Sarvajanik Education Society

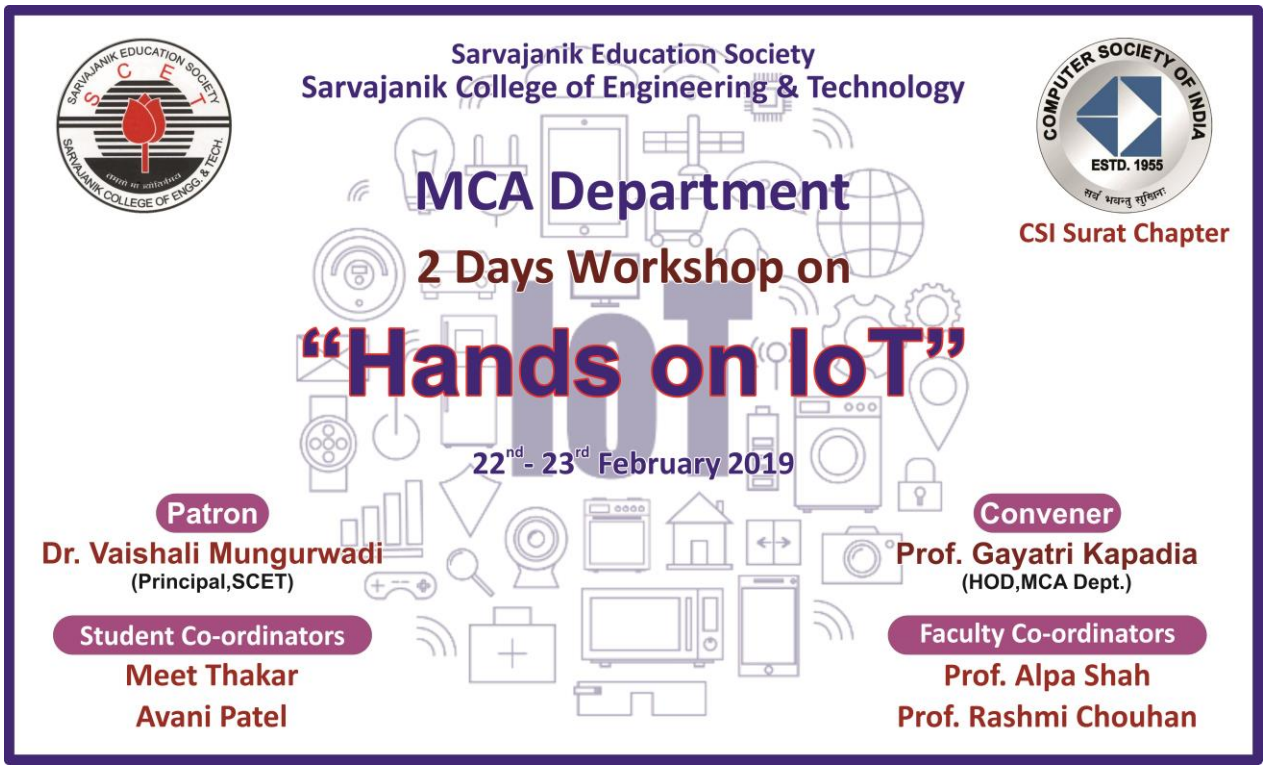
Sarvajanik College of Engineering & Technology, Surat.

Master of Computer Application Department

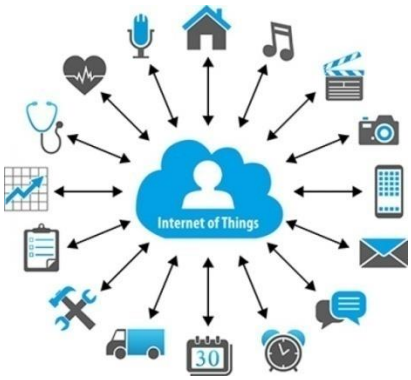
Academic Year 2018-19

Date: 2nd March 2019

Report on
2 Days Workshop on
"Hands on IoT (Internet of Things)"



"If You Think That the Internet has Changed your Life, Think Again. IoT is About to Change It All Over Again"



Can you imagine a computing concept where everyday objects have network connectivity? Is it possible for ordinary devices to communicate among themselves?

Yes!! And the answer is 'the Internet of Things'.

With an aim to open development avenues in the field of IoT, M.C.A. Department had organized ***2 days workshop on "Hands on IoT",*** technically sponsored by CSI Surat Chapter. The aim of workshop was to cover basic concepts and features of the Internet of Things and build projects utilizing the Arduino platform.

