BMS
INSTITUTE OF TECHNOLOGY AND MANAGEMENT

Avalahalli, Doddaballapur Main Road, Bengaluru – 560064

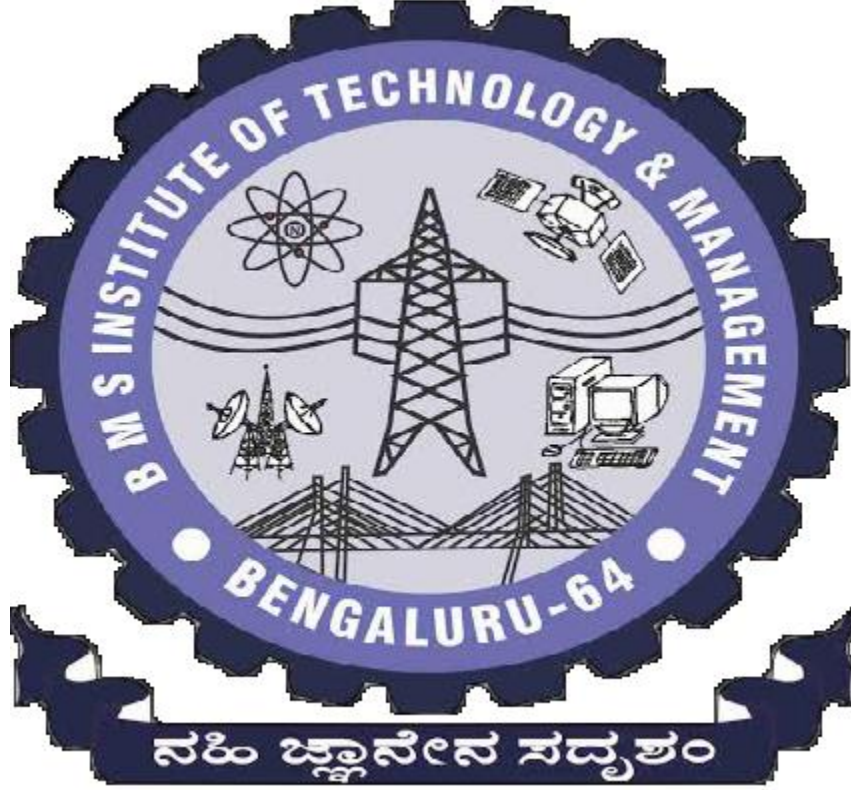### DEPARTMENT OF COMPUTER SCIENC & ENGINEERING

INCUBATION CENTER DETAILS

Index	Company
2015-16	Opencube Labs
2016-17	H.K Groups
2016-17	QuikPod
2017-18	DEVX
2018-19	DEVX & IOT LAB

BMS INSTITUTE OF TECHNOLOGY & MANAGEMENT

Yelahanka, Bangalore-560064

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

A Report on Incubation Center

Department Information

The Department of Computer Science and Engineering was started in the year 2002 – 2003 with an approved intake of 60, later the intake increased to 90 and present intake is 180.

The department is striding in the progressive path, and has a team of well qualified, experienced and dedicated faculty. Three faculty members of the department are with doctoral degree and eight are pursuing. The Department of CSE continues to recruit faculty members with high experience in academia, industry and research.

The department has state of the art infrastructure to cater the learning needs of students; well equipped computer laboratories for course work, teaching and student projects. High end servers and nodes are all connected in the network with all necessary licensed software.

The department adapts superior Teaching learning Methodology to train the students with orientation to OBE. Students have been performing well in the university examination.

The department is helping the students in getting exposure to cutting edge technologies by means of organizing technical talks from domain experts of reputed research organizations.

The students are encouraged to involve themselves in creative, technical and research activities.

The department encourages the entrepreneurial spirit of students through Incubation centers housed at department.

Our graduates are working in leading IT industries and many students have secured admissions to prestigious universities abroad.

Vision:

To develop technical professionals acquainted with recent trends and technologies by channeling valuable resources and activities in the area of Computer Science & Engineering.

Mission:
Facilitating and exposing the students to various learning opportunities through dedicated academic teaching, guidance and monitoring.

