

### **Company Details**

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We, **Innovians Technologies (Unit of PRATS Technologies Pvt. Ltd.)**, are the India's fastest growing company in the field of Practical Educational Training, Professional Training, Corporate Training, Web & IT Services, with most advanced technologies & experience in hand. We majorly deal in Educational Workshop and Training, Corporate Training, Motivational Seminar, Software Development, Web Development, Consultancy & Out-sourcing, Placement Assistance. Our operations is in various countries like UAE, Malaysia, Oman, Kuwait, Thailand, USA, etc.

Innovians Technologies delivers interactive training & workshops which equip its participants with better practical understanding and preparation for jobs in industry. The hands-on sessions and lectures are designed based on current industry trends and draw on the rich experience of instructors and organizers. We focus on Android, Ethical Hacking, Embedded Systems, Robotics, Automation, Web Development, Social Networking, 3D Animation, Automobile Mechanics, Aircraft Designing, Share Market, 2G & 3G Technology and many more.

The Corporate Training programs of Innovians Technologies encompass a wide range of skills that are integral & necessary part of everyday business, daylife or work environment. In our quest to address every organizational development need, Innovians Technologies offer a gamut of training programs, which ranges from Motivational Seminar, Faculty/Staff Development Training, 5S Training, Personality Development, Professional Skills Training & Foreign Languages.

#### **Our Mission**

Innovians Technologies mission is to offer world class, Professional Training & Development Solutions. We strive to offer excellence, professionalism, and a long-term commitment to remain among the premier Training & Development companies in India. Innovians Technologies and its staff are respected for their dedication and contribution to the industry.

#### **Our Vision**

Our values are embraced in the hearts and minds of every Innovians Technologies team member who then embodies these values and shares them throughout our company and with our clients. You will find three core values at work: Relation - We listen, learn, and help selflessly in our interactions with others. Humanity - Through business, we foster a strong sense of corporate social responsibility. Commitment - We honor our commitments and act with responsibility in all our relationships. These values are the building blocks of our work culture.

#### **Our Team of Professional**

Our team, as our imperative asset, works with great zeal to realize the mutual interests of our organization. Our team is made of professionals including professional trainers, managers, consultants, business development staff, quality auditor and other workforces.

Each member in our team is selected on the basis of their domain knowledge in respective fields. To upgrade the expertise of our team we also conduct regular training exercises. It

## IoT – Internet of Things

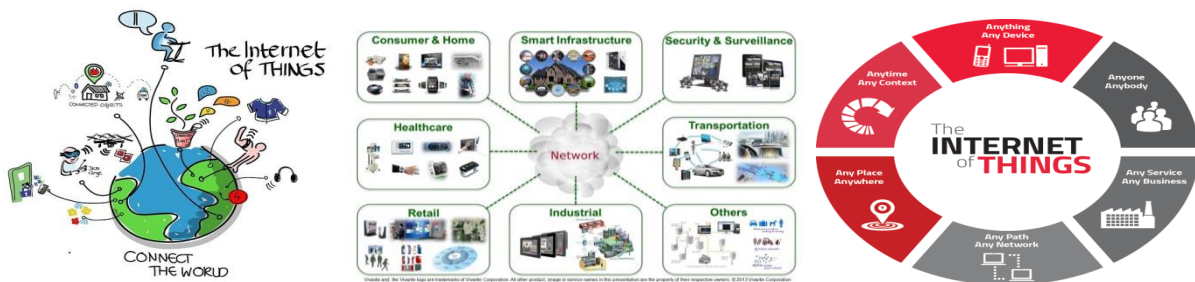
helps us to be paralleled with new changes occurring time after time in the market. Our team members are highly efficient and understand the needs of clients as precisely as possible.

## What is the Internet of Things ?

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***If you think that the internet has changed your life, think again. The IoT is about to change it all over again!” - — Brendan O’Brien, Aria systems***

It's a global network infrastructure, linking physical and virtual objects using cloud computing, data capture, and network communications. It allows devices to communicate with each other, access information on the Internet, store and retrieve data, and interact with users, creating smart, pervasive and always-connected environments.



The Internet of Things (IoT), sometimes referred to as the Internet of Objects, will change everything—including ourselves. This may seem like a bold statement, but consider the impact the Internet already has had on education, communication, business, science, government, and humanity. Clearly, the Internet is one of the most important and powerful creations in all of human history. Now consider that Internet of Things represents the next evolution of the Internet, taking a huge leap in its ability to gather, analyse, and distribute data that we can turn into information, knowledge, and, ultimately, wisdom. In this context, Internet of Things becomes immensely important.

## About the Workshop

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Can you imagine a computing concept where everyday objects have network connectivity? Is it possible for ordinary devices to communicate among themselves?

