

Abstrack

Currently traffic jams on the highway are a serious problem, one common solution to overcome congestion is with traffic lights. But traffic lights are only applied on highways or large crossroads, alternative road traffic that is rarely found in traffic lights. If two drivers from different directions have entered the blind spot position, then these two drivers will not be able to pass this intersection because it can only be passed in one direction. Therefore in this study a smart traffic light was designed into two controls namely automatic control to determine which side lane gets the green light first and internet-based manual control of things for emergency vehicles. To control the automatic answer with tsukamoto logic fuzzy method with the parameters of the arrival of the left side of the vehicle, the arrival of the right side of the vehicle and the decision of the signal, parameters are taken using sensors. This fuzzy logic is a flexible method and its properties are appropriate so that it can be used in smart traffic lights. While the manual control system is built on the basis of the internet using the node-red tool, this application is web-based so that vehicle users can control the flow of traffic connected to the device. After testing, regulating the traffic light system using a fuzzy logic controller is more effective than conventional control systems, with 80% approval rate in decision making and for manual control if activated does not damage the automatic control system or bugs, so that manual control can be activated then the automatic control system pauses while manual control is active.

Keywords : fuzzy logic, raspberryPhi, traffic light, internet of things