Path Follower Robot
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Hardware Graduation project
Path Follower Robot

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outline

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- Processing
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Overview

Our project is designed to develop a robot that follows a specific path.

We use in our project microcontroller, also LDR sensor, DC motor and BLUETOOTH module.
Why choose this project?

Technology becomes more and more advanced in all areas.

Smart phones technology and assistant robots can be devoted to help us and improve our life.

Robots are smart machines that can be programmed and used in many areas.
Where it can be use?

1. Industries-production lines
2. Car-industries
3. Special Needs
4. Dangerous places
Hardware system

Our system consist of three main parts

- Arduino Uno
- LDR sensor
- Bluetooth module
Components of project:

- 74HC86N IC
- LDR sensors
- Arduino Uno
- H-bridge L293D
- DC motor
- Motor gear
- Bluetooth Module HC-06
- Android phone
- Resistor 330 ohm
- Led
- Bread board
- White board
- Wires
Components of project:

74HC86N IC (EXCLUSIVE-OR gate):

Inetracing the X-OR (74HC86N) with arduino uno:
Components of project:

LDR sensors

Interfacing the LDR Sensor with X-OR(74HC86N):
Components of project:

Arduino Uno:

Why we use it:
- An open source design.
- An easy USB interface.
- Very convenient power management and built-in voltage regulation.
- Easy debugging of code.
Components of project:

H-bridge (l293d):

Dc Motor:

Dc Motor gearbox:

LDR sensor:

We program, we have it.
Components of project:

Bluetooth Module HC-06:

Interfacing the HC-06 with arduino uno:
Components of project:
Arduino Software:

Arduino 1.5.5
Arduino Software

The software of Arduino is open-source environment makes it easy to write code and upload it to the i/o board.

Arduino software runs on Windows, Mac OS X, and Linux.

The environment is written in Java and based on Processing.
LDR sensor:
We programmed the arduino uno using Arduino IDE, we have in our project two LDR sensor (left sensor & right sensor).
Android Programming

This project is also based on mobile phone communication with the Arduino through Bluetooth, here we are using the Android based mobile.
Constraints

Recourse constraint:
there some IC we need it in our project
but it need weeks to arrive like
Bluetooth module.

Finance constraint:
The Project cost around 1000 NS
Our Future work

add color sensor