Incubation Centers

The Department of CSE BMSIT has started two Incubation centers in January 2015. The intention is to improve the technical skills of our students, in turn enhance the employability; and also to support the budding entrepreneurs in our students.

Incubation center -1: OpencubeLabs a start-up by Mr. SurajJana 7th semester, BMSIT&M.

Incubation center -2: R & D center headed by Dr. Y Suresh and H K Groups, headed by Mr. Harinath.

The following are the details of the activities and achievements of the Incubation centers from January 2015 till now.

Incubation center -1

Vision

OpencubeLabs believe that they are the beacons of light in this world of digital darkness. In a world where the knowledge to build intriguing and exciting new Space Technologies is highly monopolized by a few governing agencies, OpencubeLabs intends to bridge the gap between the said agencies and the country's eager and talented youth so as to make knowledge accessible to all.

Mission

Quoting Dalai Lama (1357-1419), The High Lama of Tibetan Buddhism "Share your knowledge. It's a way to achieve immortality".

OpencubeLabs wishes to achieve said immortality by making the knowledge on advances in space technologies available to all the citizens of the global community. The company strives towards this goal by reaching the millions of people through workshops, seminars, educational apps and by building ingenious products to better facilitate learning and nurture ingenuity.

OpencubeLabs Team

Soumick Sinha, Sunad Mohan, Sachin N, Suraj Jana, Saurav Jakhar, Roshan Agarwal (Left-to-right)

CanSat Development Program

OpencubeLabs' CanSat Development Program is designed to give the experience of small scale space missions to every student in India. At the end of this 2-day workshop, the company guarantees that each of the participants will become an expert in CanSat oriented project and research works, and they can independently conduct future CanSat missions for their experiments.

Workshops Conducted

1. CanSat Development Program, MSRIT, Bangalore
2. CanSat Development Program, BMSIT, Bangalore
3. CanSat Development Program, IIT-Mandi, Himachal Pradesh

Winter Internship

Winter internship program for the students' of BMSIT&M was conducted by Opencube Labs in the month of January, 2015.

Internship was focused on embedded computing systems and real-time hardware prototyping.

BMSHackIT

A 24 hours software development program was organized on 18th March 2015 by OpencubeLabs and Department of CSE, 8 teams participated and showcased their talent. Outer space is the theme kept for the Hackathon

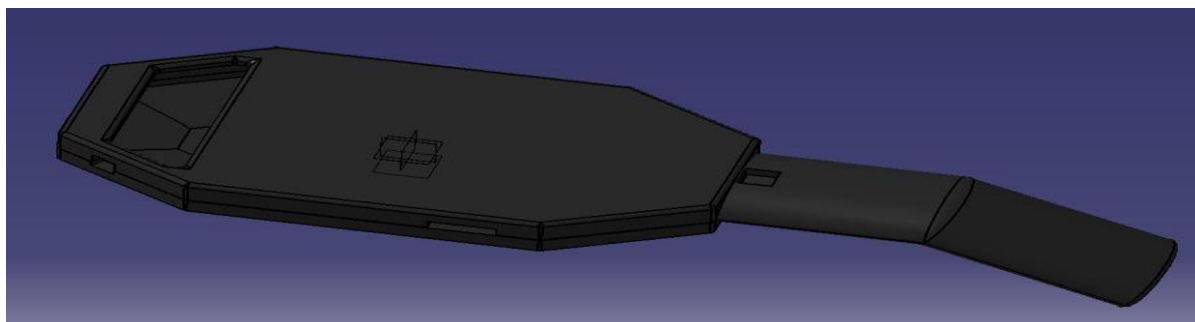The SVCE team won the first prize and the REVA University were the runner up.

OpencubeLabs has initiated two more startups within based on the domains and projects.

1. Sasya Labs:

The intention is to develop products to help agriculture sector the following are the products currently being developed by Sasya Labs.

- ➢ It is a handheld crop sensor that assesses crop health or vigor.
- ➢ Make real-time nutrient management decisions for crops.
- ➢ It specifies the optimum amount of fertilizers to be applied during a crop's life cycle.

It is a ground based sensor to assess soil quality and make nutrient management decisions in Sowing and tillering stage.

