

Kata Kunci : Android, Accelerometer, Klinometer, tinggi, jarak, sudut.

ABSTRACT

In the evolution of gadgets, there are many types of gadgets that are offered to consumers. One of the best-selling gadget is Android gadget. Android provides an open platform to developers for creating their own applications. Application of a particular gadget is a favorite for both the current android users. In daily life, some people find it difficult to measure the height or distance of an object. In the construction of a tower project activities, required tower height measurements at regular intervals to know the progress of development. This height is usually measured with an instrument called a clinometer, but it is very expensive. The measurement can also use the simple clinometer, but making it inconvenient for user equipment.

Based on above problems, In this final project, the writer build an application based on android which could measure the height or distance of an object using calculation of angle method, a the method can calculate the height or distance using trigonometry formula, named Klino. Angle calculation here using Accelerometer sensor functions on the gadget. Accelerometer Sensor serves to adjust the angle of android phones, such as the set of his landscape and portrait screen android gadget. By trigonometric formula, if there is distance and angle parameters of the height of an object can be measured. While the height and angle parameters, object distance can be determined. This application is a work system by calculating angle obtained from the accelerometer values, which is subsequently incorporated into the calculation of height or distance.

The experiment of this system uses three parameters. First is the distance between object and camera, second is height of gadget, and the last is angle of the accelerometer values. The best accuracy of the first parameter is 98.4%, which is 100 cm, and second parameter is 98.4%, which is 50cm (model 1). The third parameter has it best accuracy on 99.4%, which is 83.7%. The accuracy of this system over all is 92.4%.

Key Word : Android, Accelerometer, Clinometer, Height, Distance, Angle.