

ABSTRACT

Earthquake is a vibration that occurs on the surface of the earth due to the sudden release of energy that creates seismic waves. The earthquake is caused by the movement of the Earth's crust (Earth Plate). The frequency of a region, refers to the type and size of an earthquake that has been experienced over a period of time. With the development of early earthquake detection technology, the solution provides a solution to minimize the impact of earthquake events. With the SW-420 sensor can detect a vibration, integrate Raspberry Pi as a microcontroller and LoRa module based on Low Power Wide Area Network (LP-WAN) technology that uses radio frequency as a data transmission medium. Results Testing is carried out, the system that is built can detect earthquake vibrations, and successfully shows the coordinates of the location in realtime.

Keywords: : earthquake, Low Power Wide Area Network (LP-WAN), radio frequency, LoRa module, Raspberry Pi