

Implementation Of Parking System Remotely with Timestamp

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Abstract—Now -a-days lot of people are facing problems for their vehicles parking in smart city, Even though it is a paid parking .This website provides the better parking experience . By using this website people can check whether the parking slots are available in the particular place .It saves lot of time and provides better parking experience for the people .After booking the slot the particular slot is marked in red color at the particular time, Remaining slots are marked in green color. An otp is generated which is valid upto 20 min after slot time. Money can be paid later after completion of slot time. Hence by using this application a lot of time is reduced and avoids the conjection of traffic in smart cities.

Keywords – Parking system, real-time availability updates, slot booking,

simplify the work of both user as well as the administrator .This paper introduces the effective parking solution for drivers and makes the admin work easier.

Mainly, This system is focused on the complexities related to parking by using modern technologies and design principles. This system offers the time -to- time update on availability of parking slots ,provides reservation facility . This system helps in revolutionize the process of parking system in urban areas. By using this system we can save lot of time , fuel and reduce environment pollution with decrease in the emission of harmful gases. Recent study states that on an average a NewYork driver spend 107 hours in search of parking every year, 70 billion dollars are getting wasted for finding parking slots in NewYork city.

Hence these system focus on decreasing the complexities and difficulties faced by the drivers for parking.

INTRODUCTION

In the recent times ,due to increase of urbanization the traffic has became worst. Coming to find the parking slots it is nightmare for the drivers .Driver who has lack of information about parking slots circulate in the particular area. Vehicles which are searching for parking slots make lot of traffic jams in urban espically peak hours, which leads lot of time waste for the drivers. To overcome these problems there are lot of demand for building innovative solution for parking operations that

RELATED WORK

In order to maximize parking space utilization, lessen traffic, and improve user experience, research and initiatives have been directed toward the implementation of smart parking systems utilizing IoT sensors, machine learning, and data analytics.

Parking Reservation Systems: Research and solutions pertaining to the creation and application of parking reservation services that enable users to reserve spaces ahead of time, increasing convenience and cutting down on time spent parking hunts.

Research on parking guidance systems, which help drivers find the closest accessible place quickly by providing real-time information on available. Research on user behavior, preferences, and satisfaction levels with parking management systems, with a focus on interface design, accessibility, and simplicity of use, are referred to as user experience and satisfaction studies.

Data Analysis and Optimization: This research makes use of data analytics tools to examine parking-related data, including traffic patterns, occupancy rates, and price dynamics, in order to optimize resource allocation, pricing policies, and Parking operations

PROPOSED METHODOLOGY

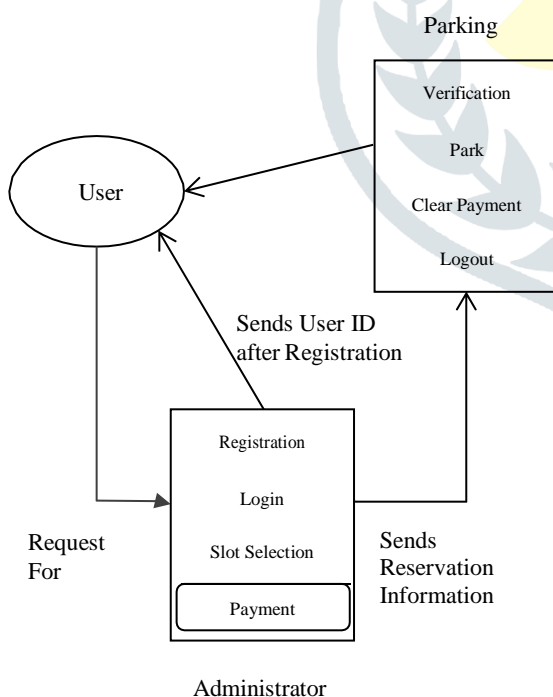


Fig 1. System architecture

Modules Car Parking System mainly consists of three modules. They are

- User Module
- Admin Module
- Booking Module

USER MODULE

This module deals with the UI/UX, Which provides better experience for the user. At first the user has to register in the website and create an account .With the login credentials the user can login into the website .Based on the location the user can search the availability of parking slots in the desired location.

The user can book the slot in the particular time and reserve the slot.After booking the slot the particular slot is turned into redcolour which indicates that the slot is booked The user will receive the otp after completion of slot booking. After reaching the location by using the received otp user can enter into parking area and get vehicle parked.

ADMIN MODULE

This module is used for the operative tasks in the application.it manages the backend of the application. When the user registered in this application ,immediately it will updated in the database. Admin maintains available and reserved parking slots and their prices, user details, modifies the data in the database. Admin manages the adding of parking slots and adding places in the database.

