

ABSTRACT

Humans do a motoric activity called walking. The forward movement of an upright body, using the lower part of the body, is called gait. In the biomedical engineering, human gait analysis has become a fundamental analysis and a tool to determine the quality of human life. One tool that is often used to analyze human gait is the force platform.

This study describes the design of a force platform for gait analysis. The Force platform is designed using a Force sensing resistor (FSR) as a sensor and then using a microcontroller. The purpose of this study is to design a Force platform that can detect the pressure of the human foot and then to get the value of the human foot pressure according to the array on the FSR sensor.

The results of measuring human foot pressure using the FSR sensor are carried out when standing and when walking in the stance phase where the foot will make contact with the FSR sensor, then the sensor displays the value according to the shape of the foot pressing the sensor. The sensor output value for each subject is different depending on the subject's weight. The maximum pressure values produced when walking in the stance phase are 309920 kN/m² in the initial contact period, 919410 kN/m² in the mid stance period and 475280 kN/m² in the terminal stance period. pressure measurement can be done using a Force platform with a Force sensing resistor as a sensor.