DESIGN OF EARTHQUAKE SENSING AND INDICATING SYSTEM

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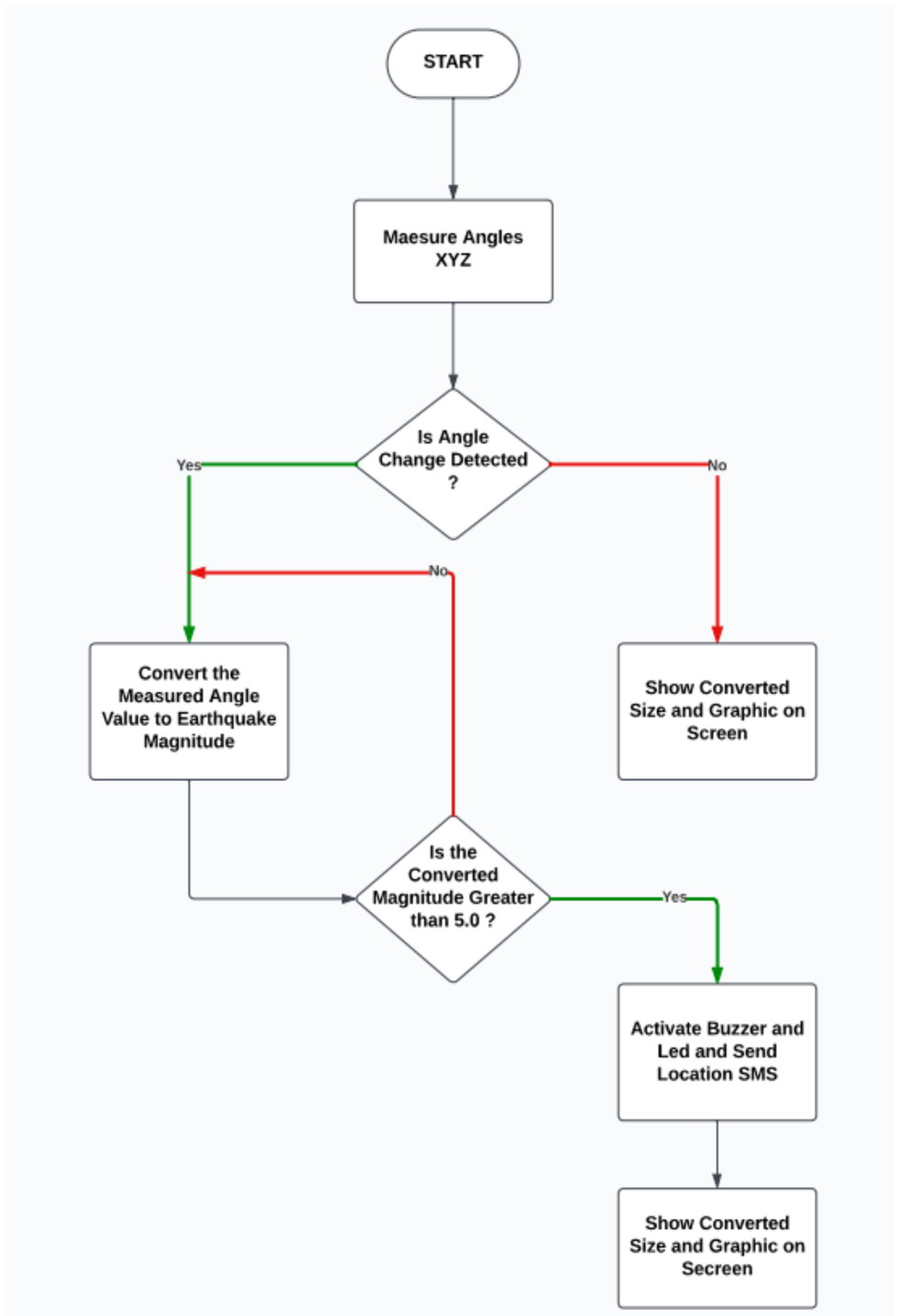
Abstract

