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Intelligent transport system (ITS) is being developed by many engineers. One of the implementation is an application for traffic management centre in metropolitan city. Traffic jam in big cities such as Jakarta, Bandung, and Surabaya is a usual thing in daily life. Therefore, in this final task, a system to identify traffic density on the roads was made. One of the subsystem which is applied at ITS is traffic density detection on the roads. By utilizing digital signal processing we can process the video that will be describe the condition of traffic roads.

This final project is about creating an application that can process a video which is recorded using handphone. Frame difference is used as the method to determine traffic density. By comparing pixel value between frames, this system is expected to identify the changes of frame to determine traffic density. The process of recording images is using mobile phone cameras based on android that already installed the application. Then this application can be accessed by the users which the output of this system are normal traffic, or heavy traffic.

Performance of the system can be tested by applying simulation test. The result shows that the system is able to detect traffic density in real time with accuracy rate is 90% in the morning condition, 85% in the daylight, 75% in the afternoon.

Keyword : traffic density, frame difference, android