

## ABSTRACT

Indonesia is one of the countries where earthquakes frequently occur. Some areas in Indonesia such as Sumatra which includes the areas of Aceh, Lampung, Bengkulu. then in the area of Java to the eastern part of Indonesia is also an area that is prone to earthquakes. Earthquake vibrations will propagate from the epicenter of the earthquake to the area around its center. The occurrence of earthquakes can be caused by the shifting of the earth's plates or it can be due to volcanic activity. Earthquakes also often bring other natural disasters such as volcanic eruptions and tsunamis. Because when that happens, many people suffer losses such as losing objects, losing people they love. Therefore, in this study, a tool that is able to detect earthquakes has been created. This tool is also installed in the house so it is very close to humans. When an earthquake is detected, this tool will immediately give a warning, either through the sound emitted from the device, or through notifications on the Blynk application on the smartphone, so that people can move quickly and save themselves and save valuable property to avoid big losses.

The tool will provide information to the blynk application on the smartphone when the tool detects an earthquake around this tool is installed. Then the blynk application will provide notifications and warnings to users. There are 4 categories used by this tool in detecting earthquakes, the first is a safe condition, this condition occurs when the tool does not detect an earthquake. The second is the light earthquake condition, this condition occurs when the detected earthquake is between 1-3,9 SR. the third is the Medium Earthquake, this occurs when the detected earthquake is between 4-6.9 SR. and the last one is the Huge Earthquake, this happens when the detected earthquake is more to 6,9 on the Richter scale, in this condition, the blynk application not only gives notifications to users via notifications, but the tool will also make a sound through the Piezo Buzzer installed on the device.

**Keyword :** *earthquake, plate, smartphone, blynk*