



INTERNET OF THINGS

COURSE CURRICULUM

CURRICULUM STRUCTURE

DURATION : 2 DAY (16 HOURS)

INTRODUCTION TO IOT

- What is IoT?
- Why do we need IoT?
- Definition of IoT
- History of IoT
- Applications
- Market Study

INTRODUCTION TO EMBEDDED C

- BASIC introduction of C
- If, if else, for and while
- Bitwise operators and logical operators
- Array and String

INTRODUCTION TO EMBEDDED SYSTEM

- BASIC introduction AVR Microcontroller
- Interfacing of led with Microcontroller
- Interfacing of motor sensor with Microcontroller

LCD INTERFACING

- Intro to LCD
- Display character and string on LCD
- Display digit on LCD.
- Moving pattern on LCD
- Creating simple animation on LCD.

SERIAL COMMUNICATION

- Intro to Serial Communication.
- RS-232 Protocol.
- Programming of Serial Communication
- Controlling Device Using Serial Communication

EPS8266 WI - FI MODULE

- Intro to EPS8266 Module
- Interfacing of EPS8266 with microcontroller

EMBEDDED C:

- What is programming language
- Why C ?
- Printf ,scanf
- If ,if else
- For ,while
- Logical operator
- Bitwise operator
- Array
- String

EMBEDDED SYSTEM/AVR MICROCONTROLLER/IDE

- Introduction of embedded system
- Introduction to microcontrollers & platform/
software installation
- Simple Programs and hardware implementation

WORKING WITH I/O'

- Interfacing IR
- Interfacing Sound Sensor
- Interfacing motor
- L293D IC Building of a line Follower
- Building of edge avoider
- Building of wall Follower and obstacle avoider

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ANDROID INTRODUCTION

- What is Android? Why Android?
- Introduction to Android Development
- Android Developer Tools
- Setting up your Development Environment
- Android Emulator

REQUIRED TOOLS

- Eclipse
- Android SDK
- Android Development Tools (ADT)
- Creating Android Virtual Devices (AVDs)
- Anatomy of Android Application

DEEP DIVE INTO ACTIVITIES PRACTICAL

- Activity Lifecycle
- Introduction to Intents
- Built in Intents
- Multiple Activities
- Passing Data to Activities

USER INTERFACE BASIC PRACTICAL

- Android support for building User Interfaces
- Basic Event Handling
- Basic Views in Android
- Android Layout
- Widgets
- Writing Your Own Layouts

PROGRAMMING OF SERIAL COMMUNICATION:

- USART Introduction.
- Initialization of USART.
- Sending data by Serial communication.
- Receiving data by Serial communication.
- Controlling Bot Mobile App. (Android App.)

MAJOR PROJECT COVERED

- Color finder Robot
- Edge Avoider Robot
- Wall follower Robot
- Obstacle Avoider Robot
- Mobile Control Robot
- Digital counter(Demo on Seven Segment Display)
- Digital clock (demo on LCD)
- Home Automation(demo)
- Controlling Bot Using Computer (Serial communication)
- Controlling Bot Using Bluetooth Device