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Parking Automation Portal

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Abstract: *In today's modern society, nearly everyone possesses a personal vehicle, making it an essential necessity for individuals. Consequently, statistical evidence indicates a significant annual increase in vehicle usage. To address these challenges, a smart parking system has been developed This system enables users to efficiently locate and secure available parking spaces in their preferred vehicle parks. This paper presents a design for a parking Automation Portal that allows users to reserve parking slots through a website. The objective of this project is to facilitate easier parking access for individuals with personal vehicles in designated areas.*

Keywords: Smart Parking, QR Code, Smartphones

I. INTRODUCTION

Many people usethe traffic in this growing population. Due to the increasing use of transportation, there is a huge demand for petrol and diesel, which poses a problem for the general public. Additionally, this leads to environmental issues, including the pollution caused by the smoke, as well as the effects on the health of smaller and older people. So we are finding the solution that the transporters will help to provide free space for transport parking, and their time, more costs for petrol, traffic congestion, and atmospheric pollution will be greatly helpful.

You do not have to find a parking lot in this area because we can help solve your problem. There is no need to check for a parking lot before leaving. the house; what is the parking automation portal for?

With increasing urbanization and rising vehicle numbers, managing parking efficiently has become a crucial challenge. A parking Automation Portal provides a modern solution by utilizing technology to simplify and optimize parking operations. It aims to reduce the need for manual processes, ease traffic flow, and improve user satisfaction by automating functions such as space reservation, payment processing, entry and exit control, and real-time availability monitoring.

Equipped with features like e-ticketing, mobile accessibility, and data-driven insights, the portal offers a seamless experience for both users and administrators. It enhances management efficiency, supports smoother traffic conditions, and contributes to environmental sustainability. As cities move toward smarter infrastructure, the Parking Automation portal plays a key role in advancing intelligent urban mobility solutions.

II. LITERATURE SURVEY

Smart Car Parking is a system that helps motorists find parking spots fluently. It uses technology to show where available spaces are in real-time, so you don't have to drive around looking for a place to situate. This makes parking briskly and less stressful. Some smart parking systems indeed let you reserve a spot in advance through an app, making it indeed more convenient. Overall, smart auto parking aims to save time and ameliorate your parking experience. "A system with an Android app,"the Asian Journal of Convergence focuses on the coupling of different fields and ideals in Asia. "technology, volume 4,2019." Sure! Kindly me with the passage you want paraphrased. In the design, the author addresses about and gives a donation. The challenges of parking and using Internet of effects(IoT) technology. Sure!

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Kindly give me with the passage you want paraphrased. " Real-time information regarding the vacuityof parking Spaces in" The system introduces a parking area.\ You can do ok it through a Mobile app.
Sure!Please give the text you would like me to paraphrase". Randhawa and others." "Combined Parking area" and smart parking system" INTI JOURNAL, Volume 38,2019." Sure! Please give the text you would like me torephrase. The suggested system is a combined parking area. The system that uses a lot of setup by. Incorporating with an Android App. Sure! Please give the text you'd like me to paraphrase, and I'll help you with that. Sure! Please give the text you would like me to rephrase. Sure! Please give the text you'd like me to rephrase. "Jansi and others." "QR low automaction"

III. PROPOSED APPROACH

1) Database Layer

2) Application Layer

We offer a website or application that allows customers to check the availability of parking facilities at various locations,thereby saving time and alleviating traffic congestion.Upon visiting our website or application for the first time, Customers will encounter a registration page where page where they can input their information.After registrating, customers will need to specify the location where they require parking. A QR code will be generated on the registration page, which the customer can scan upon arriving at the parking facility.At the conclusion of their parking duration, customers will have the option to make payments online or in cash.

