

Disaster Detection & Early Warning System

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Abstract – Disaster-Detection & Early Warning is a smart device that acts as an alarm and monitoring system during natural disasters. It comes with ARM-7(LPC2148) support for Detection & Indication which helps to control, monitor and manage the device. The device senses its local environment using onboard sensors and send early warnings to family, friends and colleagues immediately when it finds a disaster situation. It provides the user with voice, display & SMS and alarm notifications. The ultimate aim of the project is to spread the disaster warning information quickly through GSM and make it available to those who need it as early as possible.

Key Words: Sensors – temperature sensor, water level sensor, accelerometer sensor, LPC2148 Micro Controller, Buzzer, GSM Module.

1. INTRODUCTION

Disaster can be defined as a horrific event which causes the loss, decline, deterioration of production an ability to use an asset to its full economic potential and which often result in the loss of human life. Disasters hinder economic growth cause poverty, waste time, cause diversion of funds, delay development and cause huge financial loss and human suffering and death.

Natural disasters cannot be eliminated from earth. In the face of disasters, the weakness vulnerability in man's preparation work and its disaster defense systems are often revealed and found lacking. The serious disasters, leaving huge amounts of damage. It is recognized by all the disaster early warning is more important than later treatment. It is easier and cheaper in terms of effort, money, resources, lives lost to prevent a disaster than to clean up, reconstruct after a disaster.

There are National and Regional seismic & tsunami warning centers that are able to provide warning data over internet. Our device is currently not able to receive this warning directly from that websites, but this feature can be emulated using the cloud platform in our project

Nevertheless, a warning centre can receive the sensor data from our device by communicating with the cloud platform, and can analyze the data stream to get more information. The more that our devices are deployed, the more accurate & powerful its network will become.

2. PROPOSED WORK SYSTEM

2.1 BLOCK DIAGRAM

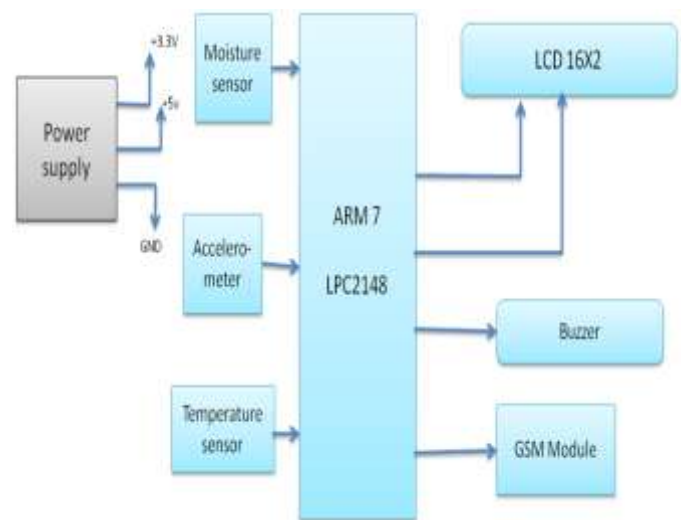


Fig 2.1 Block diagram of Disaster Detection & Early Warning System.

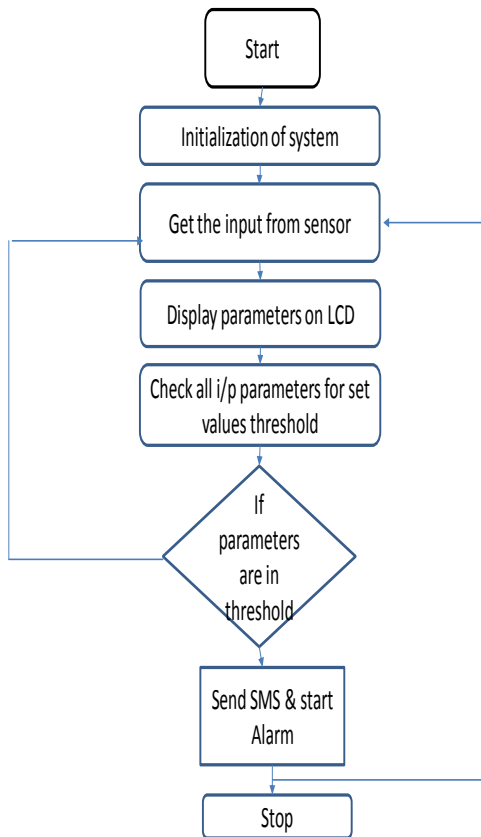
2.2 PROPOSED WORK

In the past, there was a sudden disaster happens and make a huge difference in people's life. After happened of any disaster, it takes a lot of time to recover the humans normal life. The overall damage causes because of disaster can save by the system. Generally, it is need to place this system in highly disaster sensitive areas. If this system is implemented we can save the life of lot of peoples and thus the system can save a lot of carnivals.

