Automatic Entry/Exit Parking System

TEAM : IN-A4

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FACULTY GUIDE

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01. Introduction

With the rapid development of the global economy and consistently improving living standard, there has been a huge rise in the number of vehicles. one of the major concerns in this phase of rapid development is maintaining an efficient parking system for them. For this we came up with a solution. It is our Automatic Entry/Exit Parking System. (especially for paid parking lots)

02. Objective

Our main objective is to design a Automatic Entry/Exit Parking System, through which an efficient and fully automated entrance and exit system is developed to provide a convenient user experience .

03. Methodology

Basically, we are trying to build a prototype, that can be used to design a autonomous system for the purpose of Entry/Exit for a parking lot.

Subject Domain

Python
ML
HTML, CSS, JavaScript
Pyscript

Application Domain

Smart Automation

04. Description

In paid parking lots, there will be a person who collects the fee for the vehicle and gives a parking slip. our idea is to automate this process. our project will make use of the vehicle's registration number as a unique identifier throughout the process. we limit the parking space and keep track of the vehicles entering and exiting the parking lot and help to avoid overhead.

05. Working

Entry: It first identifies the type of vehicle (2 wheeler/4 wheeler) and tries to extract the Vehicle Registration Number from its number plate. There will be a QR code displayed on the screen for the fee payment. After successful completion of the payment, a Parking Slip having details of Vehicle Registration Number, Type of Vehicle, Date and Time of the Fee Transaction will be printed. In addition to these, a Unique QR code will also be printed on the slip, that has all the previously mentioned details in it. It will be collected by the person and enter into the parking lot.

Exit: There will be a QR Code Scanner, which scans the QR code in the parking slip. Vehicle is permitted to leave the parking lot, only if the details returned matches with the details already present in the Entry List.

06. Social Cause

As we are moving towards automation, There is no need to depend on someone. It leads to 24/7 availability. As we are having the data of vehicle registration numbers, finding the cause and responsible party will be simple in the event of any threats or suspicious behaviour. Hence it is more secured. As it is comes under software as a service, this can be used wherever we want. for example, shopping malls, theatres etc.

07. Conclusion

As the world is moving towards automation, our prototype of Automatic Entry/Exit System will be the part of Digital India. It provides improved accuracy, reliability and efficiency. This is not just a prototype, It is also a service that is very much useful in solving the problem of managing the huge rise in the number of vehicles and their parking facilities.