



A report
on
Student Project Fair (2016)
at
V.V.P. Engineering College, Rajkot

14th and 15th April, 2016

V.V.P. Engg. College, Rajkot has always taken unique initiative for the betterment of students. As per the GTU curriculum final year students have to do their projects under the title of IDP/UDP. Students work on different challenges faced by industries or society, they try to solve that challenges as a part of their project work. V.V.P. Engineering College had organized a project fair on 14th and 15th April, 2016 at Shyama Prasad Mukharjee Art Gallery, Race Course, Rajkot. The project fair has provided platform for the students to display the innovative projects that address several issues faced by the society, and are a contribution of our students to the city, state and Nation at large. Staff and students of the entire branch have showcased various state of the art projects.

Project Fair was a success under the guidance of Honorable Chairman Shri Pravin Kaka and Principal Sir Dr. S. P. Parikh. This Project Fair was a triumph due to constant and untiring efforts and inputs of all Head of various departments. Aim of this fair was to show-case work done by final year students.

Principal Sir have emphasis mainly on entrepreneurship they said that it would be great if students can focus to convert their project in to a product useful to society as well as it will be a stepping stone for students to become entrepreneur.

More than 500 visitors have visited project fair during 14th and 15th April that includes industrialist, government officials, students, educators from other institute etc.

We received very motivating and positive feedback from various parts of the society. Visitors had highly appreciated work and efforts of staff and students.

“Great Effort, Innovative Work”, was the words from Mr Abhishek Karia, CEO of Victory Vision Management Company, He was highly impressed by work of our students. Mr Kunal Doshi, founder CEO of Innovative Infotech motivated students by appreciate tremendous effort and out of the box thinking. Many of the Govt. Officials have appreciated sincerity and technical awareness of our students.

Following is the detail of projects showcased at Project Fair.

IT ENGINEERING Department:

Project – 1: Advanced Aiming System with HUD

In a battle, shooting around corners is necessary. If firing is going on continuously from the opposite end, a soldier who tries to aim or attack may get injured. In order to be protected from such attacks, making perfect target is necessary. Our application will focus and show where the bullet will hit (depending upon gun’s range). Thus in such critical situations, this application can resolve problems by having various functionalities within single HUD connected with a Camera through Wi-Fi.

Project - 2: Sheriff Society Span

Sheriff Society Span is aimed to be prevented from getting into business terms with fraudsters. The project also aims in building a bridge between the society and the

police. The past records of a person can be found using Bank Loan fraud records, ex-employment fraud records and IT fraud records, etc. Civilians can also file an FIR online (as per Indian Constitution) after registering on the system using the Aadhar card or passport. These FIRs are communicated to the police and a channel of interaction between police and common people is established

Project - 3: Location based Friend Finder

The project is aimed to locate and find friends via GPS tracking data. □ □ The App uses Android phone GPS Transponder to get user location. □ □ Any misplaced phone can also be located or distance between a user can be calculated.

Project - 4: GPS based Vehicle Tracking System

Trackit is an android based application for school buses, which can be accessed from a website to track the location of school buses by parents and the school authorities for safety measures of the students. A bus when being tracked displays the bus identification, driver identification with his phone number on the Google map.



BIOTECHNOLOGY ENGINEERING DEPARTMENT:

1. HYDROPONICS:

Hydroponics is a subset of hydro culture, which is the growing of plants in a soil less medium, or an aquatic based environment. Hydroponic growing uses mineral nutrient solutions to feed the plants in water, without soil.

Hydroponics is proved to have several advantages over soil gardening. The growth rate on a hydroponic plant is 30-50 percent faster than a soil plant, grown under the same conditions. The yield of the plant is also greater. Scientists believe that there are several reasons for the drastic differences between hydroponic and soil plants. The extra oxygen in the hydroponic growing mediums helps to stimulate root growth. Plants with ample oxygen in the root system also absorb nutrients faster. The nutrients in a hydroponic system are mixed with the water and sent directly to the root system. The plant does not have to search in the soil for the nutrients that it requires. Those nutrients are being delivered to the plant several times per day. The hydroponic plant requires very little energy to find and break down food. The plant then uses this saved energy to grow faster and to produce more fruit. Hydroponic plants also have fewer problems with bug infestations, funguses and disease. In general, plants grown hydroponically are healthier and happier plants.

