HYDERABAD INSTITUTE OF TECHNOLOGY AND MANAGEMENT

A
Report on
"24 hr Hackathon on IOT"

Organized by Department of ECE in collaboration with SSDC on 18th Oct 2019 to 19th Oct 2019.

Dr. Shiva Kumar   Dr. Rahul Vivak Prohit   Vinod Kumar Ahuja
Principal   Professor and Head, ECE   Event Coordinator

Name of the Trainer: 1) Vinod Kumar Ahuja

Name of supporting trainers: 1) Bindu Reddy
                               2) Dinesh
                               3) Nava Kishore

Venue: Go9 (Center For Excellence in IOT)

Date: 18th Oct 2019 to 19th Oct 2019

Total Number of Participants: 59

Duration: 24 Hours

Introduction

The document on hand is a narration of the detail the events and proceedings of the training Hackathon on Internet Of Things that was conducted by Students Skill Development Center of Electronics and Communication Department. The training was conducted at the HITAM campus in G09 and the whole session lasted for twenty four hours. The Hackathon was conducted as per current trends in IOT.

About Participants

There are fifty nine participants attended Hackathon. Eleven participants attended from other engineering college i.e IARE,CMR, Vagdevi Warangal, brilliant, VNR, St. Martins and forty eight participants attended from HITAM. The participants who participated in the Hackathon were introduced to cutting edge technologies such as Node Mcu, Blynk app and server, Thinkspeak server, graphical coding using Tuniot and various sensors like soil moisture, gas, temperature, sound, IR and RFID.

Time Schedule

Session-I   (11:00AM – 01:00PM) :

Introduction on IOT, Introduction to Node MCU, Configuring Library, Graphical Coding, Verifying Output – 45 Minutes

Introduction to BLYNK, Creating account in BLYNK, Configuring BLYNK – 45 Minutes

Task on BLYNK – 30 Minutes

Session-II (02:00PM – 05:00PM) :

Configuring LCD on BLYNK, Accessing Virtual Terminal – 60 Minutes

Interfacing Sensor I to BLYNK, Graphical coding – 30 Minutes

Accessing Sensor data and sending notification to Email and Mobile through Virtual pin – 30 Minutes

Introduction to Thingspeak, Creating Accounts in Thingspeak, Pushing the Sensor data to Thingspeak - 60 Minutes

Session-III (05:30PM – 08:30PM) :

Graphical Coding – 30 Minutes

Task 1 – 30 Minutes

Project I – 90 Minutes

Interfacing Sensor – II to Thingspeak, BLYNK, Serial Monitor – 30 Minutes

Session-IV (09:30PM – 01:30AM) :

Project II – 90 Minutes

Wireless Communication – 30 Minutes

Project III – 120 Minutes

Session-V (03:00AM – 06:45AM) :

Project IV – 90 Minutes

Project V – 90 Minutes

Competition – 45 Minutes

S.NO	TIME	VENUE	PURPOSE
1.	9:00AM 9:45AM	Opposite to Seminar hall	Registration, Batch Formation
2.	9:45AM – 10:30AM	Seminar Hall	Inauguration Function
3.	10:30AM -10:45AM	Opposite to Seminar Hall	Tea Break
4.	10:45AM – 11:00AM	G09	Gathering In G09
5.	11:00AM – 1:00PM	G09	Class
6.	1:00PM 2:00PM	Near Canteen	Lunch
7.	2:00PM – 5:00PM	G09	Class
8.	5:00PM – 5:30PM	Opposite To G09 Lab	Break
9.	5:30PM – 8:30PM	G09	Class
10.	8:30PM – 9:30PM	Near Canteen	Dinner
11.	9:30PM 1:30AM	G09	Class
12.	1:30AM 2:45AM	Opposite To CDC room	Fun Activities
13.	2:45AM – 3:00AM	Opposite To CDC room	Refreshments
14.	3:00AM – 6:45AM	G09	Class
15.	6:45AM – 8:00AM	_____	Fresh up Time
16.	8:00AM – 8:45AM	Near Canteen	Breakfast Time
17.	8:45AM – 9:15AM	G09	Feedback & Knowledge Sharing
18.	9:30AM – 10:30AM	Seminar Hall	Valedictory function, Certificate Distribution, Winner's – Runner's Awards
19.	10:45AM	College Bus Stop	Buses Disperse

Inauguration Function:

Inauguration conducted in presence of Principal sir, Dr Arvind sir, Dr Rahul Sir, Dr. Sriram sir and other ECE staff and participants

Objective of the event

The goal of a 24r hr IOT hackathon is to creating a functioning product by the end of the event. Hackathon tend to have a specific focus, which include the hands on experience on Node MUC, various sensors like soil moisture, IR, pulse, gas and how to write graphical codeing using tuniot and creating account in Blynk and accessing and uploading data to blynk server and also how to create account in thinkspeak and uploading data to or assessing data from thing speak server. Participants supposed to design working model on assigned projects.

