

Persistence of Vision (PoV)

What is this course about?

When we see images in quick succession, it creates an optical illusion in our brain allowing us to detect motion. This effect known as Persistence of Vision (POV) can be used for some interesting real world applications. In this course, you will develop a POV based LED display project using Arduino. The display when rotated at a certain high speed, will magically show letters that are pre-programmed. To achieve this, the flashing of LEDs is synchronized with the rotation of the display using Arduino programming techniques.

By building this project, you will practically learn about Arduino programming, working of dynamic LED displays at different locations like Railway Stations, Bus Stands, etc. and DC motors.

Course Outcomes

Develop project based on the concept of Persistence of Vision (POV)

Design and Build your own POV display

Work with Arduino development board

Get hands-on experience on LEDs, displays and DC motor

Program and test your POV Display using Arduino

Course Structure

Lecture Session - 4 hrs

Design Session - 1 hr

Fabrication Session - 2 hrs

Programming Session - 5 hrs

Testing & Competition Session - 3.5 hrs

Certificate Distribution - 0.5 hr

Topics Covered

Persistence of Vision - An Introduction

Arduino - An Introduction, Functioning & Applications

Electronics

LED Array and its connections with Arduino

Persistence of Vision display - Design and Implementation

Arduino Programming

Kit Content

Arduino Uno Board

Battery

UART cable

LEDs

DC motor

Resistors

Dot board

Plastic gears

Working tools *

All the above components would be provided during the program to participants in groups of 5 but would be taken back at the end.

Participants registering in groups of 5 will get take-home kit for free. Take-home kit consists of all the above items excluding the items marked with *.

Eligibility

Anybody interested in Arduino can attend this course.

Fees:

Rs. 1500/- per participant.