Goal

- 1. How IoT has grown to what it is today
- 2. Future of IoT and where we are heading
- 3. Understanding basic IoT architecture
- 4. Communication protocol used in building IoT system
- 5. Developing code to implement IoT system



Level Beginner Level

Course Type

Online with Video lectures, Presentation slides, Reading Material & References



Language of Instruction



Software Requirements Visual Studio Code, ESP-IDF extension,

Python, MQTT client MQTTX, Grafana



Hardware Kit

eY-IoT shield, ESP32, DHT11, LDR, DC 5V Cooling Fan, DIP Led White, 2-way green connector, Battery Connector (male to male), Resistor 10K, Li-ion battery.



Assessment

Module-wise Quizzes, Module-wise Assignments & Capstone Project



Overview

Crash Course is an online platform developed by e-Yantra, to offer Massive Open Online Courses (MOOCs) for individuals from varying backgrounds.

We encourage learners in Engineering/ Science/ Polytechnic colleges to take advantage of the courses.

Our 40 days Course is offered along with a challenge activity to help you hone your acquired skills.

Contact Us:

8 022-2572-0184

- KRESIT Bldg, IIT-Bombay
- **resources@e-yantra.org**
- https://www.mooc.e-yantra.org



2 Uantra Engineering a better tomorrow

Introductory Course on Internet of Things



Highlights of Course

- Introduction to IoT
- Fundamentals of HTTP
- Introduction to MQTT
- Case Study Discussion & Capstone Project

What does the Course Offer?

This course will look into the essential knowledge required to build an IoT system; broadly speaking, the system will have a micro-controller, sensors, actuators, and wireless module.

Who will Benefit?

Anyone and everyone who is interested in understanding how to build a basic IoT system must have a basic knowledge of "C" programming.

Requirements

The participants will need to bring their laptops for the duration of the course.

The minimum specification of the laptop should be: -

- Windows OS (10 and above)
- Minimum 8 GB RAM
- 50 GB free storage on HDD/SDD

About IoT

Internet of Things(IoT), Internet of Everything(IoE), and Industrial internet of things (IIoT) are all buzzwords and of interest to learners, researchers, and industrialists. With the availability of the Internet, devices all around us can now talk to each other, and at the same time, one can control them from anywhere. Household electronics, computers, laptops, automobiles, etc., have been around for many decades, and most of us use them daily.

Then something happened, where the Internet became more accessible and affordable for everyone. All these devices now constitute the Internet of Things (IoT). Hence, IoT is an extension to embedded systems devices; giving Internet capabilities to embedded systems is IoT. IoT/IoE/IIoT is multi-disciplinary and used in multiple fields/domains. IoT can address problems in agriculture, automation, healthcare, transportation, surveillance, etc.



From **Prof. Kavi Arya**

Embrace the IoT revolution with the rise of high speed internet. Master this technology with e-Yantra's free, open-source IoT stack.



Gain hands-on experience in cutting-edge technologies and unleash your talent. Join us now!

How to Apply for the Course?

Scan the QR Code to check out the Registration Page.



Course Fee

Our course fees come in two options:

With Kit: Rs. 5000/-With Kit option includes all the necessary Course materials and Hardware. Without Kit: Rs. 2000/-Without Kit option provides only Course materials and learners have to buy the components by themselves.

Criteria for Certification

e-Certificate will be provided to the participants after successfully completing the course and Capstone project.

Top-performing learners are eligible for Merit Certificates and Goodies