EDUXLABS
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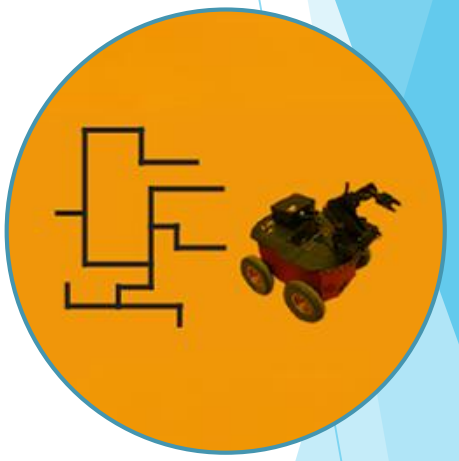
Two Days
National Level Workshop Series
on
Mobile Controlled Robotics



Workshop Features:

- practical based learning during workshop
- workshop will be delivered by Professional Expert
- certificate of completion will be provided to each participant.

About Mobile Robotics workshop

This workshop covers various concepts of mobile communication and microcontroller programming, necessary for the development of a mobile controlled robot. DTMF stands for “Dual tone multiple frequency”. We will be using a dedicated modem/mobile at the receiver module i.e. with the robot it self and send the commands using DTMF tones as per the required actions. Conventionally, Wireless-controlled robots use radio control, which have the drawbacks of limited working range, limited frequency range and the limited control. Use of a mobile phone for robotic control can overcome these limitations. Students would develop a robot that can be controlled by calling the mobile phone placed on the Robot and pressing the keys on their mobile phone.

Workshop Schedule sessions

- Lecture on Mobile Robotics and its Applications- 4 hours
- Designing the Robot - 1 hour
- Fabricating the Robot - 2 hours
- Programming the Robot - 5 hours
- Testing of Robots and Competition - 2 hours
- Awards and Certificates - 0.5 hours

Workshop Outcomes : Understanding of Mobile Communication and application of DTMF decoders and integration with Microcontrollers.

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2-Days Mobile Robotics Course Structure

Day1	**Module 1:** What are Robots? Learn: What are Robots? Learn: What are Vision Guided Robots? Do: Kit Unpacking Review: What are Robots? Simple LED Program for Arduino **Module 2: Brain of the Robot** Learn: What is a Microcontroller? Learn: Structure of a Microcontroller Learn: Arduino - An Introduction Do: Arduino - An Introduction Do: Connect & Detect an Arduino Review: Brain of the Robot Module 4: Communication in Robots Learn: Mobile Communication Learn: DTMF Decoder & its Working Do: Pins of the DTMF Decoder Do: Detect DTMF Tones using Mobile App Do: Interface DTMF Decoder with Arduino Learn: Programming Logic for DTMF Decoder Do: Control LED using DTMF Decoder Review: Communication in Robots

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2-Days Mobile Robotics Course Structure

Day2	**Module 5: How does a Robot Move?** Learn: DC Motors & their Working Learn: Motors & Motor Drivers Do: Interface & Test Motor with Arduino Do: Control Motor using Arduino Review: How does a Robot Move? **Module 6:Build your Mobile Controlled Robot** Learn: Structural Design of a Robot Do: Assemble the Chassis of the Robot Do: Integrate Arduino & Motor Driver to Chassis **Module 7:Programming the Mobile Controlled Robot** Learn: Programming Logic for Mobile Controlled Robot Do: Design the Program for Mobile Controlled Robot **Module 8: Testing the Mobile Controlled Robot** Do: Final Connections and Calibration of Mobile Controlled Robot Do: Testing the Mobile Controlled Robot Do: Submit assignment and get certificate

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Workshop Charges

Workshop Duration	Training Charges(Excluding GST)
Two Days workshop Charges	Rs. 1800/-per attendee

Participants Eligibility

The program is open to the Faculty/ Research Scholars/ Students of science & Engineering institutes and other working professionals are also, eligible.

Requirements for training program

- Seminar hall/classroom having the enough capacity to conduct hands-on-session for all participants.
- Good Quality public address system ideally two cordless mic will be required.
- Projector/ Screen along with black/white board for teaching and presentation purposes.
- Workshop can only be arranged for a minimum of 60 Attendees.
- Hospitality to one training expert.

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THANK YOU

Team EduxLabs

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