

HAND SANITIZER WITH CONTACTLESS TEMPERATURE INDICATOR

AIM:

Design and Development of Hand sanitizer with Contactless temperature indicator.

PURPOSE:

Over the last few months world suffering with covid-19. Which spreads through contact of humans each other, Especially this contact through hands. To eliminate this we have to use sanitizer on hands to protect from covid-19 virus. Along with sanitizer dispensing, temperature monitoring is important to take precautions. There are so many kinds of sanitizer process, but all those are again contact based and chance of getting virus from that. Here we suggest contactless sanitizer dispenser along with temperature monitoring. Here project title is hand sanitizer with Contactless temperature indicator.

DESCRIPTION:

This project includes IR sensor which is connected to Arduino digital pin. Solenoid controlled by relay which is connected to Arduino digital pin. 10K potentiometer interface with Arduino analog pin. MLX90614 connected to Arduino I2C port.

WORKING:

In this project IR sensor can detect user hand while placing bottom of dispenser unit. Here dispenser unit is a plastic tub which is placed according to alignment. When IR sensor detects hand, then it sends signal to Arduino. Then Arduino sends ON signal to relay and solenoid valve will open. MLX90614 reads temperature of user while dispensing and placed beside IR sensor. Here we can set dispensing amount of sanitizer by 10K potentiometer. Analog values will vary when 10k potentiometer varied. These values will displaying on 16x2 LCD display.

TECHNICAL SPECIFICATIONS:

HARDWARE:

| | | |
|--------------------|---|-----------------------------|
| Microcontroller | : | Arduino Uno |
| LCD | : | 16X2 LCD Display |
| Crystal | : | 16 MHz |
| Solenoid Valve | : | 12V DC Electromagnetic Type |
| Temperature Sensor | : | MLX90614 |
| IR Sensor | : | DC 5V |
| Relay | : | 12V DC Electromagnetic |
| Buzzer | : | DC 5V |
| Power Source | : | 12v 2 amp Adaptor |

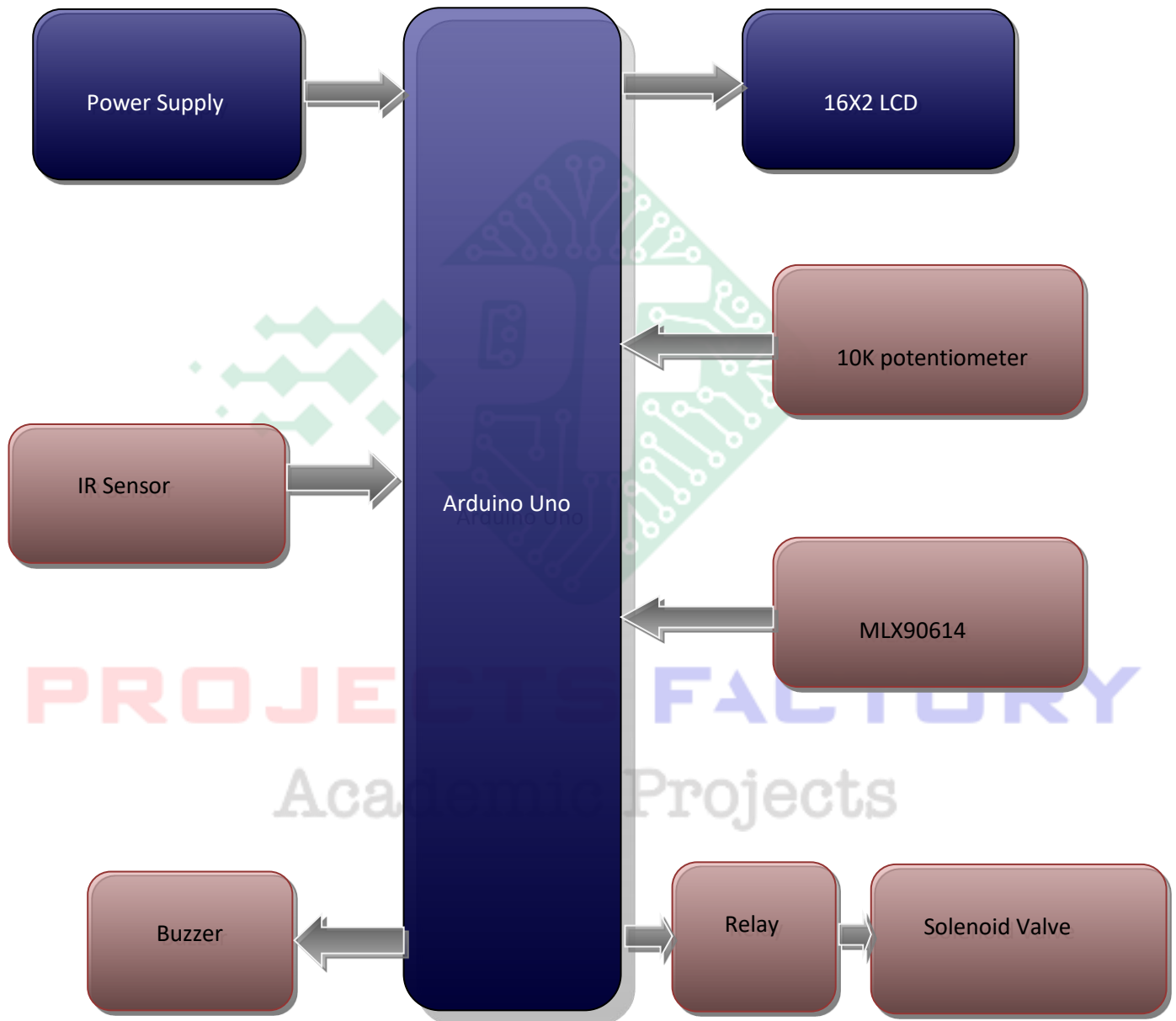
SOFTWARE:

Arduino IDE
Proteus based circuit diagram

APPLICATIONS:

- Hand sanitizer Applications
- Liquid dispensing Applications

BLOCK DIAGRAM:



POWER SUPPLY BLOCKDIAGRAM:



INTERFACES COVERED:

- MLX90614 interfacing
- IR sensor and Solenoid valve interface

PROJECTS FACTORY
Academic Projects