

Abstract

The sport of roller skating originated from an ice skating fan from the Netherlands who wanted to change the game of ice skating into a game that can move on the ground or hard roads. In 1863 a man named James Leonard Plimton's creator of rocking skates which was later patented became very popular, he was then nicknamed The Father of Roller Skates. In Indonesia itself, fans of roller skating are very fast, both from children to adults. This is what triggers the emergence of roller skate clubs. For the province of Lampung, especially in Bandar Lampung, there is a roller skating community that is quite popular called Wheeling Lampung because of its many achievements.

Along with the development of the times, there are many new innovations in the field of technology to support an activity, therefore a research idea emerged with the title "System of Speed Counting for Freestyle Athletes in the Iot-Based Speed Slalom Category (Case Study of Floating Roller Skates)" to support the process. exercises carried out in Wheeling Lampung. The system works automatically to calculate the speed obtained by roller skating athletes in training which aims to optimize the training process. In this system the infrared sensor will capture the object which will then automatically process the time taken by the athlete from star to finish on the Arduino then the system will display the results of the time obtained on the P10 running text monitor that has been connected to the tool and system, making it easier to find out the athlete's performance.

The results of this study are hardware and software prototypes. Where real-time data and history of time gain obtained by athletes through sensor readings can be viewed through the associated speed counter application so that athletes can easily find out the speed of the time obtained. From the results of testing the system using ISO 9126, the results of functionality are in the good category, reliability is fast in data transmission and tool resistance, usability gets a percentage of 88.8%. the application efficiency test resulted in the use of internal storage and RAM memory that was little or light to run, the maintenance test got a high percentage of 84% and the results of the portability test of the speed counter application and can run well on four android operating systems, namely marshmallow, nougat, oreo, and 10.

Keywords: Skates, Wheeling Lampung, Arduino, Infrared, Android, ISO 9126.