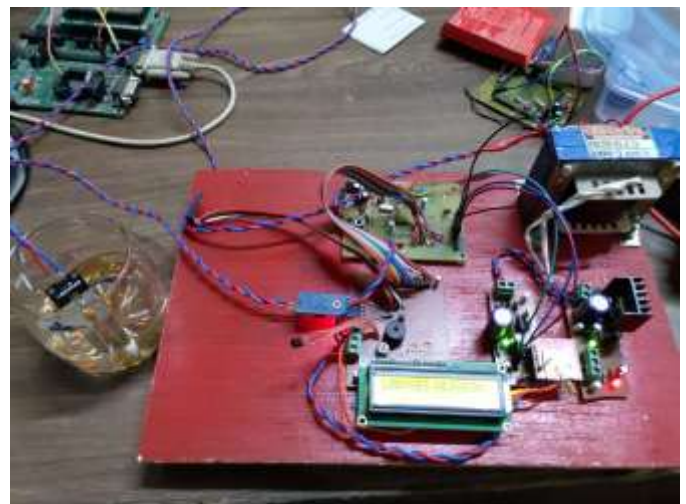
We are going to use different indicating devices such as LCD display for early indication to the peoples near the disaster areas. The other device, we are using is buzzer. Using buzzer we can help to people to early warn about a disaster by ringing it. So that, people will alert about disaster and go away from disaster sensitive areas and be in safe place.

The last but not least, GSM (Global System for Mobile) is used in this system for sending a message and alert to helps centers or Government services about disaster. That can help the help centers or Government to take an action against disaster.

2.3 FLOWCHART

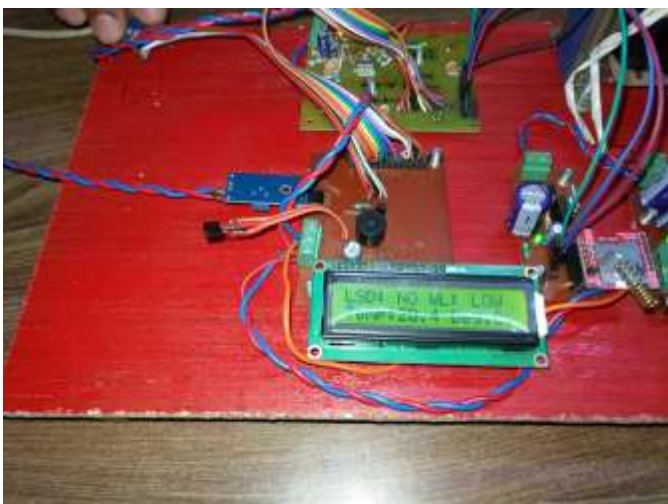


Condition 2: Before Disaster

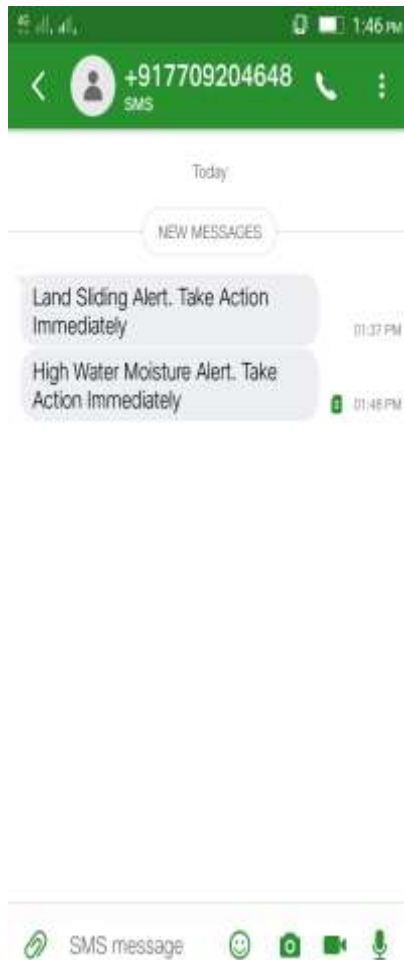


3. RESULT

Condition 1: Normal Atmosphere



Condition 3: Message to Help Centre



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4. CONCLUSION

Disaster Detection and Early Warning System using the LPC2148 microcontroller, the different types of sensors are monitored and controlled by Microcontroller. With the use of wireless GSM module, the SMS is send at long distance in this system. As well as the LCD display and the Buzzer are used to alert at output side. This system helps to save human lives and carnivals.

5. REFERENCES

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