ABSTRACT

The foot and ankles have an important role in daily life for activities. But without realizing it often the leg posture becomes abnormal because of wrong habits. This will have a negative impact, one of which is to increase the risk of injury. So, it is important to know the leg posture to reduce injury.

Assessment of the type of foot posture can be done by various methods both uni-planar and multi-planar. Commonly used uniplanar methods such as Rear Foot Arch (RFA), Medial-Longitudinal Arch Angle (MLAA), Navicular Position Test (NPT), and CT Scan are considered less efficient compared to multi-planar methods. Whereas multi-planar methods such as Foot Posture Index-6 (FPI-6) are considered reliable and can validate leg posture simply and quickly. Therefore, in this study, the FPI-6 method was developed as a multi-planar tool based on image processing. To facilitate users in using this system, created a User User Interface (GUI) using the MATLAB program.

The results of this study are image processing systems that are able to identify the type of foot posture with an accuracy of 95% when using 6 FPI-6 criteria, and an accuracy of 85% when using 4 FPI-6 criteria. The data used are 30 reference data, and 20 test data taken from 50 Telkom University students ranging in age from 19-23 years.

***Keywords**: Foot Posture, Image Processing, Foot Posture Index-6 (FPI-6).*