



### 3. Proposed System

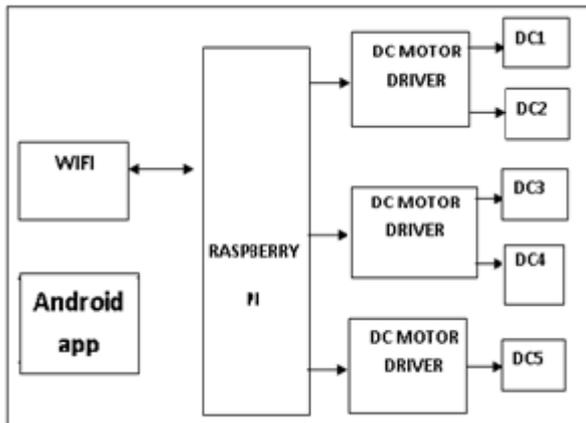


Figure 2: Block Diagram

Major components of the system:

The system consists of following parts-

- 1) Android Smartphone
- 2) Wireless network
- 3) Raspberry Pi
- 4) Driving motors
- 5) DC motors

#### 3.1 Android Application

An application is specially designed that interfaces the android with the robot. The input commands are entered into the android that may consist of left or right movement of the robot, or the command to pick and place some small item. These commands are then executed on the robot side.

#### 3.2 Wireless Network

A Wi-Fi dongle is connected to the Raspberry Pi which creates a network and is interfaced with the android phone. The Wireless LAN is provided with an IP address which is locally declared.

#### 3.3 Raspberry Pi

It is also known as microcomputer. It is central unit of the system. The program is written in the python language in the raspberry pi board and the robot works according to that predefined program.

#### 3.4 Driving Motors

A 12V battery is used as power supply for the robot. This supply is given to the regulator which steps it down to 5V and is then supplied to the Raspberry Pi that drives the motors of the robot. To drive a dc motor, we need a dc motor driver called L293D. Each single driving motor can drive two motors. Since five DC motors are used to run, therefore total three motor drivers are used.

#### 3.5 DC Motors

DC motors are used to drive the wheels of the robot and for driving robotic arm for the purpose of pick and place of an

object. 5V power supply is required to drive the motor which is provided from the driving motor.

### 4. Conclusion

The Raspberry Pi can be used for the control the Robot with Smartphone from a remote area. The present scenario wired controlled robot has several disadvantages such as wired restrictions and server problems. In this Smartphone technique the delay and server problems are reduced as the Wi-Fi is used. In present situation most of the people uses the Smartphone worldwide. The robot can perform nearly same movements using the stepper and DC motors having a precise control Smartphone.

### References

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