

**DESIGN AND DEVELOPMENT OF MULTILEVEL
CAR PARK SYSTEM**

By

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Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk DESIGN AND DEVELOPMENT OF MULTILEVEL CAR PARK SYSTEM oleh KHOR CHUN YEAP no. Matrik UK13279 telah diperiksa dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Sains Fizik sebagai memenuhi sebahagian daripada keperluan memperoleh Ijazah Sarjana Muda Sains Gunaan (Fizik Elektronik & Instrumentasi), Fakulti Sains dan Teknologi, UMT.

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DECLARATION

I hereby declare that this thesis entitled Design and Development of Multilevel Car Park System is the result of my own research except as cited in the references.

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DESIGN AND DEVELOPMENT OF MULTILEVEL CAR PARK SYSTEM

ABSTRACT

Nowadays, the technologies that currently implemented in multilevel car park system in Malaysia is still left behind compare to other developed countries. Vehicle driver has to travel from level to level in order to search for a parking space. This can cause wastage of time in searching for an empty space and the cost that spent on fuel will increase as well. Besides, vehicle driver also facing the problem in ensuring their privilege in private car park protected. Therefore, in this research, the technology of multilevel car park system was introduced, modified and improved by using low cost and good quality sensors and also create an efficient security system on the same time in order to protect the privilege and safety of vehicle driver in private car park. This system was designed by program the C language into PIC microcontroller chip where this chip acts as a controller of the whole system. As a conclusion, the result of this project was hoped to improve the present technology of multilevel car park system that practiced in Malaysia and also able to be propose and apply in all the multilevel car park in Malaysia so that problems that faced by vehicle driver can be reduced.

REKABENTUK DAN PEMBANGUNAN SISTEM PENGURUSAN TEMPAT LETAK KERETA BERTINGKAT

ABSTRAK

Teknologi sistem pengurusan tempat letak kereta bertingkat di Malaysia yang digunakan pada masa kini masih jauh ketinggalan berbanding di negara lain yang lebih maju. Pemandu terpaksa bergerak dari satu tingkat ke satu tingkat untuk mencari tempat letak kereta yang kosong. Ini akan menyebabkan penggunaan masa yang banyak, seterusnya membawa kepada penggunaan kos yang tinggi di atas penggunaan bahan api kereta. Selain itu, pemandu-pemandu juga menghadapi masalah dalam menjamin hak tempat letak kereta peribadi. Oleh itu, kajian ini mencadangkan suatu teknologi sistem pengurusan tempat letak kereta bertingkat yang diperbaiki dan diubahsuai dengan menggunakan sensor yang kos rendah dan bermutu dan juga sistem keselamatan yang efisien untuk menjamin hak pemandu dalam tempat letak kereta peribadi serta keselamatannya. Sistem ini direka dengan memprogram arahan-arahan tertentu ke dalam cip PIC dengan menggunakan bahasa pengaturcaraan C yang mana cip ini bertindak sebagai pengawal bagi keseluruhan sistem ini. Sebagai kesimpulannya, hasil dari projek ini diharapkan agar dapat membantu meningkatkan kualiti teknologi sistem pengurusan tempat letak kereta yang sedia ada di Malaysia dan dicadangkan untuk digunakan di semua tempat letak kereta bertingkat di Malaysia supaya boleh meningkatkan mutunya dan mengurangkan masalah yang dihadapi pemandu.