

ABSTRACT

The world is improving and same goes to the technology. It is important to upgrade most of the technology into a better version and user friendly. A better management on traffic light is essential to any driver on the road. The control on optimization of traffic light will save more time for driver and also to prevent traffic jam.

The purpose of the project is to construct a traffic light optimization by using genetic algorithm technology. This project is to provide intelligent green and red light interval responses based on the traffic load inputs. The prototype is build according to the requirement of the project which consist microcontroller and cross road traffic light system with four traffic light system.

The traffic density is collected using the on/off switch which is to replace the sensors. The GA engine is the main brain to convert the collected data into timing plan to ease the traffic congestion on the road. The GA formula is implemented and calculated using MATLAB software.

The overall objective is to prove by optimizing the traffic density by using Genetic Algorithm. Furthermore, 7 segment displays is used to show the time of the green light and red light on the road. The on/off switch is used to calculate number of vehicles and send it to microcontroller with the aid of the genetic algorithm to program a better optimization for traffic light.