FACE MASK DETECTOR WITH TEMPERATURE SCANNER FOR COVID-19

AIM:

Design and Development of Face mask detector with temperature scanner for Covid-19.

PURPOSE:

Now a day technology grows rapidly without any limitation. Electronic sector is in top notch and provides lot of real time applications. By combining some technologies together we will get real time products which are very help full for our daily needs. Here we proposed a system that can detect face mask and reads temperature. Also it will announce through APR module about temperature and face mask status. Here the project title is face mask detector with temperature scanner for covid-19.

DESCRIPTION:

ESP32-cam and Arduino connected each other through serial interface. Servo motor and APR module connected to Arduino digital pins. MLX90614 (contactless temperature sensor) interface to Arduino I2C pins.

WORKING:

ESP32-cam has built in camera and WIFI module. It can connect to local network through hotspot or WIFI router with the help of SSID and password. It can stream video on html web page through IP address. It can identify face mask when we press button. Also it scans body temperature through MLX90614. MLX90614 mounted on servo motor to scan temperature on face. If temperature more than desired limit then audio alert will play through APR module. Also it will announce audio about mask wearing status.

TECHNICAL SPECIFICATIONS:

HARDWARE:

Microcontroller	:	Esp32-Cam and Arduino
LCD	:	16X2 LCD display
Temperature Sensor	:	MLX90614
Voice Module	:	APR33a3
Motor	:	Servo motor
Buzzer	:	DC 5V
Power Source	:	12v 1 amp Adaptor

SOFTWARE:

Arduino IDE

APPLICATIONS:

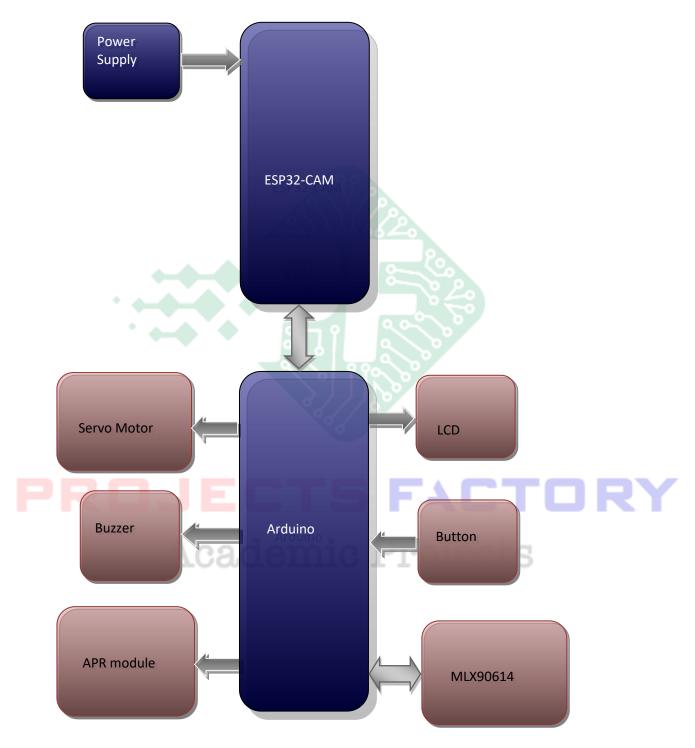➢ Smart door access
➢ Body temperature scanner

BLOCK DIAGRAM:

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┌──────────┐          ┌─────────────────┐
│  Power   │          │                 │
│  Supply  │ ───────▶ │                 │
└──────────┘          │                 │
                      │   ESP32-CAM     │
                      │                 │
                      │                 │
                      │                 │
                      └────────┬────────┘
                               ▲
                               ▼
┌──────────────┐      ┌─────────────────┐      ┌──────────────┐
│ Servo Motor  │ ◀─── │                 │ ───▶ │     LCD      │
└──────────────┘      │                 │      └──────────────┘
┌──────────────┐      │    Arduino      │      ┌──────────────┐
│   Buzzer     │ ◀─── │                 │ ◀─── │    Button    │
└──────────────┘      │                 │      └──────────────┘
┌──────────────┐      │                 │      ┌──────────────┐
│  APR module  │ ◀─── │                 │ ◀──▶ │   MLX90614   │
└──────────────┘      └─────────────────┘      └──────────────┘
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POWER SUPPLY BLOCKDIAGRAM:

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

INTERFACES COVERD:

- We have covered Esp32-Cam
- MLX90614 contactless temperature sensor
- APR module interface
- Servo motor interface