MENU DEVELOPMENT ON GLCD FOR CAR MAINTENANCE SYSTEM

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ABSTRACT

The maintenance system of a car tells the driver what is going on or if there is any problem occurs during the operation of the car. Usually, the car maintenance system is display at the Instrument panel. For this project, the additional features are that the menu and the use of graphic liquid crystal display (GLCD) are implemented for car maintenance system. The using of GLCD as the display for the system is to improve the functionality and reliability of the car maintenance system. This system uses the PIC16F877A microcontroller by Microchip which is programmed using MPLAB IDE software and the source code is using assembly language. The GLCD used is of MGLS12864T type and is controlled by the Toshiba T6963C. In this thesis, the whole project will be described briefly in each chapter. In Chapter 2, the theoretical aspect regarding the PIC16F877A microcontroller, GLCD and voltage regulator will be presented and explained for further understanding. In Chapter 3, the Menu Development On GLCD For Car Maintenance System hardware and software designs are explained. The technical aspects are discussed with the aid of the schematic design. The analyzing of the results and discussions are presented in Chapter 4. Finally, the conclusion and future developments are stated in Chapter 5.

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CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

Instrument panel of a car plays an important role as a driver assistant and maintenance system. This is because the instruments provide the Information on various vehicle-operating conditions to the driver. There are various instruments and indicators that are used in motor vehicles. An instrument can be a gauge, an electronic display or warning light and indicator [2]. Gauges are used to provide actual readings such as quantity, pressure, speed etc, while warning lights and indicators provide information by using a light that is either *on* or *off* [1]. Warning lights and indicators play a part in the overall security and safety of a motor vehicle [1]. Warning lights are used to show that a problem exists, while the indicators are light that show whether or not a system or unit is in operation [1]. Most warning lights and indicators are located in the instrument cluster. The examples of instrument panel with analog instruments and with digital electronic instruments are illustrated in Figure 1.1 and Figure 1.2 respectively.

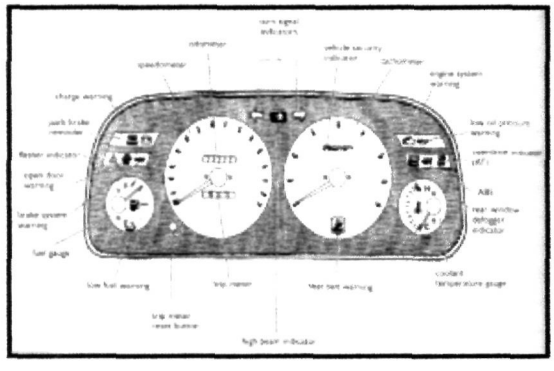

Figure 1.1: Instrument panel with analog instruments