Yes!! And the answer is *'the Internet of Things'*.

This Network of networks extracts and makes sense of data within machines. An estimated 30 million wireless devices are to be connected to the internet by 2020.

Interesting! Isn't it?

How beautiful it is when your door can update its Facebook Status every time some one opens it. A song starts playing when you tweet about it. A fire sensor that automatically send an E-Mail to the fire department. Keeping all the awesomeness in mind Innovians Technologies has introduced the Internet of things workshop to get you ready for the future.

You'll learn the basic concepts and features of the Internet of Things and build projects utilizing the Arduino platform. You'll discover fundamental concepts of cloud computing, sensor reading and connecting the Arduino to the Internet, wireless interfaces and Android phones. You'll also learn to use the most popular open platforms for managing sensor data from the Arduino, how to trigger actuators remotely, and how to reprogram Arduino using cloud services.

### Workshop Highlights

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- What “the Internet of Things” means and how it relates to Cloud computing concepts
- How open platforms allow you to store your sensor data in the Cloud
- The basic usage of the Arduino environment for creating your own embedded projects at low cost
- How to connect your Arduino with your Android phone.
- How to send data to the Internet and talk to the Cloud.
- How to update sensor readings on Twitter (Social Networking Sites).

### Topics to be Covered in Workshop

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#### Day 1

- Introduction to the Internet of Things
  - The Internet of Things
  - The Basics of Sensors & Actuators
  - Introduction to Cloud Computing
- The Arduino Platform
  - The Arduino Open-Microcontroller Platform
  - Arduino Basics
  - Arduino Board Layout & Architecture
  - Reading from Sensors
- Programming fundamentals ( C language )
- Arduino Programming & Interface of Sensors
  - Interfacing sensors with Arduino
  - Programming Arduino
  - Reading from Sensors

**Project 1:** Simple LED Program for Arduino

**Project 2:** Integrating Sensors & Reading Environmental Physical Values.

**Project 3:** Reading Environmental Values on Android Smartphone.

- Talking to your Android Phone with Arduino
  - Connecting Arduino with Mobile Device.
  - The Android Mobile OS.
  - Using the Bluetooth Module

**Project 4:** Voice Controlled Mini Home Automation using Android Smartphone

**Project 5:** Control Devices using Localhost Web Server for Home Automation

- Integrating Ethernet Module & Testing DHCP Connection
- Creating Program for Localhost Web Server for controlling devices.

#### Day 2

**Project 6:** Creating own Android App using MIT App Inventor & controlling Arduino connected devices.

**Project 7:** Being Social on Twitter & update status on Twitter through Arduino.

- Make Electronics Gadget Talk to Internet
  - Integrating Ethernet Module
  - Creating App on Twitter

**Project 8:** Send Voltage & Analog Data on Cloud Server

- Cloud Computing
  - Communicating with the Cloud using Web Services.
  - Cloud Computing & IoT.
  - Popular Cloud Computing Services for Sensor Management.

**Project 9:** Use Arduino to Upload free data from Environmental Sensors to Cloud Server.

**Project 10:** Automatically Tweet Sensor Data on Twitter.

**Project 11:** Control Electronic Devices from anywhere across the world using Web Browser.

**Project 12:** Control Electronic Devices from anywhere across the world using Internet & Mobile App.

## IoT – Internet of Things

### **Rules**

#### **Eligibility:**

Students having valid ID cards from recognized educational institutions are eligible for the workshop.

#### **Type of participation:**

Both Team and Individual participation are allowed.

#### **Pre-requisites:**

A laptop per team which should have at least 1GB RAM with Windows OS. The USB ports of the laptop should be in working condition and each participant should have Smart phone (preferably Android) with Internet connection.

#### **Cost Details:**

The cost of the workshop is INR 1000/- per head.

### **FAQs?**

#### **1) Who can attend this workshop?**

Any mobile phone user who is a tech enthusiast wishing to make something cool will find this really good.

#### **2) Is any prior knowledge required to attend the workshop?**

No prior knowledge is required, but basic programming knowledge will be very useful.

#### **3) Is the workshop going to be theoretical?**

Nope! You will be given a brief introduction about IoT and then there will be a hands-on session with the provided kit. So 10% Theory & 90% Hand-On Session.

#### **4) I don't have laptop can I still participate.**

Yes, you can still participate. During the workshop participants will work in a group of 4 so 1 Laptop will be required per team.

#### **5) How are we going to work on Projects during Workshop ?**

We will provide the IoT Kit for the Hands-On purpose during the workshop which will not be takeaway kit, after the workshop we will collect those kits. All participants will work on those IoT Kit for Projects.