

Internet of Things Workshop

Day 1

Vision & Introduction to IoT.

Vision and Introduction to IOT

- Introduction to IOT
- Understanding of IOT
- Market prospective
- Future Aspects of IOT
- Real World IOT design Constrains
- Industrial automation and commercial building Automation in IoT
- Introduction to controlling devices
- Wide description about controlling devices.
- Input & Output peripherals in controlling devices.
- Resisters in controlling devices.
- Programming of controlling devices.

Kit Distribution

Practical session

- Interfacings of peripherals.
- Output devices interfacings.
- Programming for LED interfacings with controlling devices.

Practical Session

Dierent patterns of LED.

Relay Interfacing

- Introduction to relay.
- Types of relay and itsworking.
- Introduction to ULN2803 IC.
- Interfacing between controller and ULN2803.

Project

Development of an automation system.

Day 2 :

Serial Communicaton

- UART in microcontrollers.
- Accessing internal UART.
- Transferring data serially from PC to microcontroller.

Project- Smart Automation using PC.

- Introduction to Internet
- Introduction to TCIP
- Introduction to IP addressing and its dierent classes
- IP address distribution to PAN India
- Practical: - Generating dierent class of IP
- Practical: - Generating dierent IPs to client.

Generating Access Point using Wi-Fi Technology

Project: - Word wide accessing and controlling of secure automation system.





Day 2

Session 3 : Fire up the Codes

Making Interactive User Interface(3.0 hours)

Apps are 'built' to cater the needs of the users but they should be 'designed' as well to fulfill the ease to use, simplicity and Beauty

Using Common Components

- Button, Labels, Text Boxes
- Radio button, Radio Group, Checkbox
- Slider, Progress Bar, Rating Bar

Different Types of Layouts

- Linear Layout : Horizontal/ Vertical
- Relative Layout, Table Layout
- Views Scroll

Advanced Components

- Date/ Time Picker, Image, Video
- Menus, Zoom in-out

The Eye Candy

- Toast, Alert Messages
- Notification
- Applying Style & Themes

Application Resources(System Apps)

- Types – like image, color list, Animations
- Providing resources
- Accessing Resources

Employing Phone Features in your Apps (1.0 hours)

Search over Internet & internal device search

Embedding the WebKit Browser

- A browser, Writ Small
- Loading it up
- Navigation
- Setting, Preferences & Options

Using service providers in the apps

- Making Calls(Audio / Video)
- Answering / Decline calls
- Sending SMS /Reading SMS
- Communicating through e-mail

Session 4 : The Core

Getting into Serious Business (1 hours)

Getting User Location (GPS)

Creating Google Map Applications

- Mapping with MapView and MapActivity

Playing with Multimedia

- Listening Mp3(Audio)
- Opening Video files
- Recording Audio
- Browsing Images(Gallery)
- Capturing with Camera

Data store

- Setting Preferences
- Accessing the Files
- Internal Storage (Phone Memory)
- External (SD Card)

Using Database(1.5 hours)

What is Database

- DBMS
- RDBMS
- Benefits

Introduction SQLite

DDL Statements

Modifications Statements

Query Statements

Using SQLite in Android

Using SQLite in Android

Google Play

Followed by the above sessions, the aspirants will be given information about:

- Signing and Publishing applications to the Google Play
- How to be Google Authorized Android Developer
- On Demand Apps Development

Getting Ideas from Participants (1 hour)

As after doing all these stuff all workshop participants are full of ideas & confidence.

- Processing Ideas
- Finding feasibilities, Benefits, Problems
- Implementing ideas(if possible)
- Giving development help on those ideas

Possibilities on Android (Future & Scope of Android)(0.5hours)

- In future in what area the android will have influence
- How we can use this technologies in those area
- What are the capabilities of Android
- Analyzing the similar technologies by other companies
- Understanding the future world.

Application List :

1. Talking App – Will talk with you like robot
2. Audio Player
3. Video Player
4. Browser
5. GPS
6. SMS + Call App
7. Contact App – Database
8. Tree – component explaining theory app (Image, Radio Buttons, Text Boxes, Notiications etc.)