

ABSTRACT

Currently the application of the online cab companies do not provide the feature that needed by the consumer including : which one the nearest cab position from the consumer on the map and the features that enable which cab to be chosen by the consumer independently. Currently the way which cab will serve the consumer automatically determined by the system application. In addition, the existing online cab application cannot show the the information how far exactly (in meters) the distance of selected cab from the consumer.

To overcome those demand, in this research designed the system consisting : an Android-based application software installed on the consumer's and the cab driver's cell phone, the Arduino UNO was installed on the cab which equipped with a GPS module (to know the position of the cab on the map), a microswitch sensor mounted on the passenger seat (to identify which cab that exist passenger inside to be omitted from the display of the map), the GPRS module as a communication module with the cab service provider server.

From the results of functionality field test consisting of cab order process by customer and receiving process by the cab driver was proven that the system can function properly as expected. In addition the test results of the performance show the accuracy of the position (latitude and longitude) shows the average distance difference between the GPS location on the device and the GPS location on the smartphone is 13.3 meters and the average server response time is 123 ms.

Keywords: Arduino UNO, GPS, GSM, microswitch , database, server.