ABSTRACT

The use of science and technology in the sector of electronics and telecommunications is increasing ,especially in the sports sector. an athlete's sport , especially football athletes need a tool that can measure his ability, That way football athletes can improve the ability to perform testing on the device.

In this final project, this time designed foot step measurement based on microcontroller with cosine law analysis. That tool can measure the amount of human distance during operation. The structure of the components used requires a tilt sensor to determine changes in the angle of the ankle needed a user and XBee module for wireless data transmission .Data processing system use the cosine law , which takes the value of the angles to be analogous to the angles of the law triangle applicable . So we get a long distance on a human foot step by that angles.

Testing parameters of this final project is focused on the results of the calculation of the cosine law that implemented in that tool . With a tilt sensor calibration value of 1.055 times than the value of the results of the actual sensor , it can achieve 96 % accuracy the value than the actual value . The process of calculating the valueof footsteps going well with the level of accuracy reached 94 % by value of the actual distance .

Keywords: Foot Step Measurment, Microcontroler, Cosinus Law, Tilt Sensor