

# **Workshop of Weekends (WoW)**

## **Start Making with Raspberry Pi**

**Course code:** WOWPi

**Duration:** 12 Hours

### **Requirements**

- Basic understanding of Embedded Systems
- Basic Programming Skills

### **Overview**

Raspberry Pi is a credit card sized computer that you can use to learn making complex embedded products. Raspberry Pi is supposed to be developed to simplify learning programming and making things. But initially, it is not as simple to start programming and making. There are some basic things that most enthusiasts need to learn to start making. This programme is for such people.

In this live workshop, participants will learn the fundamentals of setting up a Raspberry Pi, installing OS, setting up wireless communication, programming in Python and more.

By the end of the program the participants will be able to set a Raspberry Pi based development facility at their home and start making by referring to millions of documents available online.

### **Who Should Attend**

- Hobbyists
- Fresh engineers looking for a career in embedded systems
- Engineering students who want to tame latest technologies
- Other technology enthusiasts

### **Course Structure**

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Lecturing, group discussion, programming exercises and hands on practice

## **Syllabus in Details**

### ***Session 1 (Day 1)***

- Introduction to Raspberry Pi Architecture
- How to Install Operating System
- Installing Raspbian OS (Hands On)
- Basic Exercises

### ***Session 2 (Day 1)***

- Using SSH and VNC server to communicate with Raspberry Pi
- Overview of Wireless Communication: WiFi and Bluetooth
- Setting up a wireless network through SSH
- Communicating and transferring files with WiFi and Bluetooth

### ***Session 3 (Day 2)***

- Basics of Python Programming
- Python on Raspberry Pi
- Python Programming Environment
- Python Expressions
- Strings
- Functions
- Lists
- List Methods

### ***Session 4 (Day 2)***

- Advanced hands-on with Python and Raspberry Pi
- Using GPIO
- Installing a Server in Raspberry Pi
- Image processing with Raspberry Pi Camera and Python

Troubleshooting Exercises

### **Note:**

- 1) Raspberry Pi and associated accessories will be provided by us
- 2) It's recommended that participants bring their own laptops

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***For more details contact us...***

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