- **IoT and allied technologies workshop in Institutes and Businesses**

- **wishTree- test your ideas hands-on**

- **Build your dashboard in our cloud**

Explore your Ideas hands-on

Wish Tree-1.0
by wiseThingz

wishTree – 1.0 - designed by wiseThingz, is a single board for training and quick prototyping on all available IoT connectivity options- WiFi, Bluetooth, BLE, LoRa, 2G.

It allows integrating RTC, ADC, memory card, inbuilt battery, charger and comes complete with suitable enclosure to produce a finished look.
With jumper combinations, it facilitate efficient GPIO usage, enable deep sleep and low power consumption mode for long battery life.

Airoli, Navi Mumbai, Maharashtra

www.wisethingz.com

Get hands-on in IoT
HARDWARE-SOFTWARE-ANALYTICS

- **WORKSHOP**
- **PROJECTS**
- **SEMINAR**
- **DEV BOARDS**
- **CENTRE OF EXCELLENCE**

IoT
LEARNING INTERNET OF THINGS with wiseTHINGZ

Kick start your IOT Learning

WishTree
by wiseThingz

mail: info@wisethingz.com
call or whatsapp: 9339818158

wiseThingz
www.wisethingz.com

IoT course outline
wiseThingz

• Introduction
- • Why this course and how it help you
- • Let's know each other
- • Brief overview of IoT
  - • History
  - • Why it is a buzz now?
  - • Some recent trends, and the future
  - • And what we will take away from this course
- • The layers and architecture of IoT

• Basic electronics for IoT
- • Basic discrete components
- • Basic power and display components
- • Electronic interfaces
  - • SPI/ I2C/ TTL
- • Circuit fundamentals and calculations
  - • Voltage dividers
  - • Pull-up/ Pull-down
  - • Multiplexing
- • Basic tools and usage
  - • Multimeter
  - • Soldering iron
  - • Breadboard

• Know popular development boards
- • Schematics and pin-outs
  - • Arduino
  - • ESP8266
  - • NodeMCU
  - • ESP32
  - • wishTree
  - • Raspberry pi

• Know the sensors we will work with
- • Load cells
- • Ultrasonic distance sensor
- • DHT22
- • Photo-sensor (LDR)
- • OLED

• Circuit design
- • Design and sketch your circuit
- • Mind the loopholes
- • Create and test it on breadboard
- • Sketch to PCB
- • Checking a PCB design output before fabrication

• Arduino IDE and embedded coding
- • Installation and settings
- • Basic C++ for Arduino
  - • LED blink
  - • Serial print
- • Installation and usage of libraries
  - • HTTP/Wi-Fi libraries
  - • MQTT libraries
- • Writing your code
- • Flashing/ loading code to a board

• Network communication protocols
- • HTTP / MQTT

• Using IoT cloud platforms
- • Dweet.io - to capture and store data
- • Freeboard.io- for dashboard
- • IFTTT- for sending alert email and SMS
- • Cayenne- for MQTT

• Project- hands-on (any one)
- • Connected weight scale
- • Connected level gauge
- • Connected weather station
- • GPS tracking

• Build your own server
- • XAMPP
- • Basic MySQL
- • Basic HTML
- • Design your own UI

References:

Reference book names will be provided.

Photocopies of support materials will be provided.

Learning resources will be available in our website as well. Answers to student queries will be provided through "Educational" section of our website.

Tools and Materials:

Required tools are:

Laptop, Multi-meter, Screw driver, Solder iron/wire, plier

Laptops need to be student-owned. Other tools can be purchased by students/institute; OR can be provided by us on share basis at actuals.

Required materials are:

Breadboard, discrete components, Dev boards, sensor modules, battery, battery case, screws and nuts, power adapter, jumper wires, normal wires, displays

Materials can be purchased by students/institute; OR can be provided by us at actuals.

Instructors:

- • Arun Singh- B.Tech. (Comp. Sc.)- IIT Guwahati; MBA- IIM-B
- • Sandip Sutariya- B.E. (Comp. Sc.)- MS University
- • Bappaditya Debsingha- B.E. (mech.)- Jadavpur University; MBA- XLRI

For any query, please contact us @9339818158 by call or whatsapp. Alternatively, drop us a mail at info@wisethingz.com. Or submit an enquiry in www.wisethingz.com

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