2. VERTICAL FARMING:

Vertical farming is the practice of producing food in vertically stacked layers, vertically inclined surfaces and/or integrated in other structures. The modern idea of vertical farming uses controlled-environment agriculture (CEA) technology, where all environmental factors can be controlled. These facilities utilize artificial control of light, environmental control (humidity, temperature, gases,) and fustigation. Some vertical farms use techniques similar to greenhouses, where natural sunlight can be augmented with artificial lighting and metal reflectors.

3. FOOD ADULTERATION TESTING KIT

We made a kit to test most common adulterants found in many types of foods. By using this kit we can test Milk, Ghee, cottage cheese, Khoa, Chhana or Paneer , Powdered spices like Turmeric powder , Coriander powder , Chillies powder etc. In this kit we use many types of chemicals by which we can differentiate between pure food and food with adulterants.

4. BIOGAS PRODUCTION:

The main aim of this compact biogas plant is to generate useful biogas from the waste itself. As the first observation it can be concluded that it can be useful for small food units. Manure was made using biodegradable organic waste.



5.



ELECTRICAL ENGINEERING DEPARTMENT:

A Students Project Fair was held by *V.V.P. ENGINEERING COLLEGE* with participation of final year students from all branches at our Institute. Project models as well as posters were prepared & displayed on various innovative ideas by students from all braches.

Best three projects of Electrical Department

1. “Infinite Energy Using Ocean Waves”

It is the project on power generation by ocean waves which is nature friendly and gives continuous supply. It can be modified as per power requirement and specially designed as a corrosion free model

Guided By: Prof . Poonam N. Parmar

Students name:

1. Jasmin Gohel
2. Aghera Maulik
3. Viroja Yogesh
4. Dodiya Jaspal



2. “Portable Solar Power Kit”

In this project the name itself shows its characteristic. The project is fully flexible and can be used at great extent for mobile application like tracking, emergency situation, defence, home purpose etc. We can easily install the portable system in just five-minutes and it doesn't require much technical skills.

Guided By: Prof . Sachin Rajani

Students name:

1. Devang savaliya
2. Amit Kumar Tiwari
3. Bhavin Mehta
4. Hojefa Sadikot



3. Safety stick for blind using distance measurement

This project is developed for blind people so their day to day life becomes very easy with the help of this stick. In this project students used ultrasonic distance measurement technique so the user can easily find out obstacle as well as here we provide vibration mode for those who are having problem of hearing.

Guide: Prof. Alpesh Adeshara

Students name:

1. Kishan Vadgama
2. Parth Rajput
3. Ravindra parmar
4. Anoop Bharai





EC ENGINEERING DEPARTMENT:

Project – 1: Braille Print through Mobile

There is no such way that we can pass the important information to the blind person directly in such a way that they can keep it with them self. In order to advance, Braille printer is design in such a way that, when you SMS is send on pre-defined number of the blind person, the content of SMS will be Braille printed. The Embedded is design in such way that, it reads all incoming SMS continuously, and converts this content to Braille language first, and then send it to printer. The printer is modified in such a way that, it gives print which can be easily read by blind person. The project is design by Krina Sojitra and Swati Balakrishanan.

Project - 2: Raspberry PI based pesticide spreading robot with live video streaming

Raspberry PI is new and upcoming embedded board. Vrajesh Parikh and team, has used it to develop a pesticide spreading robot. There were pesticide spreading robot previously too, but this is updated robot. The previous robots, just spread pesticide everywhere along the path, thus pesticide is get west where plants are not there and also on plants which does not required it. The updated robot is with live video streaming connected with Wi-Fi, so that operator can see the plant and spread the pesticide is needed. This novel design was awarded 1st price in Pratikruti, Innovative Project Design Competition organized by Yashvant Rao Chauhan College of Engineering, Nagpur.

Project - 3: Smart Bank Locker Security System

The smart bank locker security system was design Patel Rohan and team. This security system is design in such a way that wherever operator tries to operate it, the camera behind the locker takes the photo graph and sends it to owner of locker and bank. If anyone tries to operate it with wrong password, it takes photograph of the user and informs all the authority, local police station, owner of account all together with the photograph of person who tries to operate it.

Project - 4: Automatic Drilling Machine

The machine is designed with PLC in such a way that, when ever object is placed, it drills out the predefined location. The PLC is programmed for pre-defined location. This machine is useful in Printed Circuit Board (PCB) manufacture, gas stove knobs, etc. This project is design by Hiren Hansora and his team.



