

## REMOTE VEHICLE CONTROL USING DTMF AND BLUETOOTH

### AIM:

Design and Development of Remote Vehicle control using DTMF and Bluetooth.

### PURPOSE:

Generally we can see robot controls with single kind of remotes. If communication fails then we lose robot. Here we want to develop multi control system that gives benefit through backup way. Here we want to develop DTMF and Bluetooth control robot. Using DTMF we can control robot from remote location. Using Bluetooth robot can be controlled by android App. Here project title is Remote Vehicle control using DTMF and Bluetooth using Arduino.

### DESCRIPTION:

This project includes DTMF module (CM8870), which is connected to Arduino digital pins. Bluetooth module (HC-05) connected to Arduino UART port. Two robot motors controlled by L293D which is connected to Arduino digital pins.

### WORKING:

Here DTMF works like remote. DTMF is nothing but dual tone multi frequency. Mobile phone generates DTMF tone when we pressed keys in dial pad. Here mobile connected to DTMF module through audio cable. We can call to mobile from another mobile. After answering call we can control robot from remote mobile. By pressing keys in mobile phone robot will move in different directions. Here 2 is for front direction, 8 for back, 4 for left, 6 for right and 5 for Stop. Also for Bluetooth communication we need android app. Robot directions status will display on 16x2 LCD display.

## TECHNICAL SPECIFICATIONS:

### HARDWARE:

Microcontroller	:	Arduino Uno
Crystal	:	16 MHz
LCD	:	16X2 LCD
DTMF Module	:	CM8870
Bluetooth	:	HC-05
H-Bridge	:	L293D
Motors	:	12v/5v 60 R.P.M DC Gear
Power Source	:	12v 2 amp Adaptor

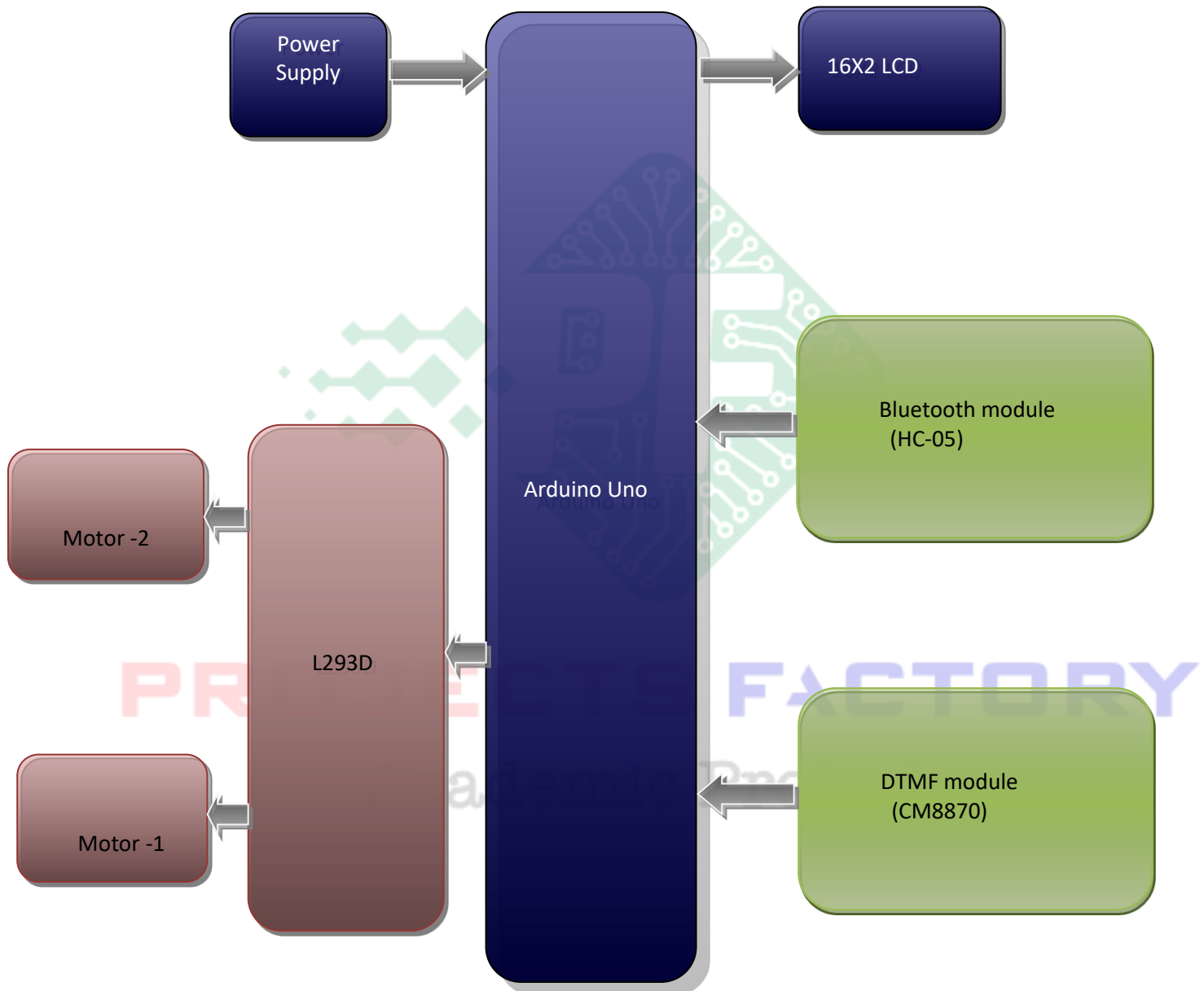
### SOFTWARE:

Arduino IDE  
Proteus based circuit diagram

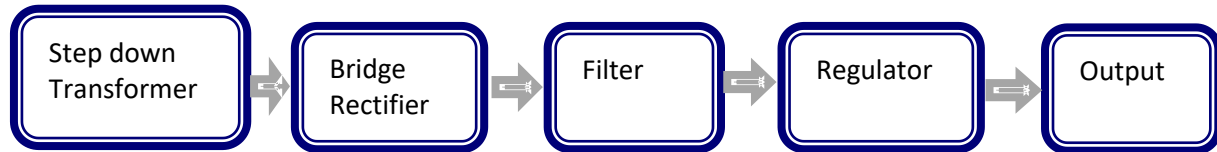
### APPLICATIONS:

- Robotic Applications
- Defense Application robot

## BLOCK DIAGRAM:



## POWER SUPPLY BLOCKDIAGRAM:



## INTERFACES COVERED:

- We have covered DTMF module (CM8870) interfacing
- Bluetooth (HC-05) interface
- L293D and DC gear motors interface

**PROJECTS FACTORY**  
Academic Projects