Abstract

The long-term goal of this research is to create a traffic density monitoring system along the Bandung city roads, using Google Maps API technology. The monitoring system will be designed by displaying location due to traffic situation. This application is intended for traffic officers who can manage traffic remotely in parsing traffic using CCTV technology that uses the Google map API facility.

The specific target to be achieved is to continue or develop the application of the Google Maps API technology by detecting traffic points and intersections in the city of Bandung in the event of an accident and rush hours when traveling to work and returning to work, causing traffic jams.

In this research method of literature study (library research) and field research (field research) approaches to the process of initial diagnosis and planning. For the implementation of system design and design, the architectural design process method approach is used to describe the system, the system environment, and the relationship between the system and its environment.
For testing and evaluating the system, several stages of testing are used, namely functional testing of the system using a simulation method by making testing scenarios, and testing the quality of the system including testing of data communication is done testing scenarios. Interface evaluation is carried out approach to the questionnaire method intended to measure whether the system can meet the desires of traffic officers or not. This system works with sensors that detect the queue length of the vehicle. There are three sensors that will detect the queue length of vehicles on each lane. If the vehicle queue reaches the first sensor, the time given on the green light is 5 seconds longer than the normal time on the lane. If the vehicle queue reaches the second sensor then the time given to the green light is 10 seconds longer than normal time and if the vehicle queue has reached the third sensor the system will give a green light time which is 15 seconds longer than normal time. In this adaptive traffic light control system, there are two congestion sensors which are placed in the middle of the four-lane intersection that will turn on all the red lights if something unexpected happens like when an accident occurs in the middle of an intersection. With this adaptive traffic light control system the longest time the vehicle queue is 81 seconds, if all sensors on each line work and the fastest time is 45 seconds, the time when normal. CCTV cameras as a support that can be monitored by officers without having to be in a traffic jam location.

References


Index Terms

Computer Science

Information Systems

Keywords

Traffic jam, then, Google Maps API.