

Project Name: Earthquake Detector and Alarm System**Project Members:**

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Theory:

It is a project that can provide warning of ground shaking during an earthquake. The objective is to rapidly detect the initiation of an earthquake, estimate the level of ground shaking to be expected, and issue a warning by buzzer and LED before significant ground shaking starts. In this project, we use a switch that will help the vibrator to vibrate. So whenever the switch is turned on the vibrator will start vibrating and at the same time the vibrator sensor module detects the shake as an earthquake and without any delay, will warn us by light and sound. That means we'll be able to see the light in the LED and hear the sound from the buzzer.

Equipment:

1. Arduino UNO
2. Vibration Sensor Module (VSM)
3. Breadboard
4. 9V Battery
5. Jumper Wires
6. Buzzer
7. LED
8. Vibrating Motor
9. Pencil Battery - 3pcs
10. Switch
11. Cork Sheet
12. Color Paper
13. Soldering Kits
14. Glue Gun

Connection:

The connections had been implemented between Arduino, Vibration sensor module, LED, buzzer, and vibrating motor by jumper wires with the help of a breadboard.

1. A 9V battery has been used to provide power to the Arduino.
2. A switch has been used to control the power connection between the motor and batteries.
3. When the vibration sensor module senses the pulse the buzzer and LED will be used to alarm.

Overall Connection:

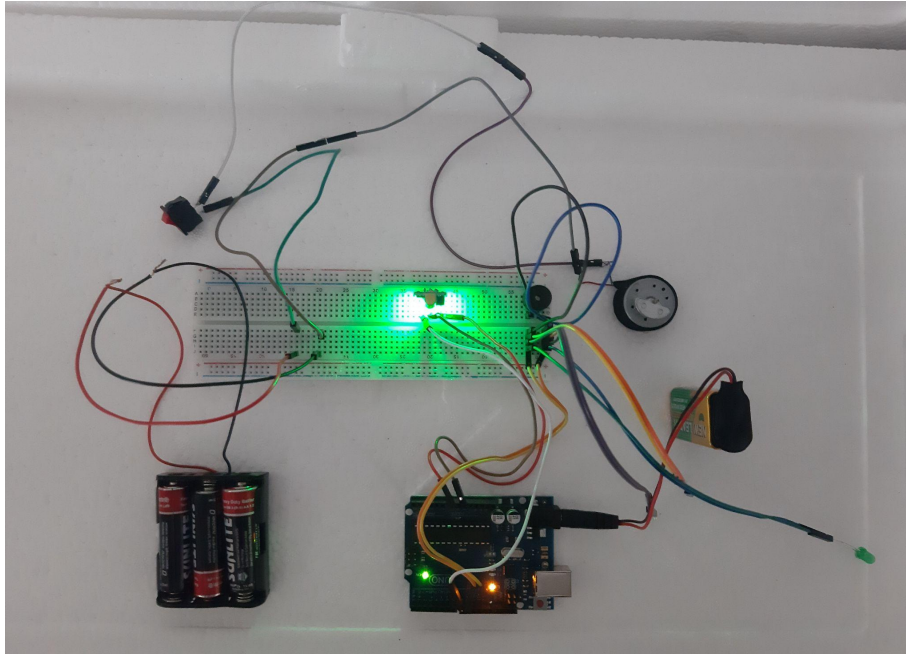


Image 1: Device connection

Advantages:

1. People can get warnings by light and sound.
2. One of the main advantages of this project is that people who are blind can hear the buzzer sound and people who are deaf can see the LEDs.
3. It can reduce human casualties.

Conclusion:

1. The connections with Arduino, vibration sensor module, buzzer, LED, and vibrating motor are all okay.
2. Arduino Code is working fine.
3. The vibrating motor creates sustained vibration.
4. The alarm system is perfectly working.

So, overall this project is able to warn whenever any particular amount of shaking happens in a house.