

Design and development of portable fuzzy logic based traffic optimizer

ABSTRACT

Traffic jam has become a common scene nowadays, due to the rapid increase of road users in the past few years. To solve this problem, the design of traffic control is required. Traffic control parameter can be determined from the traffic flow behavior of the traffic intersection. Currently, most of the traffic control system in Malaysia is using Webster Model, which its green time duration is predetermined by collecting the data from the traffic intersection. Most of the waiting time at the intersection is wasted due to the constant green time duration. The aim of this paper is to optimize the average waiting time of a traffic intersection via a developed Fuzzy Logic traffic control system. Traffic light simulator hardware is built to deal with the difficulties of working in a real environment and to investigate the performance of the traffic control system. Conventional traffic control system, Webster Model and the Fuzzy Logic controller will be applied into the traffic signal simulator in order to investigate their performance.