HAND SANITIZER WITH VISITOR COUNTER

AIM:

Design and Development of Hand sanitizer with visitor counter.

PURPOSE:

Over the last few months world suffering with covid-19. This 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, here we read number of visitors used sanitizer. 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 visitor counter. Here project title is Hand sanitizer with visitor counter. Using this visitor counter feature we can know how many persons used sanitizer.

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.

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. Arduino calculates visitor count based on IR activation. This will gives us number of persons used sanitizer. Here we can set dispensing amount of sanitizer by 10K potentiometer. Analog values will vary when 10k potentiometer varied. These values will display on 16x2 LCD display.

TECHNICAL SPECIFICATIONS:

HARDWARE:

Microcontroller   :   Arduino Uno

LCD   :   16X2 LCD Display

Crystal   :   16 MHz

Solenoid Valve   :   12V DC Electromagnetic Type

IR Sensor   :   DC 5V

Relay   :   12V DC Electromagnetic
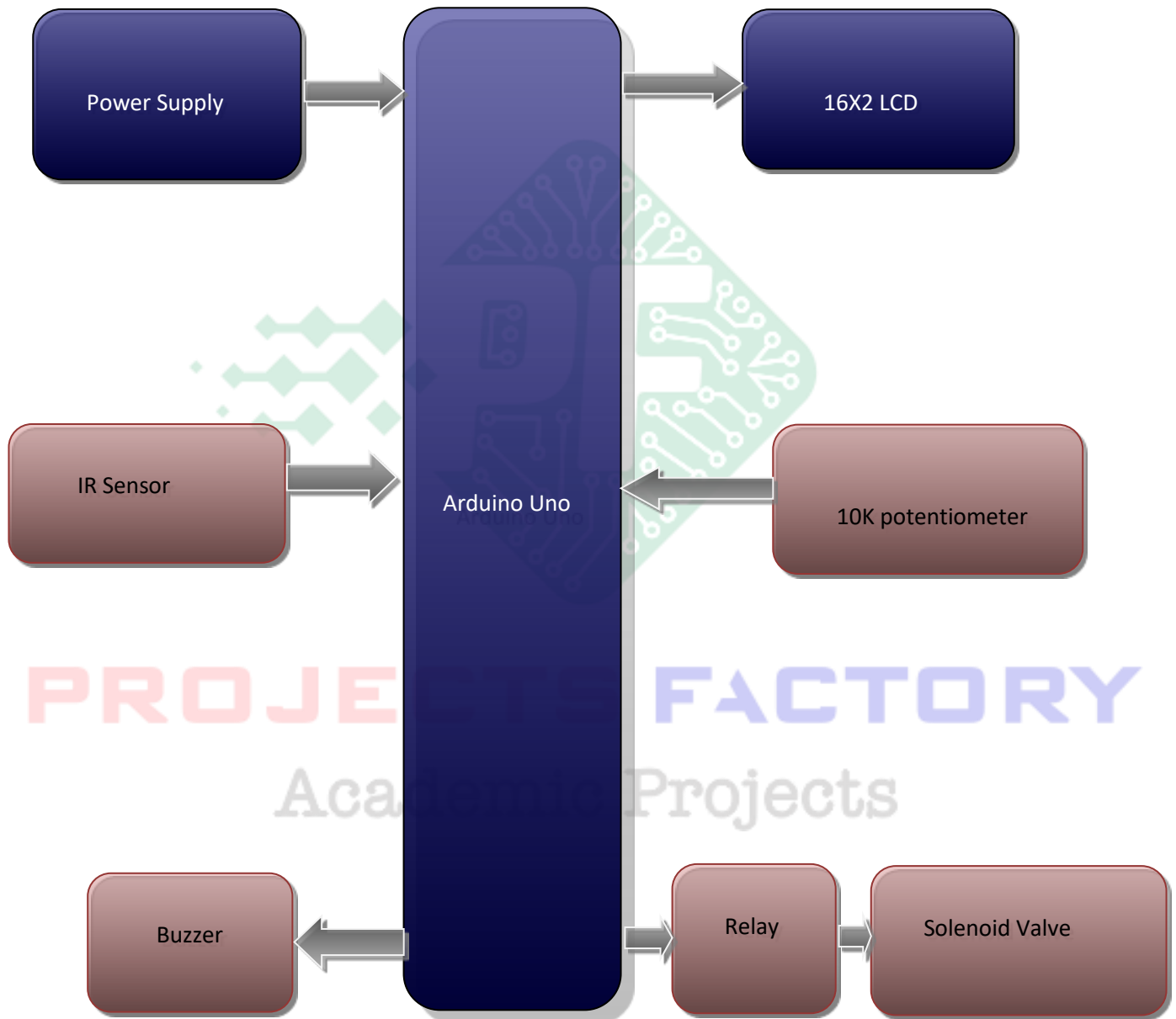
Buzzer   :   DC 5V

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:

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

INTERFACES COVERD:

- IR sensor and Solenoid valve interface