FACE MASK DETECTION AND TEMPERATURE SENSOR WITH IOT NOTIFICATION

AIM:

Design and Development of Face mask detection and temperature sensor with IOT notification.

PURPOSE:

Covid creates global health emergency and brings lot of changes in our lives. The only way to restrict from spreading is wearing mask. Wearing masking reduces spreading of virus from one to one. Especially in crowded areas like malls, colleges, offices, auditoriums, it is tough to find wearing mask manually. Here we can use technology with AI built in and it can find face mask status and also temperature of body. This system has face mask detection system and temperature sensing system. Also it updates this information status to IOT server. Here project title is Face mask detection and temperature sensor with IOT notification.

DESCRIPTION:

ESP32 cam and Arduino are connected to each other through UART communication. MLX90614 (contactless temperature sensor) connected to Arduino I2C port. IR sensor, LEDs and buzzer connected to Arduino digital pins.

WORKING:

In this project ESP32 cam detects face mask status and send information to Arduino. When IR sensor activated (any person near to sensor) then it scans face and if mask wear then scans body temperature through MLX90614. If temperature below threshold level, then green LED will be ON and it indicates as normal condition. If it detects mask no wear to high temperature then red LED will be ON along with buzzer, it indicates as abnormal condition. All this information will be uploading to IOT cloud server through WIFI module.

TECHNICAL SPECIFICATIONS:

HARDWARE:

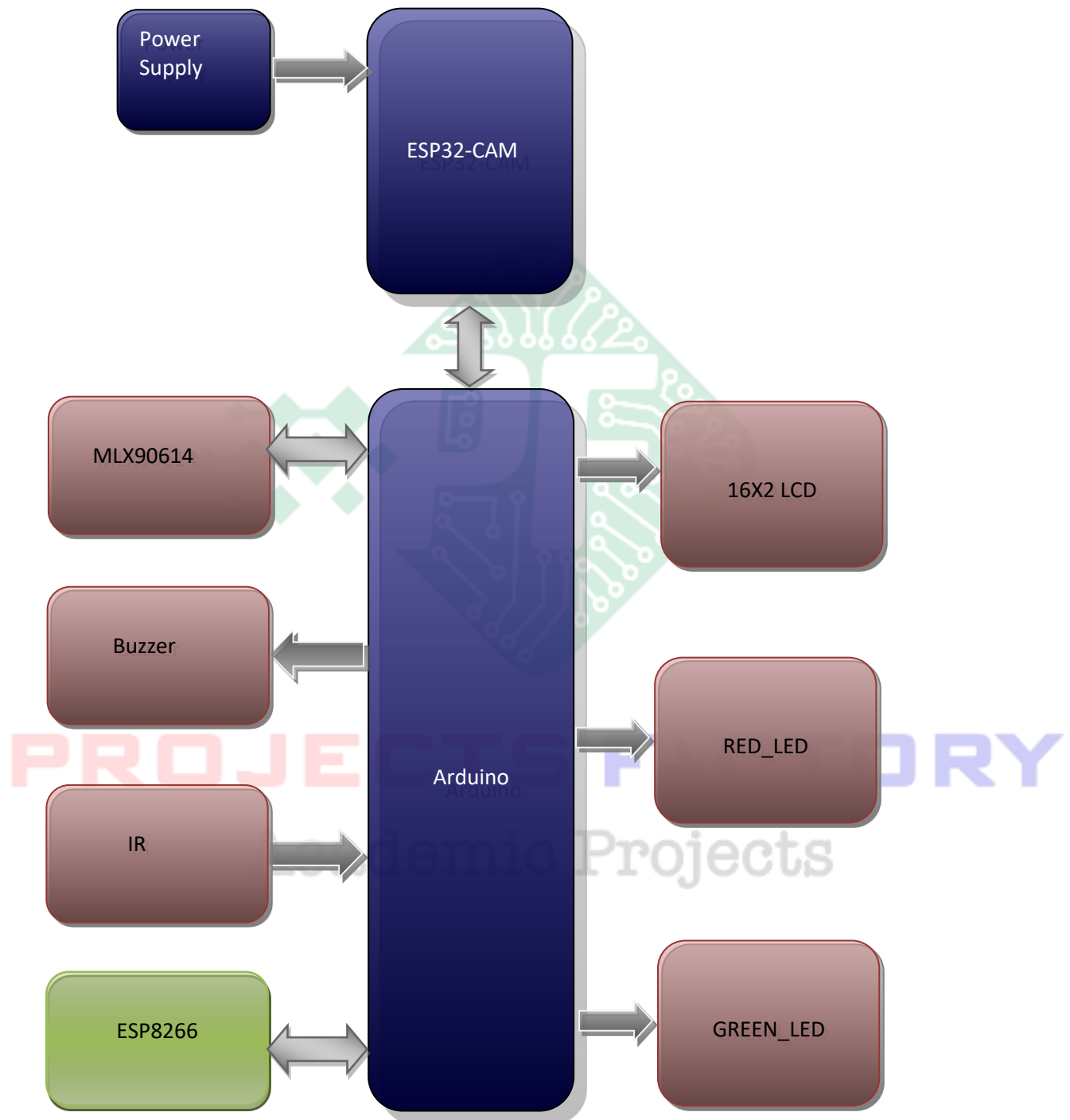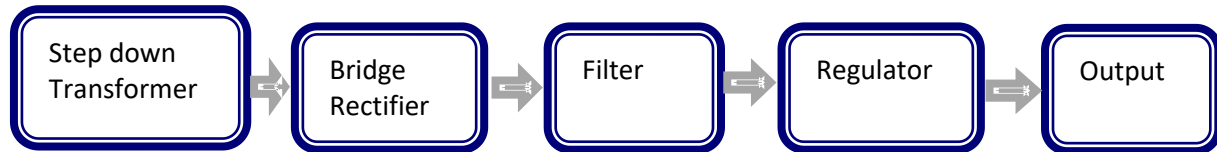|		
Microcontrollers	:	Esp32-Cam and Arduino uno
LCD	:	16x2 LCD display
IOT Module	:	ESP8266
Contactless Temperature sensor	:	MLX90614
LED	:	DC 1.8V
Buzzer	:	DC 5V
Sensor	:	IR sensor
Power Source	:	12v 2 amp Adaptor

SOFTWARE:

Arduino IDE

APPLICATIONS:

➢ Hospital Applications
➢ Crowded area management
➢ Contactless temperature sensor applications
➢ Office employee management
➢ Face mask detection applications

BLOCK DIAGRAM:

POWER SUPPLY BLOCKDIAGRAM:

Step down Transformer → Bridge Rectifier → Filter → Regulator → Output

INTERFACES COVERD:

- We have covered Esp32-Cam and Arduino interface
- IR sensor, MLX90614 and IOT module (ESP8266) interface