Projects assigned to participants

1) Design advance patient/Employ heath monitoring system using IOT via thinkspeak and Blynk and send patient/Employ health information as notification to mobile and email!!!!!!!
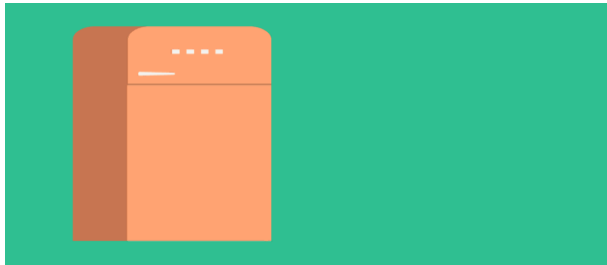
   Heart monitoring

   Temperature monitoring

   Harmful gas in room

2) Design smart refrigerator which send notification to milk vendor automatically after completion of milk!!!!!

3) Design of automatic toll gate system for smart city using RFID

Training goal

The main objective behind the hackathon on Internet Of Things (IOT) is to get the participants learn the essential ins and outs of Internet Of Things (IOT) – from start to end and what's in between. Along with that, the participants needed to understand what to focus when managing their work, specially the projects they work on. That is, being engineering students their needs to be a balanced focus on all aspects of the project, from individual team members to the team itself to the task on hand and understand which coding language, hardware, application, server need to opt for faster prototyping.

Hackathon Contents

The following core concepts were covered in the training program:
♣ Introduction to IOT and its future
♣ Introduction to Node Mcu and hands on
♣ How to write graphical code using Tuniot
♣ Creating account in Blynk
♣ Handling blynk server for monitoring sensor data and controlling actuator
♣ Creating account in Thinkspeak
♣ Handling Thinkspeak server for monitoring multiple sensor data and sending notification
♣ Design assigned projects in given time.

Facilitation Techniques Used (Methodologies)

There were main three facilitation techniques used by the trainer which included activity in which trainer responsible to teach, train students and other co trainers, students volunteer also helps participants. Second technique is task which includes very less involvement of trainer other co trainers, students volunteer where participants need to interact among themselves which includ question and answer, brainstorming, group discussions, case study discussions and practical implementation of some of the topics by trainees. The last technique trainer opted is projects where 100 % participants responsible to come up with working prototype in given time. Participants those who completed project and passed prototype test for all given contrition their marks are noted on sheet by trainers and co trainers for awarding winners and runners.
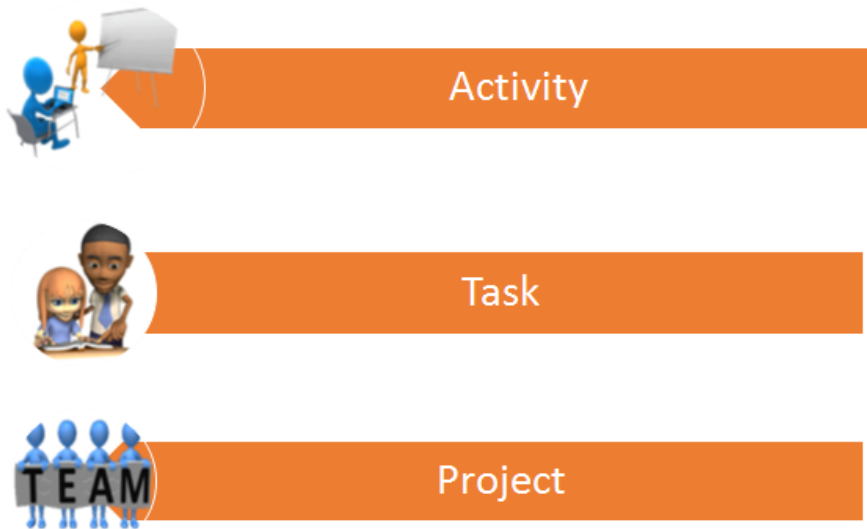
Closing of the Training

The trainer expressed his closing remarks and reiterated the importance of the training for the participants in their daily activities and their readiness for applying the learnt concepts in their future projects. Trainers shared all source codes with participants. Feedback paper is shared with all participants asked them to share their honest feedback and a few participants asked to share their experience on Hackathon. Based on makers scored participants declared winners and runners.

Banner

Inauguration Function:

Dr. Shiva Kumar addressing participants   **Dr Rahul Vivak addressing participants**

Dr. Arvind addressing participants

Working pictures

Valedictory

Winners batch (3rd ECE students from HITAM)   Runners batch (3rd ECE students from IARE)

Certificate distribution