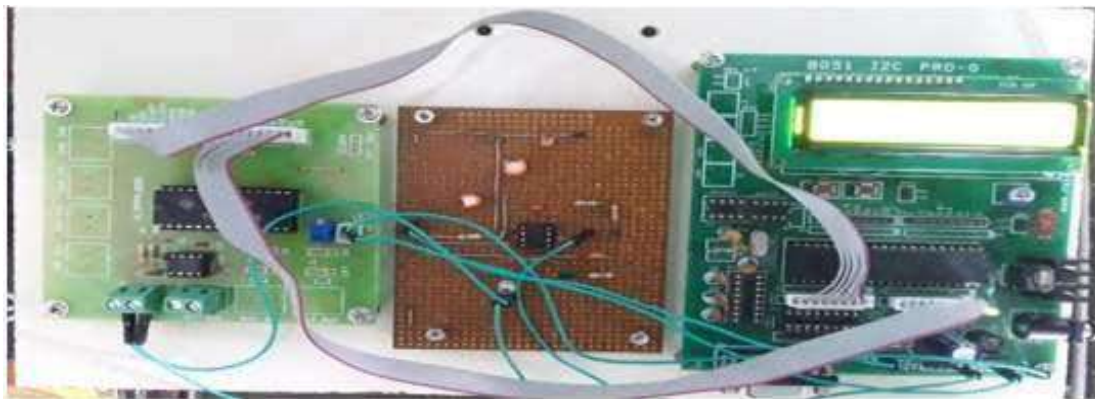


Sl.No	Name of the Student	Name of the Guide
1.	Benjamin.K	Mr.N.Nagarajan Asst.Professor
2.	Noman Asraf.	
3.	Glorin Victor Raj.	
4.	Udhithmuthu Krishnan.	

ANALYZING EMR FROM MOBILE AND MINIMIZING ITS HAZARDS

ABSTRACT

This project, “ANALYZING EMR FROM MOBILE AND MINIMIZING ITS HAZARDS” is developed for detecting the radiations from mobiles and also to decrease the hazardous level of radiation. It is used to detect the amount of electromagnetic radiation which is emitted by the mobile phones and it gives an alert to the mobile user which is the safest level and hazardous level. RF antenna acts as sensor to detect the mobile radiation and gives output as voltage. The output from the detector circuit goes into Analog to Digital Converter circuit because it is a continuous signal. Then this part is interfaced with microcontroller. 8051 Microcontroller will display radiation level emitted from mobiles. In order to reduce radiation emitted from mobile, anti-radiation patches can be pasted in mobile phone. Comparative analysis of radiation level of mobile with and without anti-radiation patches are analyzed.



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A WEARABLE REMOTE PATIENT MONITORING SYSTEM USING RASPBERRY PI

ABSTRACT

The mortality rate has increased in India due to the time lag to monitor and take care of the patients. Frequent check-up of the patient condition is also not possible. To overcome these situations, we have designed a device that can be used in home or hospital to measure and monitor various parameters like ECG, Body temperature and Blood pressure using Internet of Things (IOT), Raspberry Pi and GSM module. Our system is designed to be used in Home or hospital for measuring and monitoring various parameter like ECG, Body temperature and Blood pressure. By using open source technology Internet of Things (IOT) makes all objects interconnected and it has been recognized as the next technical revolution. The results can be recorded using Raspberry Pi displayed on a HMI interface display. Also the results can be sent to server using IOT and saved for future usage. For non-internet user receive text message using GSM module. Doctors can login to a website and view the patients health condition even if they are in remote places



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