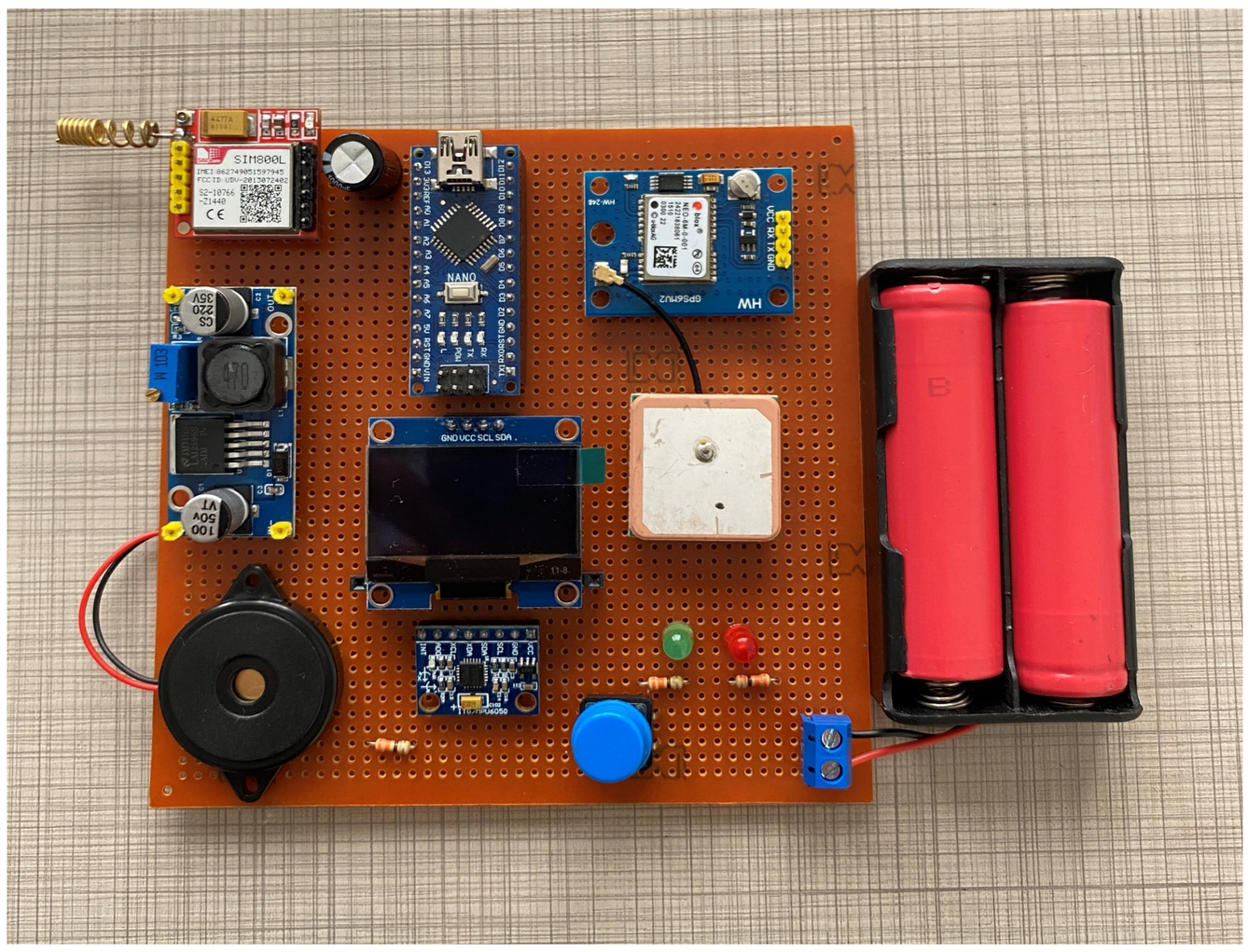
The earthquake detection system is designed to detect the intensity of the earthquake and send instant location. The system is built on arduino and provides information to the person through sensors. Thanks to the incoming information (thanks to various sound and vibration), the person will be aware of the earthquake.

Flow Chart



Main Components

- Arduino Nano, MPU6050 Accelerometer, Led, Buzzer, Jumper Cable, OLED Display, 18650 Battery, LM2596 Voltage Regulator, SIM800L SMS Module, Connection Cable, Perforated Pertinax, GY-NEO6MV2 GPS Module, Condenser.



Process

The accelerometer sensor detects motion along the x, y, and z axes. The detected motion is converted to earthquake magnitude using a specific formula. If the converted magnitude is greater than 5.0, the buzzer and red LED are activated, and simultaneously, considering it as a dangerous situation, the location is sent to a predefined phone number. If the converted magnitude is less than 5.0, the green LED is activated. In both cases, the OLED screen displays the motion along the x, y, and z axes.

Conclusion

This system, which can detect earthquakes, is especially designed to warn the person at home and report the earthquake intensity. Thanks to the sensors, the intensity of the earthquake will be calculated and the buzzer will alert the user with the sound of the buzzer and report its location.

References:

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