IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
Volume 2, Issue 1, August 2022
Impact Factor: 6.252

Vehicle Parking Management System

Vinod M[1], Pavan Kumar S[2], Roopashree C S[3]
Students, Department of BCA[1,2]
Assistant Professor, Department of BCA[3]
BMS College of Commerce and Management, Bengaluru, India

Abstract: *The main objective of the Vehicle Parking Management System is to manage the details of duration, vehicles, parking slots, customers, parking fees. It manages all the information about duration, type of vehicle, owner information and all other related information about the parked vehicle. The project is totally built at administrative end that is only administrator is given the access to update and edit the information. The purpose of the project is to build an application program to reduce the manual work for managing the parking slot and its fees calculation. It tracks all the details and stores it in the database.*

Keywords: Vehicle parking, Billing, Visual studio, PHP.

I. INTRODUCTION

Now days in many public places such as malls, multiplex system, hospitals, offices, market areas there is a crucial problem of vehicle parking. the vehicle parking area has many lanes/slots for car parking(1). so to park a vehicle one has to look for all the lanes. moreover this involves a lot of manual effort and investment. instead of vehicle getting caught by traffic police and towed, the vehicle can be parked in safe and security with low cost(1). the objective of this project is to build a vehicle parking management system that enables the time management and control of vehicles using number plate recognition. the system that will track the entry and exit of cars, maintain a listing of cars within the parking lot, and determine if the parking lot is full or not. it will determine the cost of per vehicle according to their time consumption.

II. LITERATURE REVIEW

The concept of the automated parking system is driven by two factors: need for parking space and scarcity of available land. The earliest use of an Automated parking system(APS) was in Paris, France in 1905 at the Garage Rue de Pontius. The APS consisted of a groundbreaking multi-story concrete structure with an internal elevator to transport cars to upper levels where attendants parked the cars. In the 1920s, a Ferris wheel-like APS (for cars rather than people) called a paternoster system became popular as it could park eight cars in the ground space normally used for parking two cars. Mechanically simple with a small footprint, the paternoster was easy to use in many places, including inside buildings. In 1957, 74 Bowser, Pigeon Hole systems were installed, and some of these systems remain in operation. However, interest in APS in the U.S. waned due to frequent mechanical problems and long waiting times for patrons to retrieve their cars. Interest in APS in the U.S. was renewed in the 1990s, and there are 25 major current and planned APS projects (representing nearly 6,000 parking spaces) in 2012 . While interest in the APS in the U.S. languished until the1990s, Europe, Asia and Central America had been installing more technically advanced APS since the 1970s. In the early 1990s, nearly 40,000 parking spaces were being built annually using the paternoster APS in Japan. In 2012, there are an estimated 1.6 million APS parking spaces in Japan. The ever-increasing scarcity of available urban land and increase of the number of cars in use have combined with sustainability and other quality-of-life issues to renew interest in APS as alternatives to multi-story parking garages, on-street parking and parking lots.

III. OBJECTIVES AND GOALS

We can park our vehicle in our own slot by paying.
Because of that there is no towing problems.
And our vehicle has been parked as a secure condition.
There is no risk for vehicle owner for parking the car.
In case of any damages and problem of vehicle that will claim by parking management.

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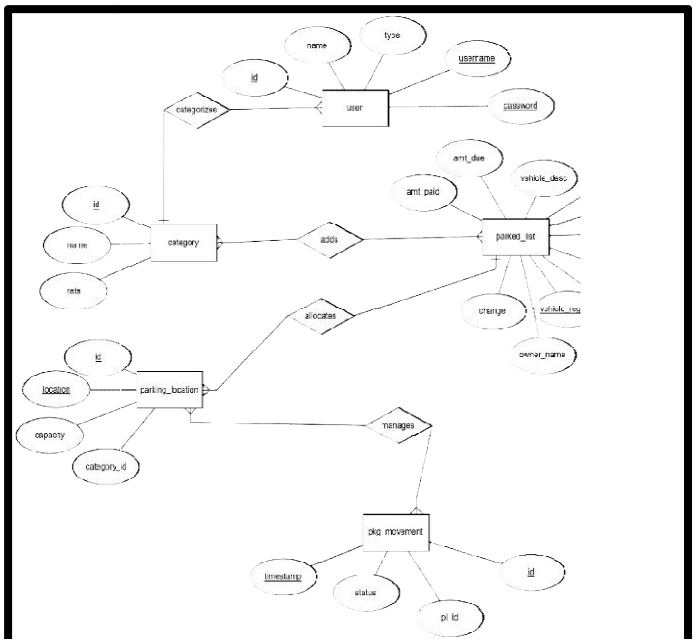
Maintain records in short time of period.
Determines the parking area is full or not.

V. DATA FLOW DIAGRAM



VI. IMPLEMENTATION

The website is having mainly 2 modules- librarian module and student module. Once the librarian login he will get the options for author management, publisher management, member management, book issuing, book inventory, send message, penalty, borrow requests, return requests. All these options have functionalities as their name suggests. Like, the author management, publisher management, member management, book inventory is used for adding, deleting and updating authors, books, publishers and students (2). The borrow request and return request are used for approving the requests sent by students to borrow or return a book. The borrow and return requests are approved by scanning QR Codes behind the ID Card of students. Using the penalty options the librarian can check the books that are due for return, the amount of fine against the due and to send collect fine request to the students. And the send message option can be used by the librarian to send any message to the students. There will be an option of notifications at the top of the librarian module by clicking on which the librarian can check all the unread messages sent by the students (2). Similarly, in the student's module there will be option for messages and penalty. Using the messages option, the students can read all the messages sent by librarian and using the penalty option the student can pay fine through any online payment method. While searching for the books only the student will be able to raise borrow or return request by clicking on the borrow or return button present in each row of the view books table.

VII. CONCLUSION

This project is going to provide a solution for the librarian and students to access the library in an easy and smooth manner. It will help the libraries which have a computerized system as well as libraries which don't have a computerized system. Along with making the record keeping process simple, it also simplifies the issue and return process. It also provides a solution for fine collection by enabling the students to pay fine online. It also gives a system for the librarian and student to communicate with each other.

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