

ABSTRACT
THE DEVELOPMENT OF IoT-BASED
TRAFFIC LIGHT SETTINGS

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Traffic lights are lights that are used to regulate the smooth flow of traffic at a road intersection. The traffic light system in the city of Bengkulu currently still uses a time system that is already installed in the system and does not have a feature for setting the switching time. This system means that operators cannot change the flashing time of traffic lights to suit road conditions and vehicle density at each intersection. In this research, an IoT-based traffic light control system is developed so that it can be controlled centrally using Arduino Mega, Arduino Uno, ENC28J60 as a traffic light machine and using a web-based application as a centralized control system. The research method used is the prototype method, where by using this method there are several processes that must be carried out, including analysis, planning, building a prototype, evaluating initial use, improving the prototype, and implementing and maintaining. The results of this research are that traffic lights can be controlled centrally using a web-based application, where the response time from the Arduino Mega only takes a matter of seconds. From tests carried out on one of the buttons, a response time of 1010.4 ms (milliseconds). Apart from that, the system being built can also display status messages when selecting the status button on the web page based on the selected intersection, then the web application will display information on the intersection status, intersection mode and intersection location.

Keywords: *Traffic Lights, Arduino, IoT, WebControl, Prototype.*

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