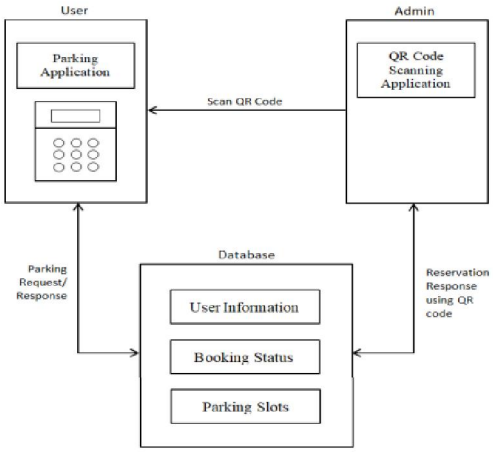

Fig 5.1. System Architecture

***Figure 1**- System Design*

1. Admin Module:

Admin module says that way, there is no free space for parking in the parking lot. They understandwhether you will get access to the parking lot. Therefore, the main part of the Adami break is a major part.
Some of the characteristics of the Admin:

- Login by throwing off and password
- Checking the information of all customers who came for parking
- Recreating its QR code
- To take feedback and review

2. User Module:

The user module is the module that performs the user task of findinga space for parking in a certain place and parking the vehicle them for some time.

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The Characteristics of the user module:

- Registration on the website/application.
- Then make your profile.
- Book a parking space of the place where you want
- Gives Rating

3. QR Code Generator and Scanner Module

A QR Code is generated when a user books a parking slot. In QR Code, the identity of the user is encrypted, which can be used for the authentication process. The admin identifies each user by the randomly generated unique QR code, admin directly scans the QR code by the mobile scanner and verifies the details and authenticatesthe user.

4. Database Module

The Database Module stores your data on the cloud. All your information about your websites/applications is stored in that database. we can store data on the cloud providers for example, Microsoft Azure, Amazon Web Services, OpenStack, One Cloud, etc.

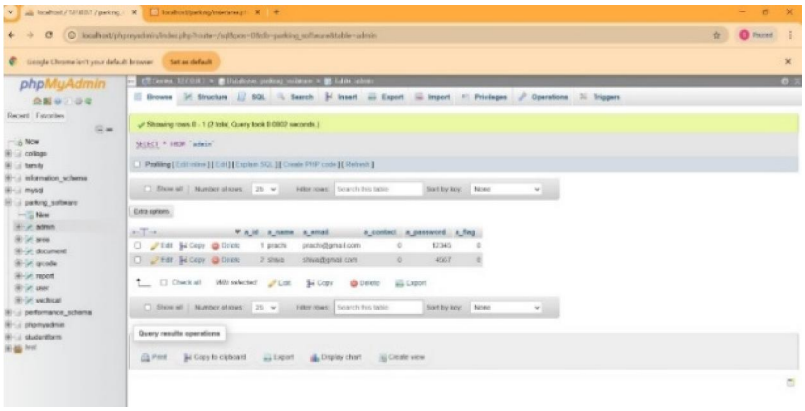
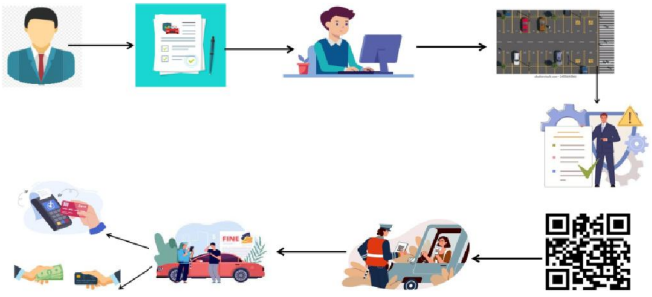


Fig. Sample Database for Admin



IV. CONCLUSION

The new online smart parking system improves how parking is managed for vehicles in the city. It lets users check the availability of parking spots, and they can book a spot based on their needs.

Customers usually check the parking spots first to see if there's an empty space.

If they find one, they look for another

Place to park. Instead of that, it would be better if users could help them find another parking spot. This project helps users locate and reserve a parking spot, saving them time and fuel while also reducing traffic on the roads. This system is set up to make sure that both the service providers and the users get what they need.

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In the future, create more parking lots to help lower traffic issues. Additionally, we can improve the system by introducing a pass for customers who frequently use the parking spaces. This can be done by analysing the data gathered from the application.

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