CSE360: Lab SEC 08

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Group Name: INT360

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Project Proposal

Project Name/Title:

Monitoring & Detecting Flame & Gas Using Proteus, Arduino, and LabVIEW

Project Overview

In order to ensure safety in our day to day life, a fire and gas detection system is undeniably important because it is a reliable system in detecting a possible fire and gas breakout successfully. The device on which we are working on will use a fire sensor and a gas sensor to detect both fire and gas individually. When there is any type of fire and gas breakout, it will show the virtual terminal that fire or gas or both of them are detected and warn the people. In the era of technological revolution, scientific advancements have built a significant impact on the industrial world. So, the device that we are willing to build is going to be very effective for mankind as it is going to make our personal life secure as well as going to save the loss of assets that occurs in fire and gas accidents.

How it works: The device on which we are working on is going to take fire and gas input from the environment. Here, we are going to use digital input 0 and 1 for the sensors. When both the sensors are set to LOW, the Green-LED will turn on which means the situation is under control. However, when one of the sensors or both the sensors are set to HIGH, the Red-LED will turn on and the Green-LED will be turned off which means there is a possible fire or gas breakout. In this case, the sounder will make a sound and the servo motor will rotate 180 degrees. Thus, we will be able to prevent a possible fire and gas accident.

Expected Equipment:

(1) Arduino Software

(2) Proteus: Arduino Uno, Flame Sensor, MQ-2 Gas Sensor, MOTOR-PWM SERVO, Sounder, 2N2222A(NPN Transistor), LED-Green, LED-Red, COMPIM, Resistors, Logic-state.

(3) LAB-VIEW:

1. Visa Resource, Visa Clear, Visa Open, Visa Read
2. Flame
3. Gas
4. Array
5. Table control , Table
6. Monitor
7. Wait state
8. Converter
9. Error Handler
10. Fire Indicator
11. OR Gate
12. Comparator