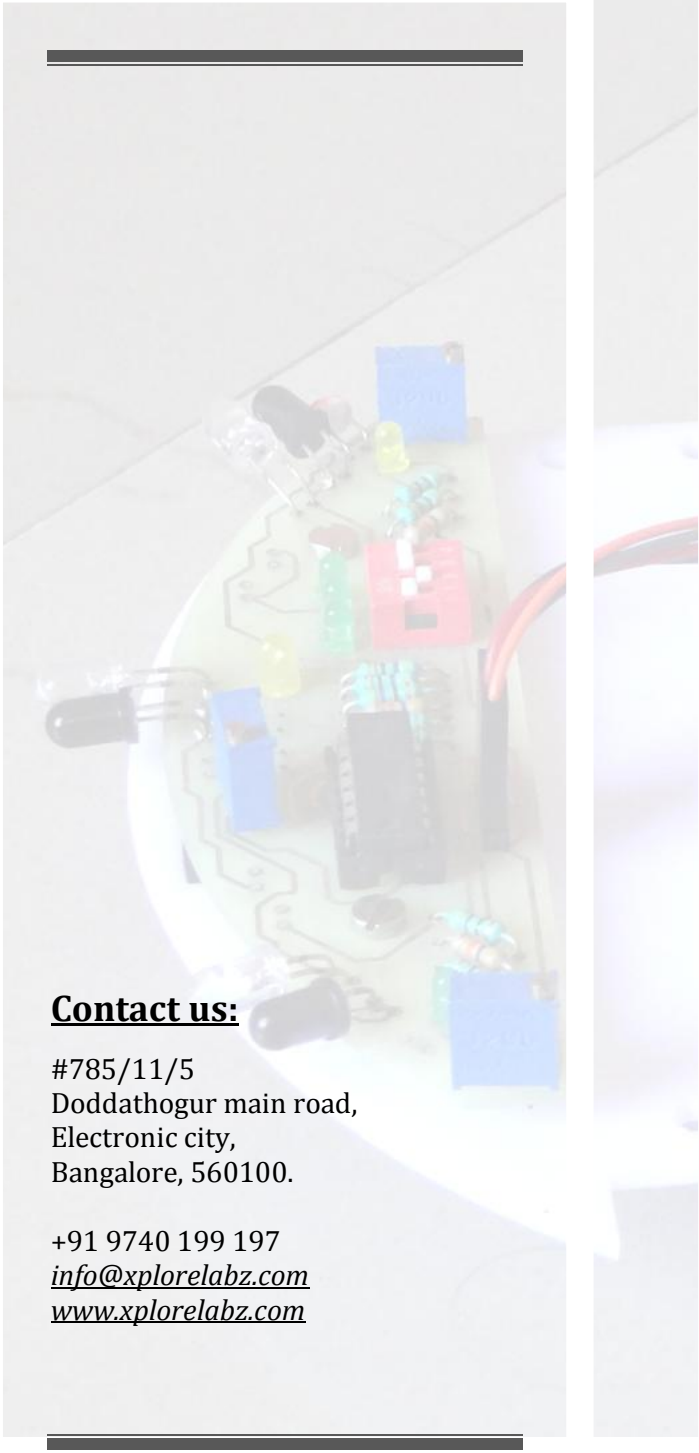

Contact us:

#785/11/5
Doddathogur main road,
Electronic city,
Bangalore, 560100.

+91 9740 199 197
info@xplorelabz.com
www.xplorelabz.com

Design Services:

>Embedded system design.

>PCB Design & fabrication.

Development tools:

>Development boards on 8051, PIC, AVR, Arduino & ARM.

>Programmers.

>Peripheral boards & breakouts.

>Sensors & wireless modules.

Workshops:

>Robotics.

> Arduino Computing.

>Microcontroller Interfacing on 8051, AVR, PIC and ARM.

Workshop On

AVR Robotics

Xplore labz

Workshop on AVR Robotics

Objective:

Build **5 different types of Robots:**

1. Obstacle avoilding
2. Line Follower
3. Light Follower
4. Mobile DTMF controlled Robot
5. Computer Controlled Robot.

Take Away:

1. AVR Robo X board (with DTMF), USB programmable, arduino compatible.
2. Sensor Shield (line, light, Obstacle)
3. Complete mechanical Kit. (Robot body, wheels etc.)
4. DC Motors, Batteries, cables and pin headers.

Fees:

Option	Members	Kits	Fees
a.	1	1	1500
b.	2	1	2200
c.	3	1	2700

Certificate of Participation

A certificate of participation will be provided from Xplore Labz at the successful completion.

Program Outline

Introduction to AVR Micrcontrollers

- Setting up the tools, AVR Studio, AVR Dude, Programmer GUI.
- AVR architecture in Brief
- IO ports and Registers
- Serial Communicaton
- Interrupts

Embedded C Basics

- Registers, Bit manipulatons and Logical Operations in ‘C’
- Functions, Arrays and Pointers required for the workshop.
- Simple Programs like led blinking, reading switches, serial communication with AVR Robo X platform.

Building the Robots

- Hands On the Robot! Assembling the robot.
- Controlling the bot from computer
- Writing an algorithm for a obstacle avoiding Robot.
- The line follower PID challenge
- Let the Robot follow the light.
- Take you’re mobiles out, let them handle the bots, a small roborace.