

Workshop Content of Mobile Controlled Robot

Objective:

Mobile Robotics is a workshop based on controlling the robot from your cell phone. This workshop aims at students wanting to introduce themselves to the field of robotics & AI and how it is implemented in real life. This workshop will provide the rich hands-on experience to the participants on designing the three different kinds of robots (Manual Robot, Line Follower Robot & Mobile Controlled Robot) in a single workshop.

MOBILE ROBOTICS, a new discipline in the ever growing field of Robotics. These days everyone from the student to the business owner seems to have a cell phone. So why not harness its full potential and prove your engineering minds? Mobile Robotics is a workshop based on controlling the robot from your cell phone.

Session 1: Introduction to Basic Electronics

1. Electronics Components related to mobile robotics
2. How Transistors are used in practical Circuit?
3. How Capacitors are used in Filter circuits?
4. How can someone choose the value of Resistors and their practical use?
5. What are Integrated Circuits? Which ICs are commonly used and How?
6. What are Photo sensors?

Session 2: Introduction to Atmel's ATmega 8/16/32 microcontroller

1. What is Microcontroller?
2. Difference between microcontroller and micro processor?
3. Microcontroller Architecture and interfacing
4. How can we use a microcontroller in our own circuits?
5. Microcontroller Programming in 'C'
6. Writing your First 'C' Program in AVR Studio
7. Compilation and debugging
8. Loading Compiled 'C' Program on a Microcontroller using Robosapiens 'AVR
9. Loader v1.0 Beta'

Session 3: DTMF decoder ICs

1. What is DTMF?
2. Interfacing of DTMF ICs
3. Concept and Algorithms
4. Testing of a DTMF Circuits

Session 4: Development of Mobile phone controlled robot

- Development of a Mobile phone Controlled Robot
 1. Assembling of Mobi-botricks Kit
 2. Programming of Atmega 8 microcontroller for Mobile control Robot
 3. Testing of Final Circuit
 4. Testing of a DTMF Circuits

Session 5: Certificate Distribution