

ABSTRACT

In 2019 the number of elderly people in Indonesia reached 27.5 million people and will continue to increase every year. Elderly is a phase of declining intellectual and physical abilities, which can cause physical problems. One such physical problem is falling. Falls in the elderly can cause injuries that result in pain, disability, fractures, and premature death. One solution to minimize this is the need for an elderly monitoring device with a fall detector so that the elderly can get first aid from the medical side.

In this final project, a wearable device is made that can detect falls in the elderly and has a location detection feature that is integrated with the Blynk application. This tool uses the threshold method as a fall detector and does not fall with the threshold value in each activity is $aX \leq 7,445$, $aZ \leq 13,465$, $aZ \geq 13,465$. The location detection feature on this tool uses latitude and longitude points to determine the location of the elderly with an average error rate of 6.90 meters. The author hopes that this tool can monitor and monitor the activities of the elderly who are active outside the room, so that when the elderly falls he gets first aid from the family or medical as soon as possible.

Keywords: Elderly, Fall, wearable device, threshold, location detection.