2. Rockstat:

Started on 7th June, 2015 to provide software services with perseverance in achieving 100% customer satisfaction. The following are the portfolios.

- ➢ Web Development
- ➢ App Development
- ➢ Software consultancy
- ➢ Recruitment consultancy

Workshops conducted

1. Android App Development Workshop

Rockstat Software Technologies conducted a 4 days hands-on workshop on Android App Development from 15th July, 2015 till 18th July, 2015 in BMSIT&M campus. The workshop was open to all Bangalore colleges.

2. Workshop on Cloud Computing

15 hours of Hands-on Practical Workshop on Cloud Computing was conducted by Rockstat Software Technologies on 29th and 30th August, 2015. Workshop was open to all.

3. Summer Internship

One month summer internship program for the students' of BMSIT&M was conducted by Rockstat Software Technologies Pvt. Ltd, in the month of July, 2015.

Internship was focused on web development, app development, and real-time scalable apps. The following technologies were trained UNIX, C, OOPs, GIT, HTML5, CSS, JS, JQuery, Python, JAVA, Android and Hybrid

A total of 50 students' got selected for this internship program.

Present Projects

ABO.LIFE

An app based medical emergency assistant system with basic features like ambulance booking, blood donor search, hospital search and location based precautions.

Incubation center -2

HK Groups started in June 2015 lead by Mr. Harinath, Instructor, Dept of CSE, BMSIT.

Vision:

To make the engineers with skills to solve real time inter disciplinary problems.

Mission:

To provide Multi-Disciplinary Training in advanced and emerging technologies by practical hands on working on the product.

Objective:

We believe that knowledge of person is based on solving real time problems and not from score in exam.

We enroll students who have score below 60% or who are not eligible for placements.

We train these students with emerging technologies based on the industry needs and assist them to get placed based on their skills.

Products:

1. Home Security System:

Security is a big challenge everywhere because thefts are increasing day by day owing to the unsafe and insecure security systems in homes, commercial complexes and industries.

Several conventional technologies are available to keep home properties safe from intruders, but most common smart home security systems work on wireless GSM communication.

Such systems provide security from natural, incidental, intended, unintended, accidental and human made problems by continuously monitoring homes with different sensory systems like motion, smoke, gas, temperature, glass break or door break detectors and fire alarm systems.

Home Security System

2. Smart Home:

Smart Home with Security system

A Smart Home product provides home owners the comfort, security, energy efficiency (low operating costs) and convenience at all times, regardless of their presence in home.

"Smart Home" is the term commonly used to define a residence that has appliances, lighting, heating, air conditioning, TVs, computers, entertainment audio & video systems, security, and camera systems that are capable of communicating with one another and can be controlled remotely by a time schedule, from any room in the home, as well as remotely from any location in the world by phone or internet.

3. Vehicle Security System

GPS vehicle trackers are invaluable tools for monitoring either a single car or an entire fleet of vehicles. A real-time car tracking device gives up- to-the-minute speed and location updates, including text or email alerts based on parameters set in advance. The owner of the vehicle can know the location, speed and the direction of vehicle movement and can remotely control the speed or switch off the engine itself.

4. RFID Based Attendance System:

Smart Attendance System is developed using RFID & Biometric for schools, corporate offices. This system is very easy to use,

The users should flash their RFID cards to RFID Readers in Schools or corporate offices, the device will scan unique Code in RFID Tag and it stores the data on to

cloud server through GPRS, School or corporate can track and generate reports using our application.

5. Web based Feedback System

We have developed a Web based Feedback System to collect analyze and report the students feedback for faculties and the Infrastructure for BMSIT&M.

The system is used by 2500 students of BMSIT&M to provide feedback 4times an year. The feedback system can be accessed from any system of the college and also on the smart phone.

The systems collects the data analyzes and generate feedback reports separately for each faculties, each class and each department with required graphs and automatically mails it to the concerned people.

6. Web based attendance and marks management system

We have developed a Web based attendance and marks management system for BMSIT&M, which is used to update everyday attendance status of each student and the Internal Assessment marks of the students.

The system will automatically send SMS of the attendance and marks report to the parents periodically as per the settings.

