

ABSTRACT

The elderly (Elderly) is a natural process that cannot be avoided by any human being. Every human will inevitably experience the aging process. Due to economic issues, many elderly people often have to continue working to meet their living needs, regardless of the fact that their muscle strength has drastically decreased, and they cannot afford medical check-ups due to costs that are beyond their reach..

Because of that, a simple muscle strength detection tool based on ESP8266 is needed to determine whether the muscle strength of the elderly is sufficient for work and to monitor it whenever an examination is required for the elderly.

This research focuses on understanding the results and classifying muscle strength in elderly people aged 50 and above and individuals under 50. Using Electromyography (EMG) as the primary sensor and monitoring software using Thingspeak, the performance can detect and classify the extent of muscle strength in working elderly individuals compared to muscle strength in young adults, as well as allowing for muscle strength examinations to be conducted whenever needed.

Keywords: *Elderly, ESP8266, Muscle Strength, Electromyography Sensor, Thingspeak, Monitoring*