

Development of posture estimation monitoring system for back pain diseases

Abstract

The common problems occurred among the people who need to sit in a long time are the affected postural position that lead to the back pain diseases. The sitting position of a person determine the health condition of the backbone. Many cases of back pain diseases because of the bad routine are reported for both gender. By maintaining the good posture and actively move significantly improved the health condition. Nowadays, people all use internet in their daily life including for the healthcare management. Wearable electronic device that improve the quality of life became the main focus of this century from simple hearing aid to the full health monitoring smartwatches with different functions and specifications. The project starts with the design stage, software modification and hardware construction with using an IMU sensor, a flex sensor and a microprocessor-WeMos ESP8266 D1 R2 with Wi-Fi built in. This report devote the design, development and experimental process of this wearable posture estimation monitoring system that uses multiple sensors to measure the back posture of a user in real time and alert them with the notification from their smartphone.