

INTISARI

David Laser Scanner merupakan sebuah perangkat *software scanner* tiga dimensi yang berbasiskan *low-cost*. Pada penelitian sebelumnya, *scanner* tiga dimensi ini telah diuji menggunakan 3 bentuk objek yaitu piramida, kaleng, dan prisma segi delapan. Namun pada penelitian ini, akan dilakukan pengembangan dengan mengganti objek penelitian yang lebih kompleks yaitu antropometri kaki. Selain itu akan diteliti faktor yang paling berpengaruh terhadap hasil pengukuran antropometri.

Objek pada penelitian ini sebanyak 10 orang, teknik pengambilan sampel menggunakan *convenience sampling*. Pengukuran dilakukan pada 8 bagian dimensi telapak kaki kanan. Penelitian ini akan membandingkan hasil pengukuran manual sebagai acuan dan digital menggunakan *David Laser Scanner* untuk menghasilkan gambar 3D dan *software MeshLab* sebagai alat ukur.

Hasil dari penelitian ini didapatkan bahwa faktor yang paling berpengaruh menentukan kepresisian pengukuran dalam *software MeshLab* adalah hasil *fuse* objek. Selain itu didapatkan bahwa terdapat korelasi yang sangat kuat antara hasil pengukuran manual dan digital, sehingga hasil pengukuran digital dinyatakan valid dan reliabel.

Kata Kunci = *3D Scanner, David Laser Scanner, MeshLab*

ABSTRACT

David Laser Scanner is a three-dimensional scanner software tools based on low-cost. In the previous studies, this scanner was tested by using three objects, such as pyramid, cans, and an octagonal prism. However in this research, there are some developments in more advance objects such as foot anthropometrics. Furthermore the most influencing factor towards the results will be examined.

Objects in this study were ten respondents where convenience sampling method was applied. The measurements were applied on eight part dimensions on the sole of the right foot. This study compares the results not only the manual measurements as the reference and digital measurement by using David Laser Scanner to produce 3D images, but also MeshLab software as the measuring tool.

The results of this study found out the most influencing factor in determining the precision measurement of MeshLab software was the object fuse result. In addition it was found that there was a very strong correlation between the results of manual and digital measurements, so that the digital measurement results were declared valid and reliable.

Keywords = 3D Scanner, David Laser Scanner, MeshLab