Bluetooth Controlled 360 Degrees Rotating Trolley

The project aims at developing a Bluetooth controlled trolley. The controlling of trolley can be done by Bluetooth using android smart phone. This trolley can move all directions like front, back, left and right.

The project makes a use of Arduino UNO, it is a main controlling device of the input and output modules. HC-05 Bluetooth module is used for wireless controlling of trolley. DC motors along with l293d motor driver is used to moves the robot. In this we are connecting trolley at the shaft of DC motor which is connected to the Arduino through relay. Here relay works as a switch to ON/OFF the DC motor.

Bluetooth is a wireless technology standard for exchanging data over short distances (using short-wavelength UHF radio waves in the ISM band from 2.4 to 2.485 GHz) from fixed and mobile devices, and building personal area networks (PANs). Invented by telecom vendor Ericsson in 1994.

The controlling device of the whole system is done using Arduino UNO Microcontroller. The 360-degree rotating trolley can be controlled through our mobile phone over Bluetooth communication. The Bluetooth receiver module in our system gets the input from our mobile phone and gives the same input to the microcontroller. The microcontroller accordingly controls the trolley moment and dumping movement. The Microcontroller used in the project is programmed using Embedded C language.

The features of the project are:

- Controlling trolley using Bluetooth application.
- Using android mobile to control the trolley.
- To achieve this task using Arduino UNO microcontroller.

The main blocks of this project are:

- ✓ Battery power supply.

- ✓ Arduino UNO Microcontroller.
- ✓ Bluetooth module.
- ✓ DC motors with driver.
- ✓ Relay with DC motor.
- ✓ LED indicators.

Software's used:

1. Embedded C programming.
2. Arduino IDE compiler for dumping code into Micro controller.
3. Express SCH for Circuit design.

Block diagram of the project:

Block Diagram of the project