

## **ABSTRACT**

Bus rapid transit is one of public transportations which is chosen by people to do short way trip, to avoid the traffic because it has its own track, besides it has proper facilities with affordable price. But, this system has problem in estimated time of departure and arrival so the estimation time can't be estimated.

By the existing of this problem, it needs information system to facilitate the bus passenger to know the bus time arrival and the amount of passengers in the bus. This information system is a website, connected to firebase so all information that is received can be shown in realtime. On this final project it uses infrared sensor to count the passenger and gpsto track the bus position. This information system will be shown on the screen at bus shelter which is integerated with microprocessor and gsm modem for the internet connection.

From the outcome of the test that has been done, it shows that on the functionality test every function works properly. This system has delay in average of 1,29 seconds to process of sending data from the hardware to the website, then on the subjectivity test, it gets MOS value in average of 4,135 which means this system is good and useful. Acquired from 85 respondents.

**Key words:** *Bus Rapid Transit, Internet of things, Realtime Database*