Speaker:	**SYED MD ASDAUR RAHMAN**
Designation	**Lead Trainer, Innovians Technology, New Delhi**
Date & Time :	**22nd & 23rd February ,2019 (9 AM to 5 PM)**
Venue:	**MCA Lab, SCET, Surat**
Targeted Audience	**Students and faculties interested in IoT**
Coordinated By:	**Prof. Alpa Shah, Prof. Rashmi Chouhan**
Participants:	**67 Participants (Students, faculties and Industry Experts from and across Institute)**

Highlights of Workshop

- ✓ **What is the Internet of Things means and how it relates to Cloud computing concepts?**
- ✓ **How open platforms allow you to store your sensor data in the Cloud?**
- ✓ **The basic usage of the Arduino environment for creating your own embedded projects at low cost.**
- ✓ **How to connect your Arduino with your Android phone?**
- ✓ **How to send data to the Internet and talk to the Cloud?**

Schedule of the Workshop on "Hands on IoT"

Day 1: 22nd February 2019 **Time: 9:00 AM to 5:00 PM**

Sr. No.	Particulars	Time
1	**Registration**	8.30 am to 9.00 pm
2	**1 Introduction to the Internet of Things** • The Internet of Things • The Basics of Sensors & Actuators • Introduction to Cloud Computing **2 The Arduino Platform** • The Arduino Open-Microcontroller Platform • Arduino Basics • Arduino Board Layout & Architecture • Reading from Sensors **3 Programming fundamentals (C language)** **4 Arduino Programming & Interface of Sensors** • Interfacing sensors with Arduino • Programming Arduino • Reading from Sensors	9.00 am to 11.30 am
3	**Project 1:** Simple LED Program for Arduino	11.30 am to 12.30 pm
4	**Project 2**: Integrating Sensors & Reading Environmental Physical Values	12.30 pm to 1.30 pm
5	**Lunch Break**	1.30 pm to 2.30 pm
6	**Project 3:** Reading Environmental Values on Android Smartphone. Talking to your Android Phone with Arduino • Connecting Arduino with Mobile Device. • The Android Mobile OS. • Using the Bluetooth Module **Project 4:** Voice Controlled Mini Home Automation using Android Smartphone	2.30 pm to 3.30 pm
7	**Project 5:** Control Devices using Localhost Web Server for Home Automation • Integrating Ethernet Module & Testing DHCP Connection • Creating Program for Localhost Web Server for controlling devices.	3.30 pm to 5.00 pm

Day 2: 23rd February 2019 **Time: 9:00 AM to 5:00 PM**

Sr. No.	Particulars	Time
1	**Project 6:** Creating own Android App using MIT App Inventor & controlling Arduino connected devices	9:00 am to 10:00 am
2	**Project 7:** Being Social on Twitter & update status on Twitter through Arduino.	10:00 am to 11.30 am
3	**Project 8:** Send Voltage & Analog Data on Cloud Server **Project 9:** Use Arduino to Upload free data from Environmental Sensors to Cloud Server.	11.30 to 1.00 pm
4	**Lunch Break**	1:00 pm to 2:00 pm
5	**Project 10:** Automatically Tweet Sensor based condition on Twitter. **Project 11:** Receive Automatic Call Notification on Mobile Phone for Burglar Alarm using IoT Platform. **Project 12**: Control Electronic Devices from anywhere across the world using Internet & Mobile App.	2:00 pm to 4:00 pm
6	**Competition**	4:00 pm to 4:30 pm
7	**Certificate Distribution and Feedback**	4:30 pm to 5:00 pm

During the two days of workshop, participants had hands on various IoT projects as mentioned in the schedule. The learning experience of the participants was beyond comprehension. The contents were delivered very effectively by the speaker, Mr Syed and had great impact bringing newer learning to the participants. Mr Syed was very effective in delivering the contents, solving the queries and showed relentless support. At the end of session, all the participants received participation certificate and the 2 teams received certificate for excellent performance based on the competition results.

We express sincere thanks **Prof. Gayatri Kapadia**, Head, MCA Department for providing the consent for conducting the workshop. Also, we extend thanks to **Dr. Vaishali Mungurwadi**, Principal, SCET for her relentless support for facilitating such superfluous activities at MCA Department. A special note of thanks to **Mr. Bashir Mansuri**, Chairman CSI Surat Chapter, **Prof. Shripal Shah and Dr. Maulin Joshi**, Members from CSI Surat Chapter, for their support and permitting us to conduct the workshop under CSI Surat Chapter. We also like to express our gratitude to **Shri G. C. Sanadhya**, Secretary of Sarvajanik Education Society for permitting the trainer for accommodation in Boys Hostel.

Some glimpses of enthusiasm for learning in participants are shared below.

Diligent Participants!!!

Learning, learning and only learning IoT.

Zealous Faculties Towards Knowledge Acquisition

Prof. Shripal Shah & Dr. Maulin Joshi, Members of CSI Surat Chapter grace the event with their presence

Together we can, and we will make difference with Internet of Things.

Report compiled by Prof. Alpa Shah & Prof. Rashmi Chouhan (Faculty Coordinators)