CHEMICAL ENGINEERING DEPARTMENT:

1) H.P.R. (High Pressure Reactor) :

A H.P.R. for oxidation reaction was made by Kishan Makwana, Sandeep Ladva, Krunal Parmar & Prashant Chavda. Advantages of this reactor are : it is operated at high pressure and temperature with safety; it is the safest design it avoids formation of byproduct; it increases mass transfer coefficient and rate of reaction which is very important to achieve more conversion and yield of reactant into product; also, it is fabricated at cheaper cost.

2) Scrubber :

A Scrubber was made by Sagar Patel, Vishal Bhalala, Hiren Dabhi & Jashpal Parmar. Advantages of scrubber are : control in air pollution; reducing air pollutants like SO_x , NO_x and particulate matter from ceramic industry.

3) Distillation Column (non-working) :

A Distillation Column was made by Shaival Mehta & Rushi Kavathiya. Major advantages of column includes: separation of miscible products & fractionation of crude products. The design was made such that to understand its inner processes.

4) Torrefaction :

A Torrefaction was made by Kathan Patel, Savan Raval, Nandinya Jaydeep and Piyush Khanapara. It is used in obtaining biocoal using agricultural wastes from farms, which are more economical, ecofriendly & high GCV fuel.

5) Structure of Atom:

It was made by DishaHothi and KoriyaSejal. It shows the revolution of electrons around nucleus and excitation of electrons in different orbitals.

6) Chem-o-car:

It was made by DevaniShyam and MeghSanghani. The chemicals present in a car is an alternate source of petrol which can be useful in future. This is also an advanced topic in research field of energy technology.

7) Solar Distillation:

It is made by Hadiya Ashok, Gagiya Ramesh, Varvariya Hitesh and Parmar Vikram. Major advantages of this solar distillation include purification of water at domestic level by using solar radiation as a heat source in column.

8) Advanced Control Technology:

It was made by Chinmay Joshi, Shyam Mandliya and Jay Parmar. It is about controlling the regular cooking purposes like tea, dal, rice, etc. It also prevents accidents when being set to zero pressure. The bluetooth/buzzer mode gives information whether the thing is cooked or not. Meanwhile controller ceases(stops) the flow of gas by using high velocity inert gas.



CE ENGINEERING DEPARTMENT:

1) Efficient and Reusable Aid providing mechanism for accidents in automobiles.

Guide Name: Prof.S.H.Virani

Abstract:

1. Aid providing mechanism at the time of Accidents

The system developed will be installed in any auto-mobile and will inform the Medical bodies for aid provision at the time of accidents without any external triggering.

The system will get activated once it senses enough thrash to conclude the occurrence of accidents and thus will activate the rest of the system.

The rest of the system includes a GPS module used to fetch the current location and will inform to the Medical Aid (Ambulance Services) as well as relatives or friends via SMS or any other relevant internet independent service.

The main goal of this system is achieve reusability unlike systems like Air-bag triggers which are one-time use. Moreover, it will be as inexpensive as possible which will mean that it can be afforded by most people to get it installed in their vehicle.

2) Project "Kalarav" - The step towards Baby Care

a. Guide Name: Prof. G.H.Mulchandani

b. Abstract:

2. Kalarav – The Step Towards Baby Care

The Application's main aim is to help a society via noble cost. The application is helping system which is handling by parents. It means main feature of this application is a parent help to other parent.

The application are aimed to provide the help during perinatal period means it provide all the help to parent which need in perinatal period e.g Information on diet, can ask question to maternity doctor any time.

Other features are vaccination alert system for parents, A Good Memory keeper album, games for child brain development etc.

So this how my web application can help first as there is blog & discussion forum to answer any queries of parents, than if parent register with application than there are online bay product store and Babysitter hiring service as well as vaccination alert system. If more help is

needed than live chat with doctor is also available there and so many things which can't be explain in words...

3) V.V.P College ERP

a. Guide Name: Prof.G.H.Mulchandani

b. Abstract:

3. V.V.P. Engineering College ERP

Any college includes large number of students and staff members; hence it is bit tough to manage all the details of students and staff members. As a result this project named as VVP Engineering College ERP is a small try from our side to reduce manual work and make the system online and user friendly. This ERP is easy to use and no such technical knowledge is required for accessing or using this ERP. Further interaction among staff members is made easy and purely web based. As the ERP is web based it can be accessed from anywhere and anytime.