The systems also have the provision to generate the periodic reports to assist the faculties in proctoring and academic monitoring.

Future Products:

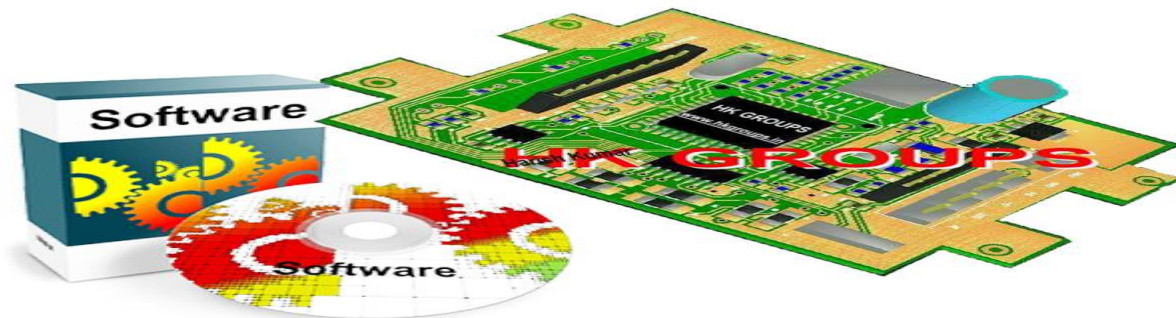**1. Smart Street Light (Under testing)**

Power wastage is one of the most serious problems at present. In the existing Street Light system, power consumption takes place due to continuous lighting throughout the night by street lights. Hence an idea is to implement street lights in such a way that it will be switched ON with full intensity only in the presence of Humans on the roads at night times and in the absence of Humans, this light reduces its intensity or completely switch off according to preset. Therefore, maximum power will be saved.

2. Power generation using gravitational force (R&D)

Power generation is done through various methods, some of which uses renewable energy sources and some use non renewable energy resources. But all this methods produce the Electrical energy only to limited extent. Therefore a source through which energy can be harvested continuously for 24hrs is to be found. Gravity is the force that is present on the earth at every instant of time; hence with suitable mechanism it can be used as a source to generate Electrical energy.
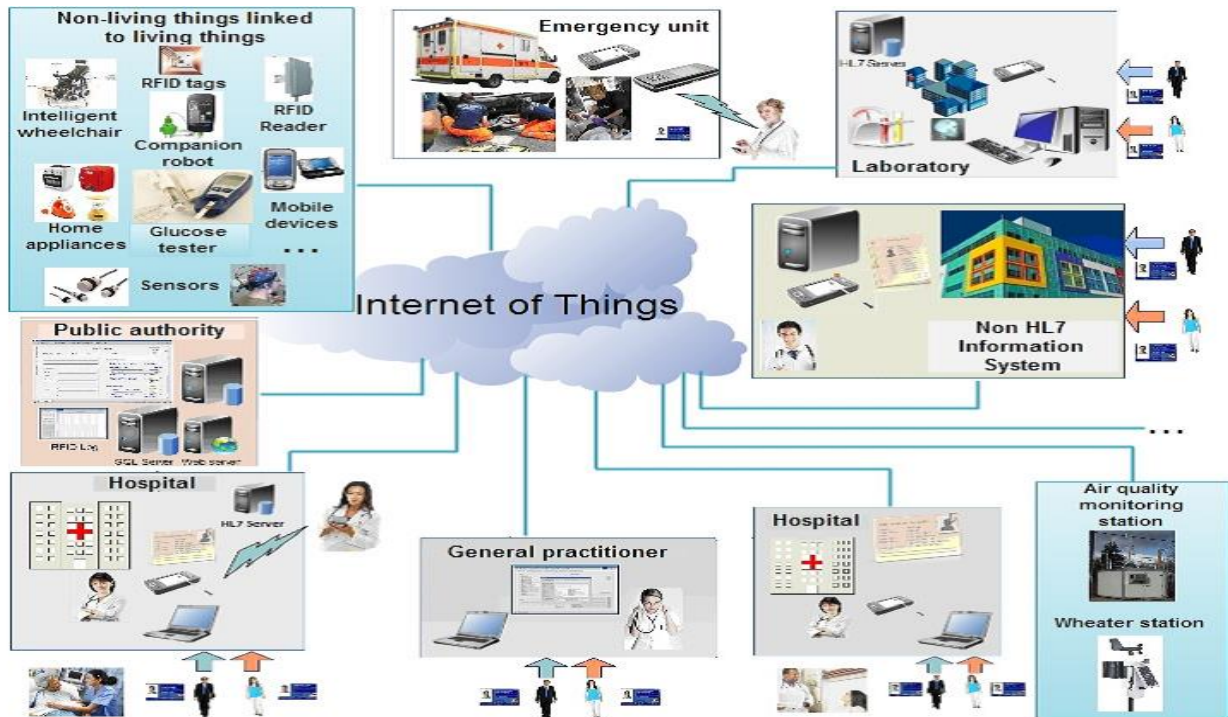
Trainings:

