

# **MPCA PROJECT**

## **Industrial safety and security system**

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### **1. Introduction of the project**

In this project we are going to make a project that is related to the Industrial/Factory safety and security system.

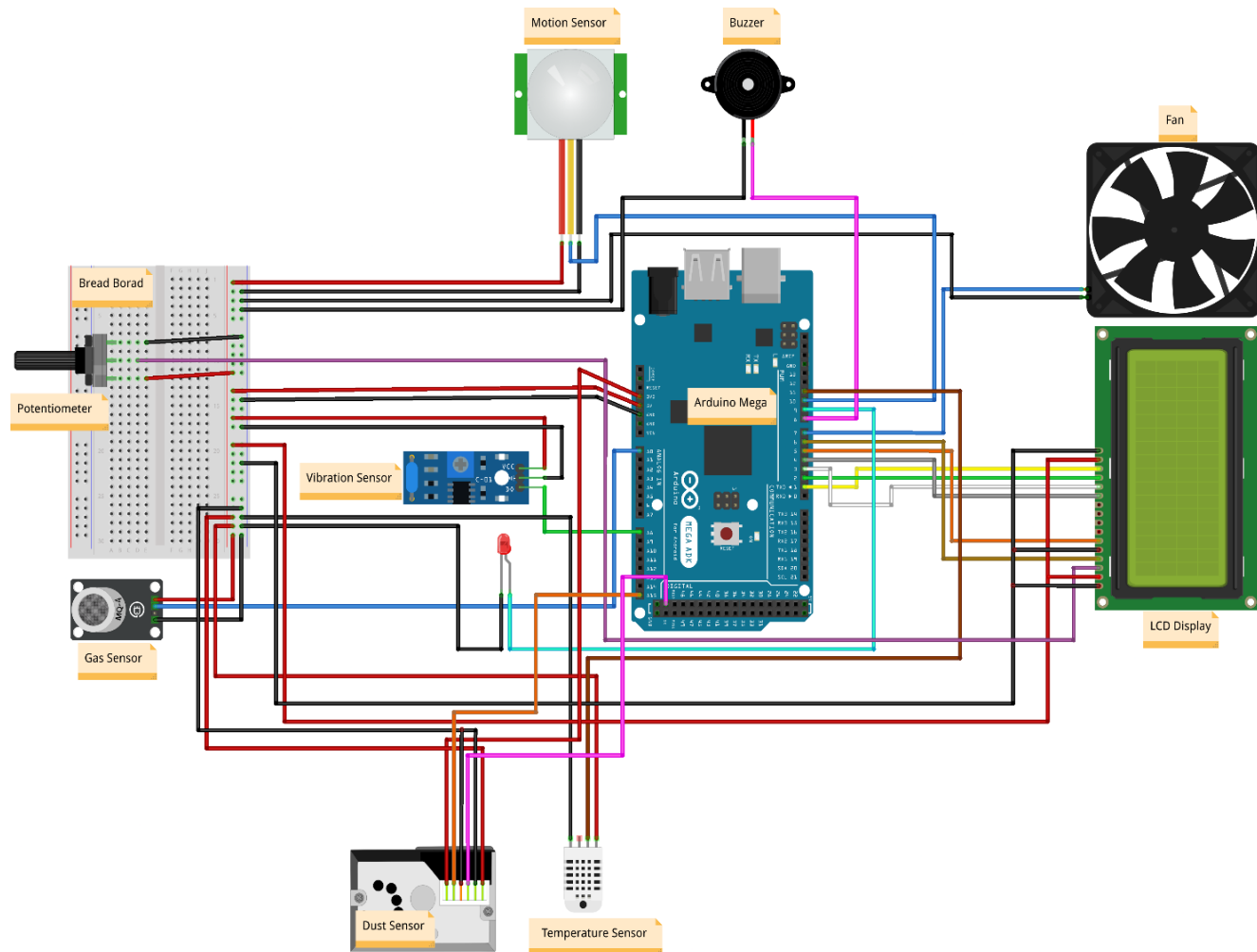
### **2. Problem statement**

To implement the safety and security systems in an industry/factory.

### **3. Scope and objective of project**

From the statistics annually more than 3000 accident cases are being registered in the industries. As a team our objective is to implement the Safety and security system for any kind of industry and bring down the cases. We take care of machines of the industry or factory by using the sensors effectively.

#### 4. Architecture of the project



#### 5. Components required:

- Arduino Mega 2560
- Gas Sensor Module (Model-MQ4 )
- Rotary potentiometer
- Breadboard
- Vibration Sensor Module (Model- MOD-00187)
- PIR Motion Sensor
- Dust Sensor (Model-SEN-00170)
- Temperature Sensor (dht22)
- Buzzer

- Axial Fan
- LCD Monitor (20x4)
- LED (5 mm)

## **6. System design(discuss about functionality of modules)**

Our arduino will be handling the functionality and communicating with the different components

When operating some machines, it can vibrate more than normal. So, our vibration sensor will sense the vibration and alert the control room to turn off the machines or speed down to the machines.

Some rooms will store important things in a factory or industry. So maybe few employees have the right to enter those rooms. So, there will be a motion sensor in these rooms. So, any unauthorised persons will not be entered these rooms. If authorised persons enter the room they will turn off the motion sensor before entering the room.

Temperature plays an important role in an industry or factory. So, every time we need to monitor the temperature of machines or products. From the control room they can control the temperature by turning on or off the fans.

Gas emission will also be monitored properly in an industry or factory. Some gases are toxic and that will not be good for human health. So, when gas emits in an inaccurate level an exhaust fan will turn on automatically and emit the gases from the industry.

Dust sensor will monitor the amount of dust and display it on the LCD to evacuate the workers from the factory.