

ABSTRACT

Congestion is a problem that exists in Indonesia every year. With the growth of society and the massive increase in the number of motorized vehicles in Indonesia, this problem seems to be a very difficult problem to solve. Based on the central statistics agency (BPS), in 2020, the growth in the total number of vehicles was 4.95 with a growth in passenger cars of 4.71 and motorcycles of 5.03. This is in contrast to the existence of the route provider application, where this application should provide the best and most efficient route but does not change the congestion rate, this is because the application tends to direct to major roads thereby causing traffic jams on the main roads. The application also does not take into account congestion with traffic lights or not, but only calculates based on the density of users on the road, making the actual travel time longer than the initial estimate.

Therefore an alternative solution to this problem is created by designing a route provider system based on user preferences so that users can determine their own priorities in choosing the travel routes provided. The priorities used are distance, travel time, level of congestion, and road quality. The weight multiplier value used is 50 for the first position, 30 for the second position, 15 for the third position and 5 for the last position taken with a total value of 100.

After doing research to create alternative solutions to overcome the problems that have been mentioned. The results obtained are a route provider system based on user preferences that is applied to a mobile application where alpha testing is carried out which gets results with a success rate of 100% which means that the application is running according to plan. The mobile application has an average response time of 1.93 seconds for motorcycles and 1.68 seconds for cars and uses an average memory of 218.2066667 megabytes for motorcycles and 229.1566667 megabytes for cars.

Keyword : Traffic jam, Bandung, Application, Travel Route