1. Embedded systems:

Our training is based on Industrial Training Modules. It includes Overview of Microcontrollers, Understanding of 8051, PIC Family of Microcontrollers, ARM, and Arduino, Getting started with embedded C, Keil, arduino and MPLAB Integrated Development Environments & Tools, Serial Communication & Computer Interfacing & Hands on Lab.

Students will also develop project with IDE under this course. The sessions are designed to be concise to give participants more time for practical implementation.

2. IoT (Internet of Things)

Main objective of the course is to introduce emerging technological options, platforms and case studies of IoT implementation in home & city automation (smart homes and cities), Industrial Internet, healthcare, Govt., Mobile Cellular and other areas.

3. Web designing:

The course focuses on:

Basics of internet related technologies, installation of various tools and plugins to help in the process of web design.

Learn about the web standards, accessibility of web pages, types of websites, etc.

XHTML and HTML5 elements, differences, semantics, and browser support.

Introduction to CSS, selectors, and properties

Hosting of website

DevX

DevX is a startup incubated at BMS Institute of Technology and Management. It was pivotal in developing the faculty feedback system for BMSIT&M. Some other notable softwares developed by DevX are Event Management System, Restaurant Delivery System, Logistics Management System It mainly specializes in development of institutional ERP systems. The current products in development are Faculty Leave Management System and AI based Chat Bot.

Faculty Feedback System

The faculty feedback system was rebuilt from scratch. It involved the use of newer technologies such as Python and JavaScript. The faculty feedback system has the following features:

1. Portal for the students to give feedback
2. Portal for Faculty to view their own report
3. Portal for department HoDs to view individual reports of their department faculty members as well as consolidated feedback report of their department.
4. Portal for the principal to view the consolidated feedback report of the entire institution.

The new system is highly secure and uses built in encryption techniques. The system is powered by a unique 8-character alphanumeric password.

All reports are dynamically generated at the time of login by the respective faculty or HoD or Principal and works without any human intervention.

The system is very user friendly as it makes the use of modern front end design standards such as Material Design by Google.

