

## **BOMB DISPOSAL ROBOT WITH EMAIL ALERT AND LIVE VIDEO STREAMING**

### **AIM:**

Design and Development of Bomb Disposal Robot with Email Alert and Live Video Streaming.

### **PURPOSE:**

Robotics plays major role in modern times. Especially for security applications, robots can do any kind of task. Bomb disposal is critical task through human and sometimes it risks human life. But, robot is a machine and we can send another robot, if existed robot damages while disposal bomb. Here robot controlled by android application from smart mobile. It has video surveillance camera and metal sensor to detect bombs. Proposed project title is bomb disposal robot with email alert and live video streaming using Arduino and ESP32 camera.

### **DESCRIPTION:**

Bluetooth (Hc-05) interfaced with Arduino through UART port. DC gear motors interfaced with Arduino through l293d. ESP32 camera interfaced with Arduino UART port. Metal sensor interfaced with Arduino digital pin.

### **WORKING:**

Bluetooth module communicates with android application. Based on user commands from application robot will move in various directions like front, back, left and right. Robot has pick and place robotic hand. Using this hand, we can pick and place any objects like metals and bombs. Metal sensor detects metals and bombs and send information to Bluetooth application. When metal sensor gets activated then ESP32 cam capture image and send to email.

## TECHNICAL SPECIFICATIONS:

### HARDWARE:

Microcontrollers	:	Arduino Uno
Crystal	:	16 MHz
LCD	:	16X2 LCD
Motors	:	12VDC Gear Motors
ARM	:	Pick and place robotic hand
H-Bridge	:	L293D
Metal Sensor	:	Inductive type
Camera	:	ESP32 cam
Bluetooth	:	HC-05
Power Source	:	12VDC Battery

### SOFTWARE:

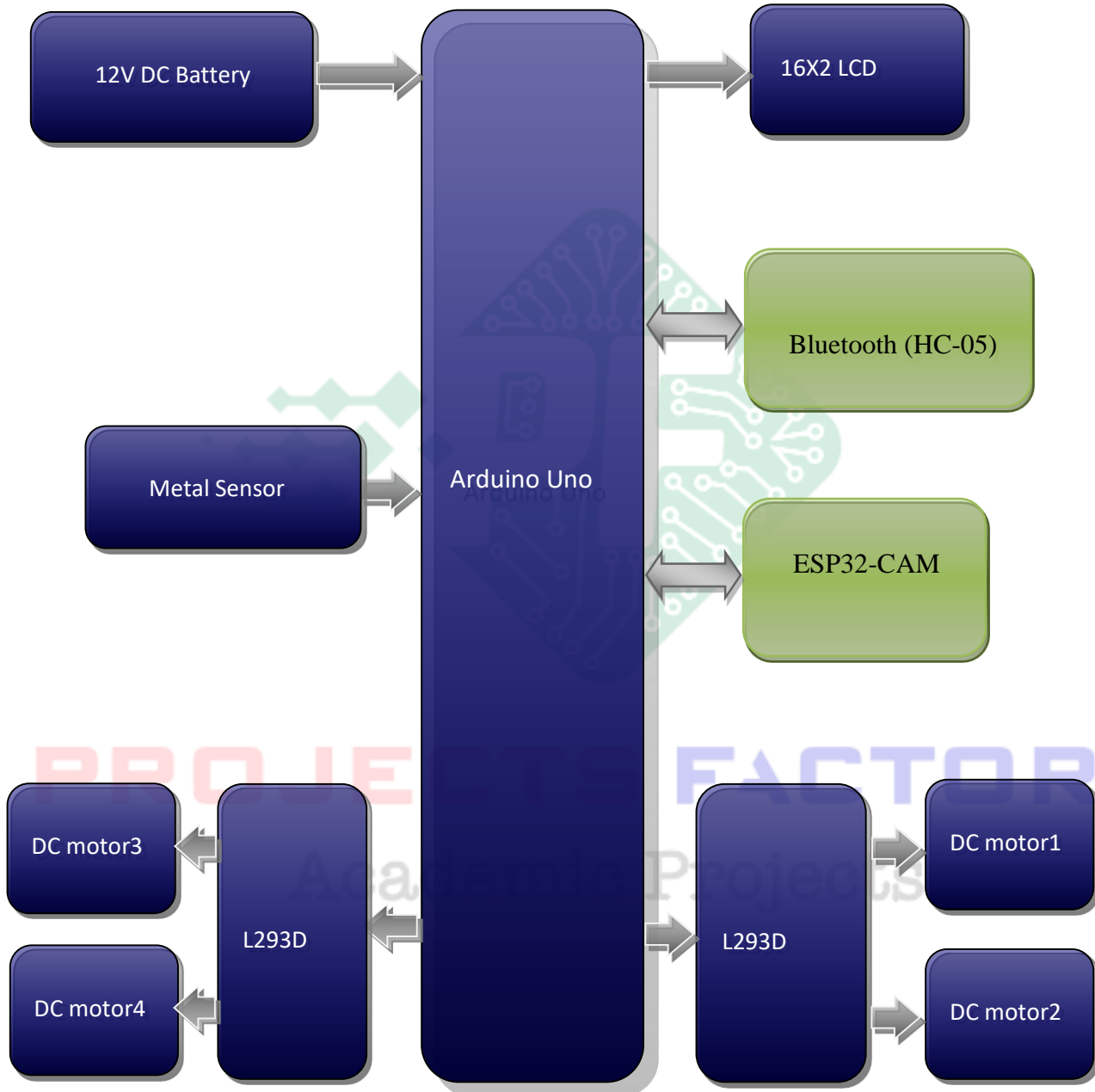
Arduino IDE

Proteus based circuit diagram

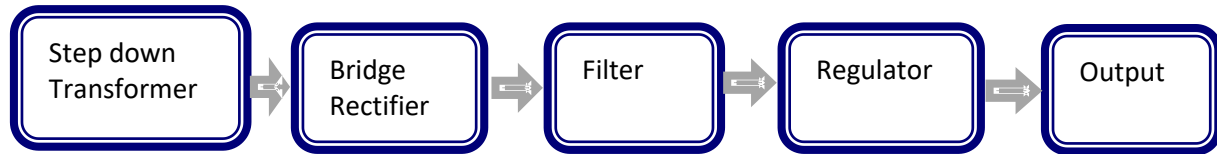
### APPLICATIONS:

- Robotic Applications
- Video Streaming Robot
- Bomb disposal Robot
- Advanced Military spying robot
- Metal detecting robot

**BLOCK DIAGRAM:**



## POWER SUPPLY BLOCKDIAGRAM:



## INTERFACES COVERED:

- We have covered Arduino, Bluetooth module and Metal sensor interface
- ESP32 cam, pick and place interfaces



**PROJECTS FACTORY**  
Academic Projects