VIDEO SURVEILLANCE ROBOT USING DTMF AND BLUETOOTH

AIM:

Design and Development of Video surveillance robot using DTMF and Bluetooth.

PURPOSE:

Multi control systems always very helpful for backup purpose. It is applicable for robots also. For regular robotic applications we have RF remote control. But here we want to develop DTMF and Bluetooth control robot along with video surveillance. Using DTMF we can control robot from remote location. Using Bluetooth robot can be controlled along with video monitoring. Here video monitoring done through mobile phone which is placed on robot. Here project title is video surveillance robot 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. This App is customized and we can monitor video. For video surveillance we have to place mobile on robot. 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:

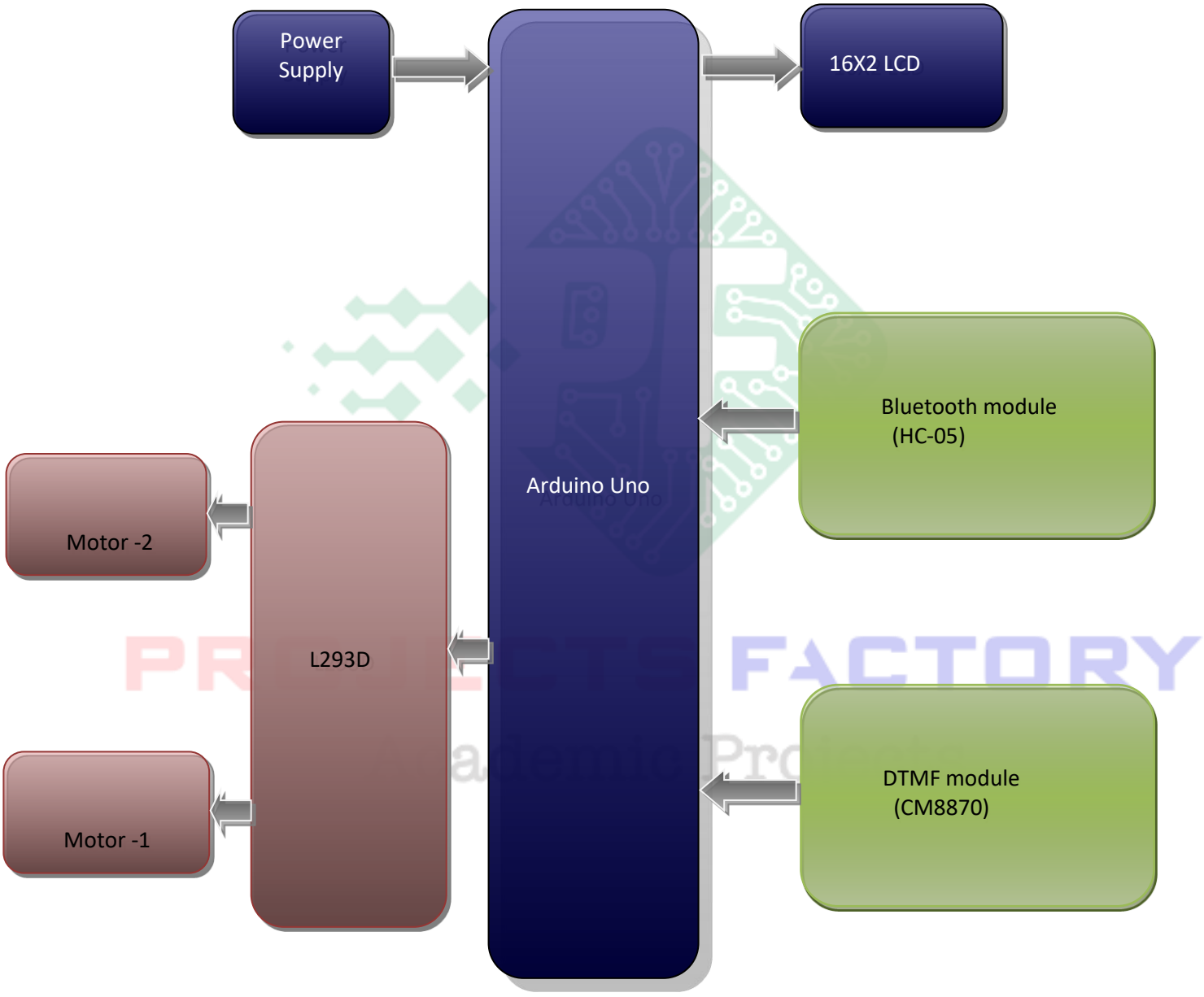
Arduino IDE

Proteus based circuit diagram

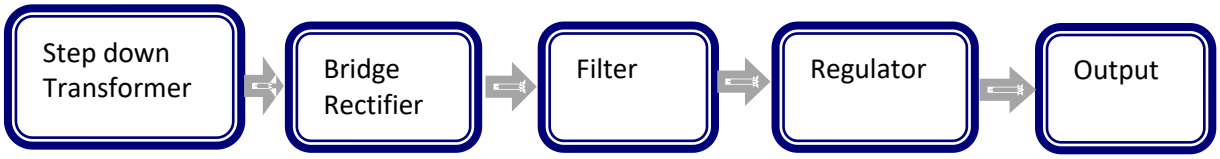
APPLICATIONS:

- Robotic Applications
- Security Applications Robots
- Defense Application robot

BLOCK DIAGRAM:



POWER SUPPLY BLOCKDIAGRAM:



INTERFACES COVERD:

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