The system took over 2400 feedbacks and received an overall average rating of 4.973 on 5 by the students who had given their respective feedbacks.
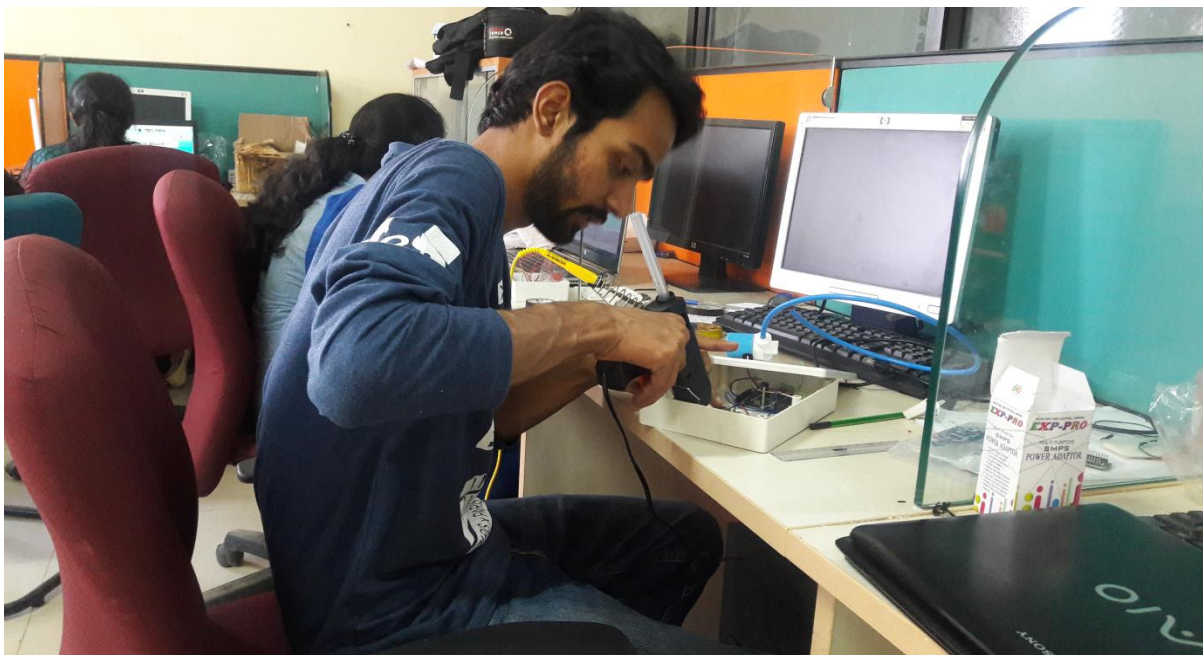
QuikPod Projects

Smart Campus Products Designed and Developed in Association with QikPod.

Project Discussions at QuikPod Office: Mr.Ravi Gururaj , CEO QuikPod , Dean R & D, faculty and Students of BMSIT&M .

Project 1

IoT based Indoor Plant Watering System: Sensors detect the moisture level in the soil, air temperature and humidity level and automates the watering to plants.

Project2:

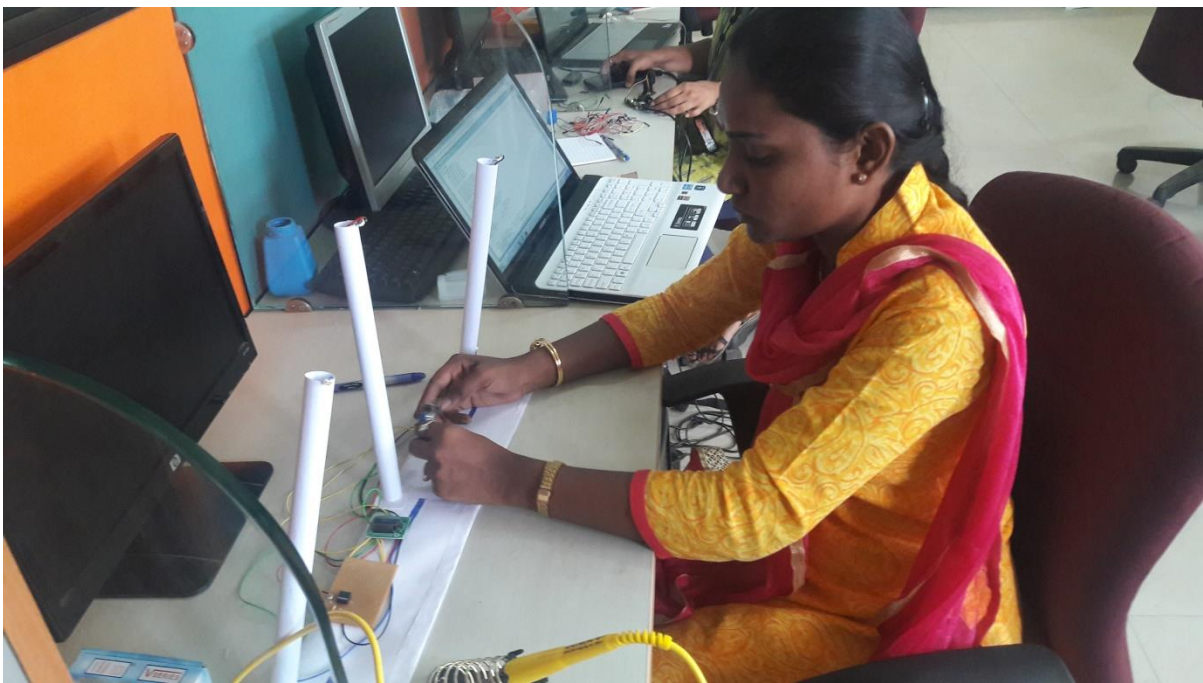Smart Secure Login: Access/Entry to Lab only to authorized Users.

