Abstract

Fall incident are experienced by approximately 28-35% of people at the age of 65 years and above every years. The impact from falling is very serious and can cause injury, fracture, or even death. The solution of this problem was already much developed in the form of fall detection system. This solution can handle falling problems when they occur, but this solution cannot prevent falling incident from happening. Therefore in this study was designed a fall prevention system, which is a system that can prevent fall incident. The system uses accelerometer and gyroscope sensors as a data gathering medium and uses hjorth parameters feature extraction method and decision tree classification to predict threat level of falling incident based on gait patterns. Based on the results of the research on the fall prevention prototype that the use of hjorth parameters and decision tree classification method was successfully applied by yielding 80% accuracy. Because of the accuracy is not good enough, this research still has not achieved the desired objective results.

Keywords: : Fall, Fall Detection System, Fall Prevention System, Hjorth Parameters, Decision Tree.