

**PORTABLE FOOD MENU DIRECTORY USING
ALTERA DEVICES**

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APPROVAL AND DECLARATION SHEET

This project report titled Portable Food Menu Directory Using Altera Devices was prepared and submitted by Chi ChoongTian (Matrix Number: 071030123) and has been found satisfactory in terms of scope, quality and presentation as partial fulfilment of the requirement for the Bachelor of Engineering (Electronic Engineering) in University Malaysia Perlis (UniMAP).

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MENU MAKANAN MENGGUNAKAN PERALATAN ALTERA

ABSTRAK

Bidang teknologi berkembang dengan pesat dan perkembangan teknologi membantu peningkatan kualiti dan gaya hidup kita. Semua pekerjaan dilakukan dengan cepat, tepat dan dengan kejituan yang tinggi. Masalah utama yang dihadapi oleh restoran atau kedai adalah ketika menguruskan menu makanan mereka. Terdapat banyak masalah berlaku ketika melakukan pembetulan atau menambah isi baru ke tradisional menu makanan. Untuk mengatasi masalah ini, menu makanan mudah alih dengan fungsi sentuh direka menggunakan papan Altera de2-70 dan memaparkan kandungan menu makanan dengan menggunakan liquid crystal display (LCD) Touch Panel. Isi menu makanan dirancang sebagai gambar dan disimpan di dalam memori Flash dan kemudian dipaparkan pada LCD Touch Panel. Seperti dirancang, terdapat tiga halaman akan dipaparkan pada LCD Touch Panel di mana halaman pertama adalah halaman utama, selanjutnya adalah isi menu makanan, minuman dan harga. Halaman terakhir memaparkan rujukan untuk makanan dan minuman. LCD 2x16 akan memaparkan nama makanan, nama minuman, jumlah kuantiti dan harga apabila lokasi sentuhan dikesan dalam kawasan paparan LCD Touch Panel. Jumlah harga akan ditunjukkan di LCD 2x16 ketika mengesan lokasi butang TOTAL pada kawasan skrin LCD Touch Panel telah tersentuh. Kod punca ini direka menggunakan Verilog Hardware Description Language (HDL) diproses menggunakan Quartus II alat rekabentuk perisian. Dengan menu makanan mudah alih, kandungan dan harga boleh digubah dengan mudah membandingkan dengan menu makanan tradisional.

Portable Food Menu Directory Using Altera Devices

ABSTRACT

The technology field is increased robustly nowadays. The development of technology helps to improving quality and our life style. All work to be done quickly, accurately and with minimal mistake. The major problem facing by the restaurant or store is when managing their food menu directory. There are many inconveniences causes like when doing correction or adding new item to the traditional food directory. To overcome this problem, a portable food menu directory with touch screen function is designed using Altera DE2-70 board and display the content of food menu by using liquid crystal display (LCD) Touch Panel. The contents of food menu are designed as a picture and stored in the Flash memory and then display on the LCD Touch Panel. As designed, there are three pages will be display on LCD Touch Panel where the first page is a welcome cover page, next is the contents of foods, drinks and price, lastly page is the display for the foods and drinks. While the 2x16 LCD display will display the foods name, drinks name, number of quantity and price according to the location of a touch detected within the LCD Touch Panel display area. The total price will display on the 2x16 LCD when detect the TOTAL button location on the LCD Touch Panel display area have been touched. The source code is designed using Verilog Hardware Description Language (HDL) processed using Quartus II design software tool. With this portable food menu directory, contents and price can be modifying easily compare to the traditional food menu directory.

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LIST OF SYMBOLS, ABBREVIATIONS OR NOMENCLATURE

LCD	liquid crystal display
HDL	hardware description language
FPGA	Field-programmable gate array
CAD	Computer Aided Design

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