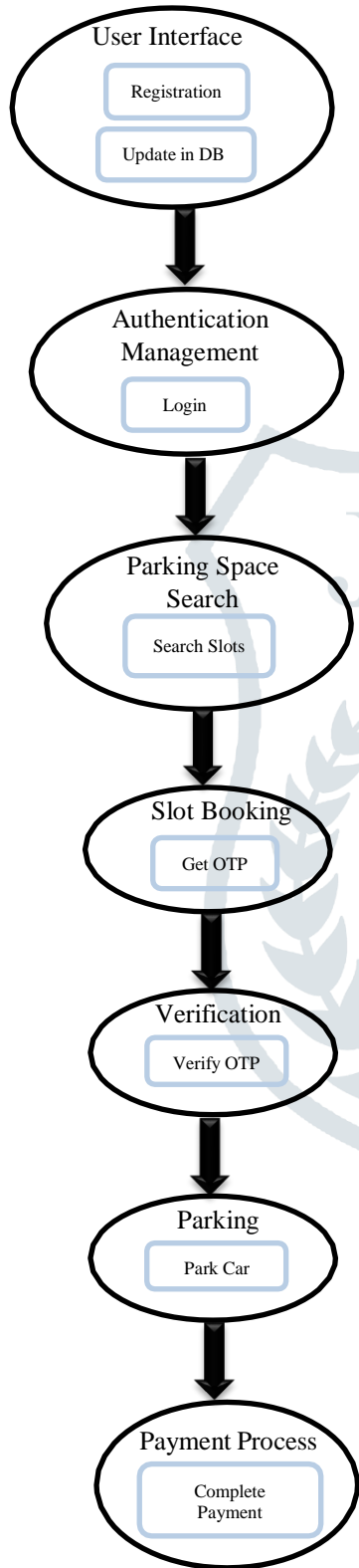
BOOKING MODULE

This module plays the major role in booking the slots. Ater completion of the registration ,when the user is ready to book slot this module comes into existence and gives the necessary details for the user .The number of available slots, The price of the slot and the remaining process regarding booking will be provided by the booking module.

SYSTEM REQUIRMENTS

- Windows 10
- Node js
- Mango DB

BLOCK DIAGRAM



RESULT

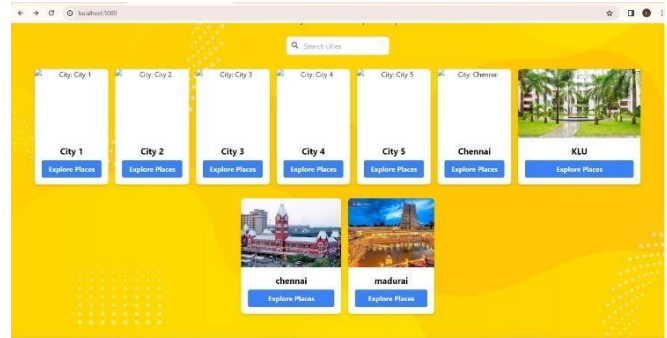


Fig 2. Places Available For Parking

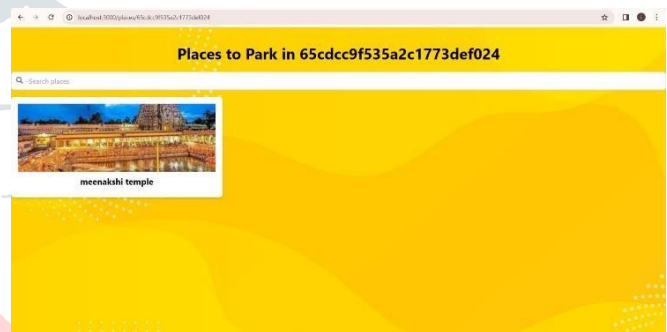


Fig 3 .locations in the desired place

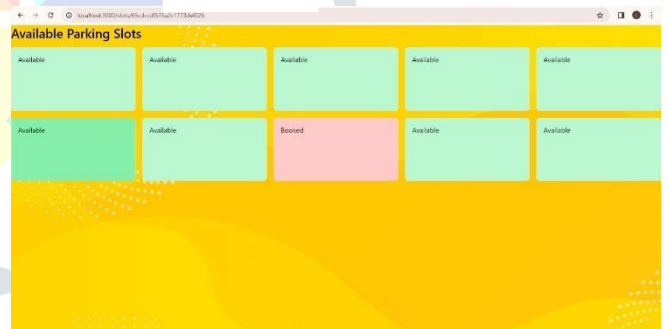


Fig 4. Available parking slots

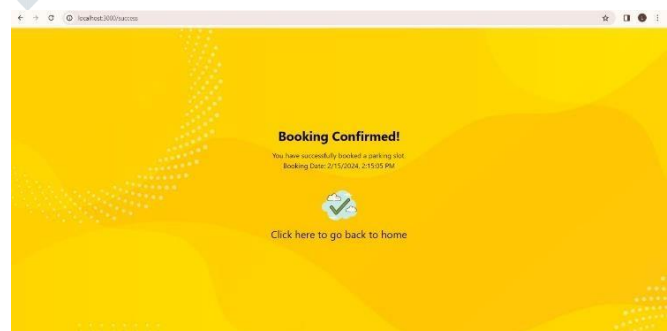


Fig 5. slot is booked

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CONCLUSION

In conclusion, both parking facility operators and users can gain a great deal from the installation of a parking management system online. Such a website expedites the parking process, lessens traffic, and raises consumer satisfaction levels all around thanks to its user-friendly interfaces, timely availability updates, and effective payment processing.

In addition, the incorporation of functionalities like reservation platforms, mobile applications, and reward schemes augments user convenience and loyalty, concurrently furnishing operators with crucial data to proficiently customize their offerings. A well-designed parking management system website is essential for encouraging better, more effective urban mobility solutions as cities continue to struggle with traffic congestion and parking scarcity.

Adopting a complete parking management system website is, all things considered, a progressive step toward meeting the changing demands of urban mobility. Stakeholders can get new chances to improve accessibility, efficiency, and sustainability in parking management by embracing innovation and user-centric design concepts.

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