Project3:

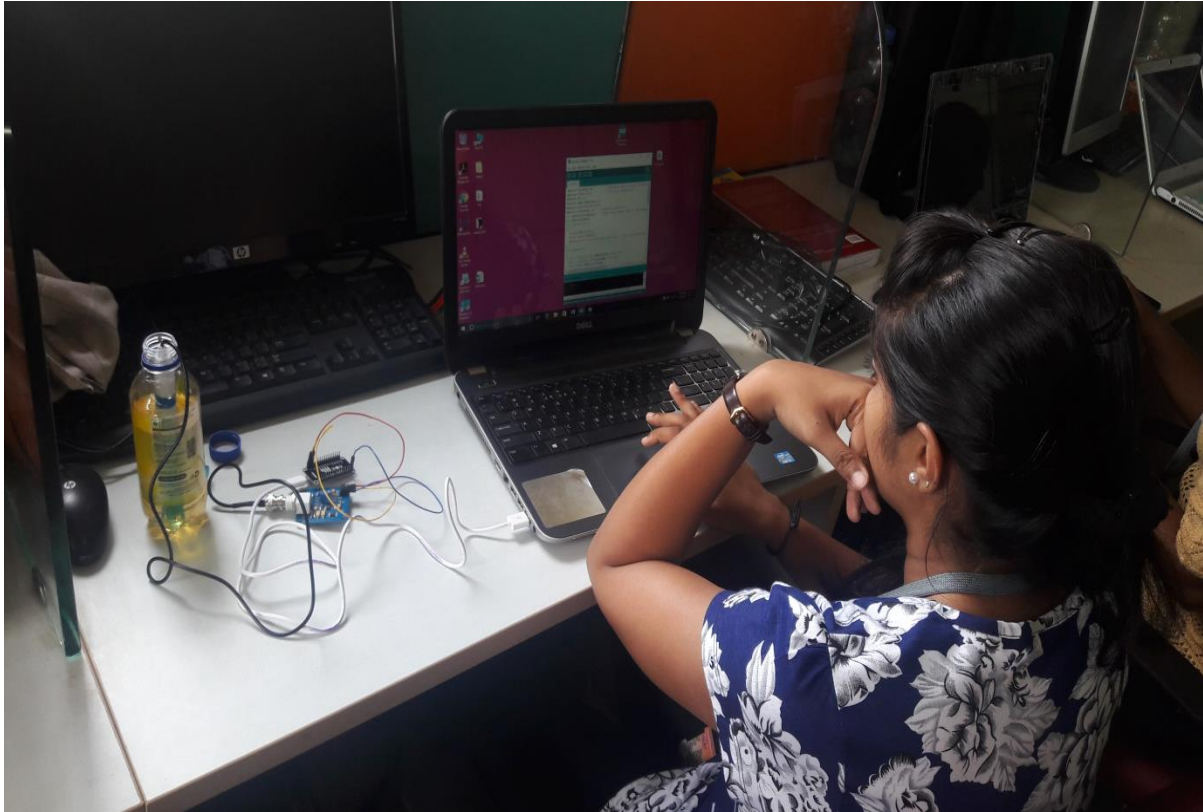Delivery Bot: A Line Following Robot

Project 4:

Smart Street light operation

Project 5:

Water Quality Monitoring System : An Internet of Things (IOT) based water quality monitoring.

Project 6:

Book Your Seat: An App developed for college cafeteria which gives you notification about daily special menu and reserves you a seat.

Project 7:

Mobile App: An App designed for BMSIT&M features all the Academics, Examination, Curricular Activities, Infrastructure, Discussion form, Infrastructure, nearby facilities, Library Access, Lecture Notes Etc.