CONTACTLESS TEMPERATURE MONITORING AT DOOR ENTRANCE

AIM:

Design and Development of Contactless temperature monitoring at Door entrance.

PURPOSE:

In recent year Covid virus spreads throughout worldwide. It creates lot of problems in health sector. But finding virus in any human body is difficult and need medical test. This will take time and little expensive. But body temperature rises when anyone effected with covid-19 virus. Traditional temperature monitoring methods are touch based and chance to spread virus. Here we come up with wireless temperature sensing sensor. Based on temperature value entrance door will open. If temperature is more than desired value then door will not open. Project title is contactless temperature monitoring at door entrance using Arduino.

DESCRIPTION:

This project includes temperature sensor (MLX90614) connected to Arduino I2C pins. Two IR sensors which are connected to Arduino digital pins. L293D and laser LED connected to Arduino digital pins. 10K potentiometer interface with Arduino analog pin.

WORKING:

In this project we can set desired temperature limit using 10K potentiometer. If temperature of visitor less than desired limit then only entrance door/gate will be open otherwise it will not open. Here two IR sensors placed before and after entrance gate. First IR to detect person before entering and second IR for detect person to close door. Temperature value display on 16X2 LCD display.

TECHNICAL SPECIFICATIONS:

HARDWARE:

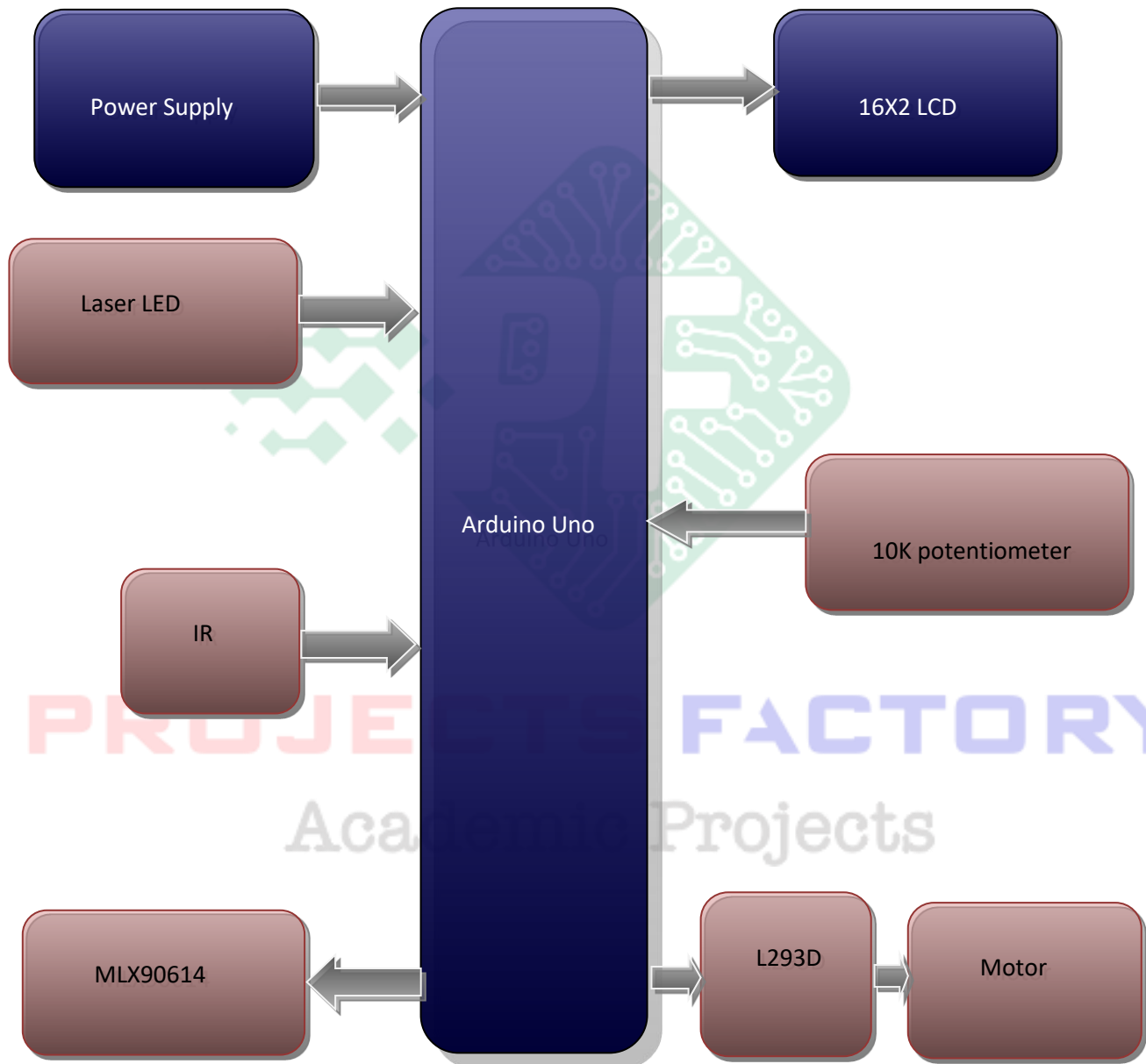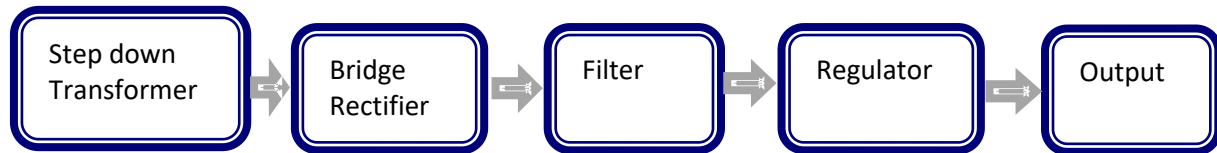|		
Microcontroller	:	Arduino Uno
LCD	:	16X2 LCD Display
Crystal	:	16 MHz
Temperature Sensor	:	MLX90614
Potentiometer	:	10 K Variable Resistors
IR Sensor	:	DC 5V
H-Bridge	:	L293D
Motor	:	DC Gear Motor 10 r.p.m
Power Source	:	12v 2 amp Adaptor

SOFTWARE:

Arduino IDE

Proteus based circuit diagram

APPLICATIONS:

➢ Covid-19 precautionary Application

➢ Industrial Application

➢ Office Application

➢ Railway Platform passenger management Applications

BLOCK DIAGRAM:

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Power Supply ──────▶                            ──────▶  16X2 LCD

Laser LED ────────▶         Arduino Uno

                                            ◀──────  10K potentiometer

IR ───────────────▶

MLX90614 ◀────────                          ──────▶  L293D ──▶ Motor
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POWER SUPPLY BLOCKDIAGRAM:

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Step down      →   Bridge       →   Filter   →   Regulator   →   Output
Transformer        Rectifier
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INTERFACES COVERD:

- IR sensors,10K potentiometer and laser LED interface
- MLX90614 interface