Abstract

Telkom University is a campus that has an area of approximately 50 hectares and has more than 10 buildings in it. Telkom University has seven faculties that are located quite far from each other. A considerable distance between buildings in the campus area encourages the campus to provide facilities to facilitate the residents of the Telkom University campus by presenting Campus Shuttle and Bike Campus.

Campus Shuttle is a free facility that is presented while still looking at the environmental aspects so that a green atmosphere can be realized in the campus area of Telkom University. This also makes Campus Shuttle very interested for campus residents to use and often prospective passengers have to wait long enough because they don't know the current position of Campus Shuttle. In this final task, a tracking system for Campus Shuttle was designed by utilizing Global Positioning System (GPS) so that prospective passengers can see the current position of Campus Shuttle and designed a system to optimize pickup of prospective passengers from Campus Shuttle by using the fuzzy dijkstra which is a combination between the fuzzy logic and the Dijkstra algorithm taking into consideration the distance and number of queues at each stop of the Campus Shuttle. The implementation of this system results the distance efficiency is 64.96 % and the time efficiency is 62.33%.

Key Words: *Campus Shuttle, GPS, fuzzy logic, dijkstra algorithm, fuzzy dijkstra*