ABSTRACT

Railway is a public transport that uses rail lines equipped with a signal pole as a rule of the train journey precisely for the speed of trains in each particular region but not a few train accidents caused by speed over the limit, especially when the train dismissal. In order to avoid the number of train accidents due to exceeding the specified speed limits, monitoring tools are needed to control the speed of trains, especially when approaching the station.

Research on this final project proposes a railway speed monitoring system utilizing android-based wireless communications. The monitoring system uses Arduino Atmega 328 microcontroller that connects with wifi module as connection to android and utilizes solar module as receiver. The use of solar module in this final project is as a photodetector. In the transmitter block utilizes the laser as a light source with a wavelength of 532 nm. In the transmitter block, data from the laser will be processed using MySQL database in real-time.

The implementation of the Railway Speed Monitoring System with this Android-based Wireless Communication on miniature trains can generate railway speed notifications on display in android applications and also notices when rail speeds exceed the specified speed limit of 0,9 m / s. In monitoring applications there is a history of detected rail speed results.

Keywords: *Speed, Microcontroller, Monitoring System, Android*