DEVELOPMENT
OF
INTELLIGENT TRAFFIC LIGHT

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DEVELOPMENT
OF
INTELLIGENT TRAFFIC LIGHT

by

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APPROVAL AND DECLARATION SHEET

This project report attached hereto, entitled "Development of Intelligent Traffic Light" was prepared and submitted by Mior Tajul Adzam B. Selipol Bahari (Matrix Number: 031080582) and has been found satisfactory in terms of scope, quality and presentation as partial fulfillment of the requirement for the Bachelor of Engineering (Communication Engineering) in Universiti Malaysia Perlis (UniMAP).

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PEMBANGUNAN LAMPU ISYARAT BIJAK

ABSTRAK

Hari ini, kebanyakan lampu isyarat di Malaysia dikawal oleh Pengawal Logik Boleh Ubah (PLC). Alat kawalan ini menjadi pilihan kerana harganya yang berpatutan dan juga arahan kawalannya yang mesra pengguna. Programnya boleh diubah mengikut keperluan sesuatu lampu isyarat. Projek ini menggunakan Pengawal Logik Boleh Ubah (PLC) sebagai pengawal dan ia direka untuk mengawal lampu isyarat 4 simpang. Ia mempunyai 3 mode operasi ; Mode Normal, Mode Kecemasan dan Mode Malam. Pada Mode Normal, operasi lampu isyarat akan di set berdasarkan kepada kajian terhadap jumlah bilangan kendereaan yang melalui jalan tersebut. Lampu isyarat akan bertukar secara automatic kepada Mode Kecemasan bilamana terdapat kenderaan kecemasan, seperti ambulance, bomba dan polis menggunakan simpang tersebut. Mode ke tiga ialah Mode Malam dimana mode ini akan beroperasi semasa jumlah kenderaan yang melalui simpang itu sedikit. Penghantar-terima IR juga digunakan untuk melaksanakan mode operasi ini.

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ABSTRACT

Today, most of the traffic lights in Malaysia are controlled by Programmable Logic Control (PLC). This controller is chosen due to its low cost and user friendly programming language. The program could be modified to suit the requirement of any particular traffic lights. This project used the Programmable Logic Controller (PLC) as a controller and it was designed to control the 4-junctions of traffic light. There was 3 mode of operation; Normal mode, Emergency mode and Night mode. In Normal mode, the operation of traffic light have been setting based on the study conducted on the numbers of vehicles move on the road. The traffic light automatically changes to emergency mode operation when there have the emergency vehicle such as police, fire-brigade and ambulance use that junction. Third mode is night mode which operate during less traffic are using that junction. The IR transceivers have been used to implement this operation mode.

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