



FALL DETECTION SYSTEM FOR PARKINSON DISEASE PERSON

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ABSTRACT

Globally, falls are a major public health problem that makes it one of the leading causes of unintentional injury death. This project will develop a fall detection system to alert the responsible user when falls are detected from the person that suffers from Parkinson's disease. The development of this system comes with a simple, easy to wear, and low in cost device prototype. The device prototype is made up of NodeMCU ESP8266 as the microcontroller and MPU6050 as the module that comes with an accelerometer and gyroscope sensor. MPU6050 module will be the main actor to detect falls with the implementation of a simple threshold double fall-feature parameter detection algorithm. The alert from fall will be notified to the user's smartphone via an application that will be developed. This system ensures the awareness of falls to all responsible person of the patient

PROBLEM STATEMENT

In a week, PD patient can fall almost 2 times and have a mild injury or a bump on her head. Unfortunately, the time they fell was no one close to them. Awareness from the fall was so low because no one hear or was alert to it.

OBJECTIVES

- To implement the wearable fall detection system for elderly Parkinson's Disease patients.
- To come up with the application of an alert system that notifies the responsible user
- To identify the accuracy of the fall detection using the MPU6050 module

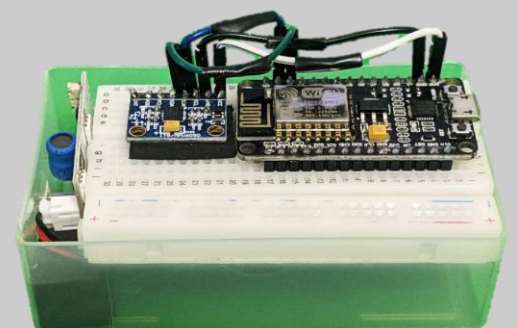
METHODOLOGY

- Using Prototype Methodology
- Algorithm - Simple Threshold double fall-feature parameter Algorithm
- Device prototype made of NodeMCU ESP8266 and MPU6050 module
- Application developed via Blynk app creator

IMPLEMENTATION



FALL NOTIFIER APP



DEVICE PROTOTYPE

CONCLUSION

The fall detection system will increase the awareness among people who has the responsibility to take care of PD patient. From the incident occurs, fast action needs to be taken to prevent any bad consequence to the patient. Fall Notifier app will notify the user when the device prototype detects falls. The device prototype will be worn by the user like a belt.