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GSM BASED SECURING FOR SMART CAR PARKING SYSTEM USING LabVIEW

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ABSTRACT

The main aim of this proposed system is to develop a smart car parking system. This system not only helps in parking of the vehicle but it also helps the user in finding the free space along with a security system. This is just a step forward to reduce the traffic created on the roadsides due to parking of vehicles. Each and every Public places like offices, shopping malls; Entertainment Plazas have a major problem for finding free space for parking along with a security system. Even after finding space for parking a human power is getting completely wasted for the whole day to maintain the parking system which is practiced now a day with the platform of GSM and Lab VIEW a smart car parking System is to be designed. The major task performed by this proposed system is, helping the user in finding the available free space with the help of sensors. Automatic token monitoring system and along with that the system is developed in such a way that it avoids and protects itself from accidents that is, it stops automatically when it finds an obstacles. This system satisfies the major requirements of a parking system. This system will be smarter than the existing system to a greater extent.

Keywords: Smart car parking system, Lab VIEW, Dc Motor.

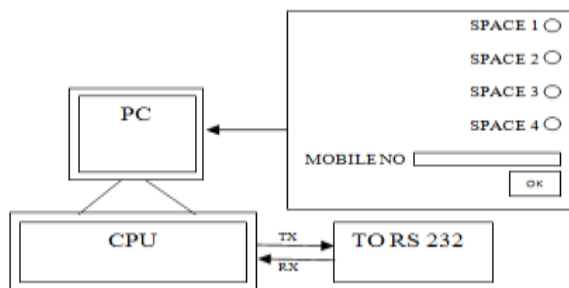
I. INTRODUCTION

In modern days, cost and time is a major thing for every human being. The major problem faced by most of the people everyday is the traffic management system. Due to the migration of majority people's from rural to urban. Most of the present generation wants to improve their life style which leads to increase in the number of commercial complex. Comparing to past 40 to 50 years, today the number of shopping complex and office complex are drastically increasing. The common problem that every person come across in their complex system to find the available parking slot for their vehicle. In the development of traffic management systems, an intelligent parking system was created to reduce the cost of hiring people and for optimal use of resources. The most common method used is to find the parking space manually where the driver usually finds a free space in the particular area. This system is proposed to yield the optimal solution to overcome the difficulties of the existing method using Lab VIEW and smart parking system has been proposed to identify the available free space in a parking area using IR sensor. Using GSM module to generate the pass code for the parking vehicle to ensure the safety of the vehicle.

II. METHODOLOGY

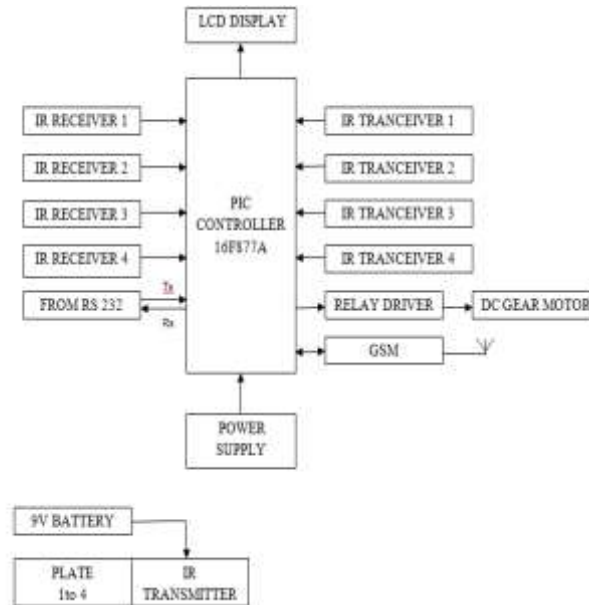
The main aim of this new system is to find the parking space easily and to reduce the parking area.

1. Software Architecture



In this system, LabVIEW software is used as the backbone of the controlling process. The user has to press the space button in the front panel to find the free slot for parking. The user himself has to enter the mobile number for security purpose. The microcontroller RS232 sends the allotted slot number to the user mobile as a message.

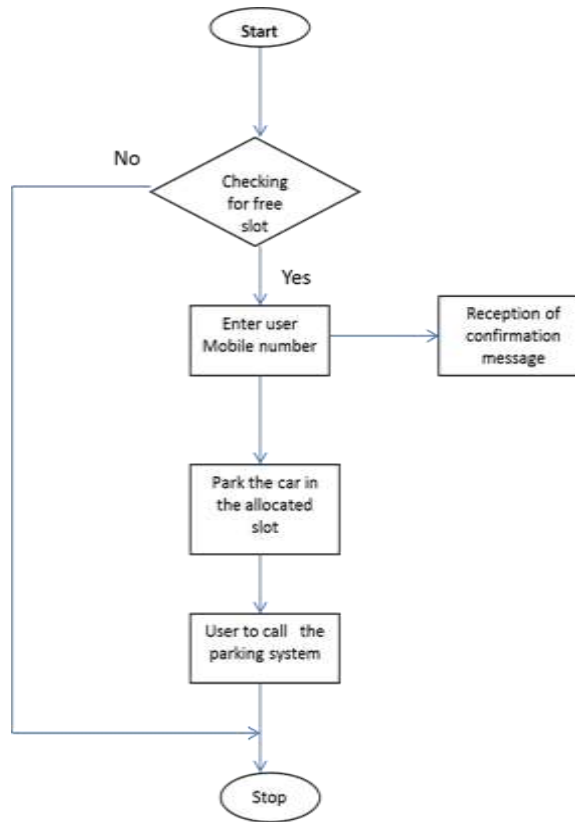
2. Hardware Architecture



IR Sensor is used to find the available space to park the car. In this IR Sensor placed in both parking lot and base of the parking system. It will act as a Transceiver. The major role of the GSM is security purpose. GSM send a message to the user is lot number of parked car. From the RS232 cable, the user mobile number and the lot number is stored in Microcontroller. Gear Motor is used to rotate the parking lot. The user makes a call to the parking system for retrieve the car again.

III. WORKING

The system consists of hardware components such as a 5 Volts DC gear motor, IR sensors, and ball bearings. The main principle of automatic car parking system is to place the car on the seat and retrieve the car from the seat using sensors, GSM and motors. In this prototype model there are totally 4 trays, 4 IR sensors and unidirectional motion DC gear motor. When the car comes and is placed on the tray, the IR sensor senses the car after the tray is already sensed. When both the tray and the car are sensed, the counter is incremented by one. The user comes out of the car and automatically the tray goes upward and stands at null position. The process continues and in the meanwhile when a user comes to retrieve the car and giving the missed call from the registered number the car is retrieved and the decrement of 1 takes place in counter the tray comes down and person can take the particular car.



IV. RESULTS AND DISCUSSION

According to this proposed system, the module which has been developed for car parking using the tray and for security purpose GSM module is used and the registered number which is very important for the parking and while taking the car out of the tray.

V. CONCLUSION & FUTURE WORK

For security purpose we use GSM module, in future we can use finger scanner and face detector sensor.

In future we can use bomb detector sensor to avoid bomb blast in urban areas.

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