ABSTRACT

Foot is an important body part in human daily activities. Foot will give different pressures when doing contact with ground based on the foot condition. So, foot pressure can be a parameter in making a diagnosis in medical, sports, and scientific field.

Foot pain and disorder is a common condition in daily lives. This condition could lead to inconvenience in daily activities. Population based studies stated that 24% of people age > 45 years old feel foot pain and two – three of them encounter moderate disorder in their daily life aspects that associated with their foot condition. One of the potential risk factor from the foot disorder is the abnormal foot condition and function structure, that will affect the foot pressure.

This study presents foot pressure information presentation system on force platform while standing and walking on it. Purpose of the making of this system is to give low-cost measurement alternative instrument which can show foot pressure map while walking so medical personnel can use it for further analysis and diagnose. This sensor uses matrix FSR that is arranged on the platform.

The measurement results then presented to the users in foot pressure mapping image. Visualization images then processed with bicubic interpolation to smoothen foot pressure mapping color. In this study, there are two kinds of foot structure, those are cavus foot with pressure mean value 184.758,75± 54.416,523 kN/m^2, and normal foot with pressure mean value 180.982 ± 5.944,907 kN/m^2. On cavus foot the big pressure value occurs on calcaneus and metatarsal, while normal foot only on calcaneus.

Keywords : *foot pressure, ground reaction force, force platform*