PROJECT REPORT

PARKING MONITORING SYSTEM PROTOTYPE WITH ARDUINO AT MEGA AND DIJKSTRA ALGORITHM

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ABSTRACT (ABSTRACT TITLE)

Parking space is something that must exist in every place, especially in supermarkets, malls, and hospitals, especially for users of private vehicles such as cars. In modern times like today, all manual parking systems in the past are rare, but there are still many modern parking systems that do not meet the standards for car driver satisfaction. Not infrequently car drivers still feel disappointed because they do not get a parking space because of the lack of information in the parking lot. And often high-sized cars such as box cars, trucks, buses, travel make private car drivers such as sedans and the like less comfortable because high-sized cars with existing parking spaces make it difficult for short-sized car drivers to park their vehicles. So make a parking monitoring system to reduce the problem of lack of information and add car allocation based on different car heights to make cars comfortable and parking more effective.

This parking monitoring system uses an Arduino AT MEGA microcontroller, ultrasonic sensors to measure the height of incoming cars and uses a servo motor for parking doorstops. For information on the parking slot itself, it uses the LDR sensor module in each existing parking slot to provide information on the number of parking slots that are still available. The parking slots are divided into two, the first is slot A for cars >185 cm tall, and the second is slot B for cars <185 cm tall. And this system uses the dijkstra algorithm to calculate the distance to the closest available parking slot. All information will be displayed on the serial monitor.

The end result of this monitoring system is that there is information on the amount in each available slot, when the car enters the system measures the height of the car and the algorithm calculates the closest distance, then the system directs the car to go to the slot that matches the height of the car and according to the calculation of the closest distance from the car. algorithm.

Keyword: system, parking, sensor_ultrasonic, dijkstra.

TABLE OF CONTENTS

LIST OF FIGURE

LIST OF TABLE