CIVIL ENGINEERING DEPARTMENT:

List of Projects

1. Performance and characteristics of Pervious Concrete
2. Vishwakarma Yojana : An approach towards Rurbanization
3. Study of Vermiculite as a fine aggregate in concrete

Performance and characteristics of Pervious Concrete

Purpose:

- To recharge the ground water table.
- We made a project on pervious concrete to solve the current problem of water shortage by preventing waste going runoff rain water into ground.

Vishwakarma Yojana : An approach towards Urbanization

Purpose:

- To maintain the soul of village and provide basic facilities.
- To prevent the migration of villagers in the heavily crowded city areas
- To stop deposition of village people in the congested city areas.

Study of vermiculite as fine aggregate in concrete

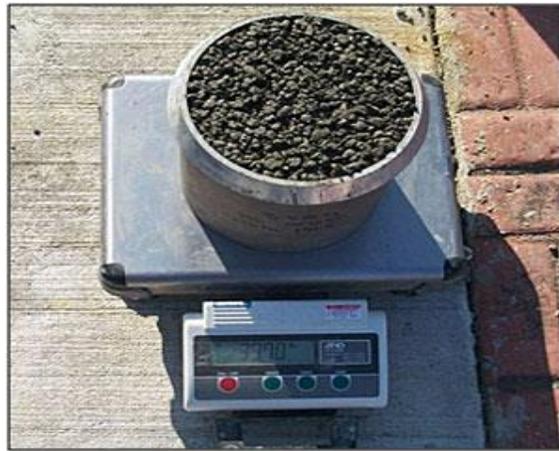
Purpose:

- Light weight concrete
- Thermal insulator
- Fire insulation
- Gives cooling effect

BEST PROJECT OF PROJECT FAIR

- **Performance and characteristics of Pervious Concrete**

- This project is selected for the “Best Project” in project fair.
- Even, they got invitation from Rajkot Municipal Corporation to implement our project in our city at initial stage.



MECHANICAL ENGINEERING DEPARTMENT:

A total 47 teams had participated in the fair. 26 teams have worked on their IDP & 21 teams have worked on UDP. They have performed project work with coverage of wide range of subjects related to the field of Mechanical Engineering. Students have made posters for their teams for giving brief technical overview of their project. Students have also given presentation on their project work in team wise. Prof. N.P.Maniar, In charge HOD Mechanical Engineering Department had given guidance their team members for organizing the fair. Project Coordinator Prof. H.A.Khunt & Other senior faculty members were involved for the co-ordination & evaluation of the projects in the fair.

A committee of experts constituting of Mr. Hitesh Bhalodia from Icon Technocast, Mr. Jaysukh Nagewadia from Minimatic Machine Pvt. Ltd., Mr. Dineshbhai Savsani from Synnova gears, Mr. B.K.Sakhiya from Amul Industries, Mr. Harshil Vadaliya from Panchnath Auto Pvt. Ltd. and Dr. Sachin Parikh, Principle of V.V.P. Engg. College evaluated the projects. Alumni, parents and other citizens from Rajkot were also invited.

Rank	Name of Students	Topic
1	Khakhar Nishit Nakum Dhaval Vachhani Denish Vekariya Jay	Test rig of heat exchanger
2	Jadav Nikunj Bhatt Brahmarshi Dudhaniya Dhaval	Design, development of jig for an auto part



NANOTECHNOLOGY ENGINEERING DEPARTMENT:

The students of department of nanotechnology had prepared many innovative projects which can be useful for industries as well as society. Nano coated glass and a Hydrophobic liquid were demonstrated as a project at this project fair.

Students of every semester, students from other institute and people also visited the fair and gain the knowledge by discussing the project with the faculties and senior students present over there. Many other students also got different ideas for another projects and got inspired.

Faculties of Department, Dr. Davit Dhruv, Mr. Chirag Savaliya, Miss. Nirali tank, Miss. Sapana Solanki, Miss. Urmila Meshiya, , Miss. Zarna Mehta and Miss. Kinjal Khunt were present during the demonstration of projects and they inspired students about the basic idea about nanotechnology and its applications in various field.

