FACULTY OF ELECTRICAL ENGINEERING

UNIVERSITY TEKNOLOGI MARA

PULAU PINANG

FINAL REPORT:

FIRE AND GAS DETECTION WITH GSM ALERT

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ABSTRACT

Dangerous gas leakage as well as fire had caused wide damage to industries and residential area in the past. It is also can danger human's life. It is very important to detect a gas leak or fire as soon as it breaks out so that it can be prevented from spreading instantly. Thus, this project propose a system that detects gas leakage as well as fire with GSM alert to aid early detection of fire and gas leakage before its spread wildly. This research is to develop and demonstrate the fire and gas detection prototype for home application with GSM alert system. To build this project, it use hardware components and the software for build the program. This project use the microcontroller PIC 16F877A as a brain for this project. This project use two sensors which are temperature sensor (LM35) to detect fire and gas sensor (MQ5) to detect any gas leaked. This project also use GSM Modem as a component to transmit the message to the user to warn them if the building is in a warning situation. For the output, this project use LCD to display the current condition, it also use buzzer to trigger the alarm and it will indicates the current warning using light indicator. The Fire and Gas Detection with GSM Alert procedure was successfully designed and simulate. The simulation shown that the temperature and gas sensor can detect any gas reading more than 2000 ppm or any temperature reading that more than 40°C. Then, it will display the warning via the LCD. At the same time, the LED-RED will turn on to indicate the reading of gas or temperature is in danger. Then, it will trigger the alarm via the speaker. Lastly, the PIC16F877A will transmit the message to the user by using GSM model.

ACKNOWLEDGEMENT

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TABLE OF CONTENTS