FINAL YEAR PROJECT REPORT

Car Parking System

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Car parking system

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Abstract

Automatic Car Parking System is a quick and easy to use car parking system. In this car parking system, the arrival of the car is detected automatically and the Gate is opened for the car. The project involves LCD display for continuously updating the incoming motorists of the current slot positions inside the parking area. IR is used for object detection and data transmission respectively.

Dedication

We do not have words at command in acknowledging that all credit goes to our affectionate Parents, our brothers and sisters for their amicable attitude and love, immense orison, mellifluous affections, inspiration, well wishing and keen interest which hearten us to achieve success in every sphere of life. Their prayers are the roots of our success.

Friends are the comrades of the battle, the battle to generate knowledge, sift myths and facts and to remove ambiguity. They co-shared our struggle and our work. We express our appreciative feelings for all our friends for their excellent encouragement. We think they deserve to be saluted.

Acknowledgements

O Lord! Let not our hearts deviate from the truth after you have guided us and bestowed upon us, mercy from your grace, verily you are the Giver of bounties without measure. Up and above, everything, all gratitude to ALMIGHTY ALLAH, the Compassionate and the Merciful, Who enabled us to elucidate a drop from the existing ocean of knowledge? Countless salutation be upon the HOLY PROPHET MUHAMMAD (PBUH), the beacon of knowledge, who has guided his “Ummah” to seek knowledge from cradle to grave.

It is quite delectable and to become to avail of this most propitious opportunity to articulate with utmost gratification, our profound and intense sense of indebtedness to our ever affectionate supervisor, Mr Jameel Ahmad. His proficient counselling, valuable suggestions, boundless forbearance, indefatigable help with any thing, anywhere, anytime, consummate advice and thought-provoking instructions in piloting this research venture and to reach its present effective culmination. Special thanks for him would always be due.

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Chapter I. Introduction

The aim of this project is to atomize the car park for allowing the cars into the park. LCD is provided to display the information about the total number of cars that can be parked and the place free for parking. Two IR TX – RX pairs are used in this project to identify the entry or exit of the cars into/out of park. These two IR TX – RX pairs are arranged either side of the gate. The TX and RX are arranged face to face across the road.

So that the RX should get IR signal continuously. Whenever the mains are switched on, the LCD displays the message “parking space for 4 vehicles”. The number indicates the maximum capacity of park in this Project. Whenever a car comes in front of the gate, the IR signal gets disturbed and the microcontroller will open the gate by rotating the stepper motor. The gate will be closed only after the car leaves the second IR pair since the microcontroller should know whether the car left the gate or not. Now the microcontroller decrements the value of the count and displays it on LCD.

In this way, the microcontroller decrements the count whenever the car leaves the park and displays it on LCD.

If the count reaches ‘0’, i.e. if the park is completely filled, the microcontroller will display “NO SPACE FOR PARKING” on LCD. And now if any vehicle tries to enter the park, the gate will not be opened since there is no space. If any vehicle leaves the park, the controller will increment the count and allows the other vehicles for parking.

This project uses regulated 5V, 500mA power supply. Unregulated 12V DC is used for relay. 7805 three terminal voltage regulator is used for voltage regulation But RF does not require line of sight communication. And in case of LDR, there is scope for false triggering due to sunlight or headlight of car. So considering all these points we have finalized to use IR module. For transmitter section we are going to use IR LEDs driven by a 555 timer IC. Timer IC will generate a frequency of 38 KHz, which will be given to IR LEDs.

The summary of APS is shown in the flow diagram below.

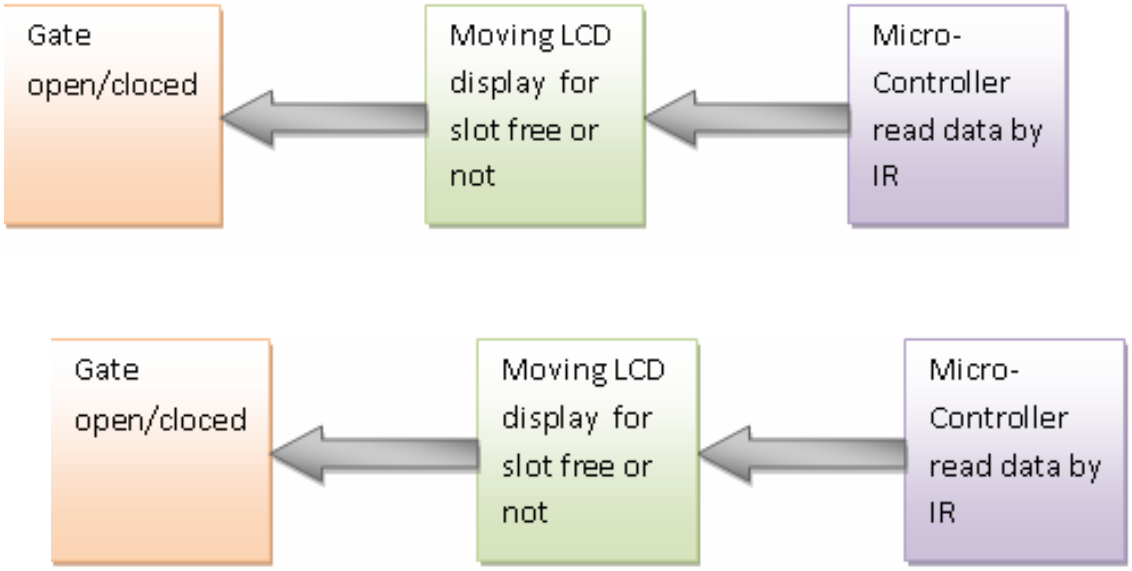

Figure 1-1 micro controller