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Research on “Online Parking Booking System”

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Abstract: People face parking problems in most metropolitan area. Hence this project offers a web based reservation system where users can view various parking areas and select the space to view whether space is available or not. The difficulty roots from not knowing where the parking spaces are available at the given time, even if this is known; many vehicles may pursue a small number of parking spaces which in turn leads to serious traffic load. Users can even make payment online via credit card. After making payment users are notified about the booking via email along with unique parking number.

Keywords: smart parking, modelling, qr (quick response) code, resource allocation, parking guidance and information (pgi)

I. INTRODUCTION

Online vehicle parking reservation system (VOPBS) that is designed to make it easier for people to book parking spaces online. Our online reservation system to reserve parking spaces in the immediate parking, additional services and home purchase will increase your website by enabling customers to pay or go online. As they need, and to set the period of availability can add many types of vehicle seats as VOPBS administrator. It is designed to make it easier for people to book parking spaces online. Availability and prices can add up for a period of several vehicle types as vehicle parking space reservation system administrators as they need. In today parking lots there are no standard system to check for parking spaces.

Searching for a vacant parking space in a metropolitan area is the daily concern for most people and it is time consuming. The system heavily relies on human interaction with the physical space and entity. This leads to wastage of human manpower and also parking spaces at times. It commonly results more traffic load and air pollution in certain area only for an available parking space. Previously, various techniques have been proposed to overcome such problems.

II. LITERATURE SURVEY

In this article, we will mainly focus on the design of the new driver smart parking system that help to find parking space in the district specific parking. In addition, it is necessary to promote the goal is to reduce energy consumption and reduce pollution a traffic looking for parking.

A. State-of-the-Art Parking Management

Searching for comparison between different transport parking guidance policy. Many parking guidance system has been developed in the last decade. This sub-section we study the methods of guidance for many of the existing parking and explain their limitations. Moreover, we simulate realistic traffic and parking in various parking management policy or situation, compare their performance and the results show in Section4.

B. Information Sharing Parking (at the End)

This mechanism is commonly smart parking system design is adopted by the current status. After publishing smart parking drivers parking availability information system specific to the field, where the driver receives parking availability information is available, according to the parking spaces will be decided in their desired destination parking. However, if the number of empty seats in a busy parking slot is very limited hours, parking information, which is based on the fact that it is likely to parking spaces, a number of market drivers. This phenomenon, called the “many car-chase avhana singlespace” can lead to serious congestion.

C. Traffic volume

In our proposed model, the traffic volume is defined as the amount of traffic generated especially for parking. This component is not negligible and traffic congestion and related pollution. Based smart parking system parking caused by the reduction in traffic volume for the proposed reservation, and is designed to meet the need for drivers .We check the performance of the smart parking

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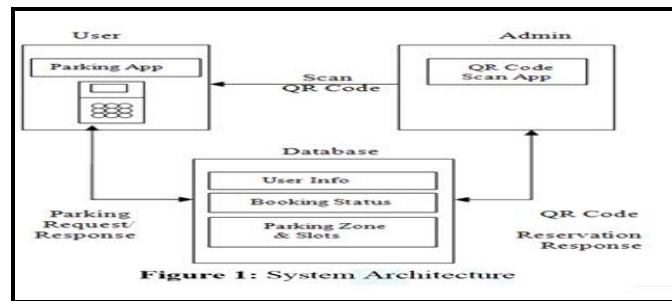
system propose during the performance metrics.

III. PROPOSED SYSTEM

In this section, we present proposed architecture and reservation-based smart parking system, which was design to reduce the volume of traffic in the parking reservation service cruise.

A. System Architecture and Design

Fig. 1 shows three components in this architecture include parking zones, users and the admin. As a result, the state of parking resources is changed by users parking decisions. The management system broadcast lives parking availability information to users (also drivers). Upon receiving parking information, the user selects desired parking lot and reserves a space. User can have their username, login id, phone number, email and address. Admin can collect the whole data from database system.[2]



B. Modules

Admin Login: The system manages the administration and supervision of registration. A system administrator is a person who is responsible for the upkeep, configuration, and reliable operation of computer systems especially multi-user computers, such as servers.

User login/registration: Users will have to register yourself first access system.

Three Parking areas: The system provides three parking areas at various locations. Parking on one or both sides of a road is often permitted, though sometimes with restrictions.

Parking availability check: Click on free space for the user to see availability. If the space already booked and will be viewed by the grey colour, yellow will be marked available.

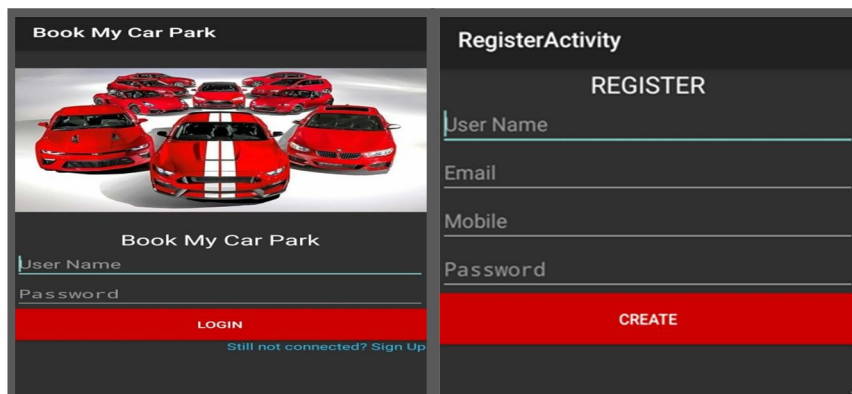
Parking booking online for date and time: Users can book parking space in their required date and time. For 3 hours they can park their vehicle on that slot.

Automatic cost calculation: The cost of a reservation system, the user is ask for parking time calculated based on total cost.

Parking cancellation: The user can cancel their registration at any time by login into a system.

Email on successful parking booking: Parking space user is successful, the system sends a confirmation and thanks 'offense related to e-mail file space.

Feedback: It is a form of system and provides feedback to the user in the system.



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IV. SYSTEM COMPONENT

A central server and mobile device system hardware QR code scanner is three main component. In the following, we communicate with the system between them, in order to discuss the design of each component and implementation details. In the following hardware system as shown in Fig2, the three main components, QR code scanner, is to be held in the central server and the mobile device, along with your surround configuration dialog, detailed design and implementation of each component during the discussion.

The system includes hardware components, eg. Android smart phone and a central server. The user will have an Android smart phone app and parking Scanning QR code is a parking lot and administrator .Both phones must have an Internet connection. The smart phone is connected to the central server of the various working with SQL.

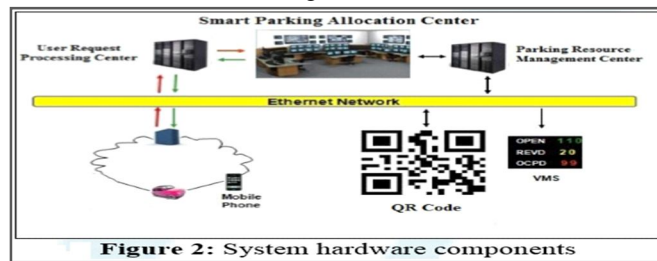


Figure 2: System hardware components

V. WORKING

User-defined API software architecture is designed mainly shows Android applications, user applications and functions allocated to the central control system and the structure of the host system application point location. The primary software components are discussed below. Reservation system shows the main architecture based smart parking system, parking. Applications are prepared on the Android platform. Two are used for a variety of apps SPSR. At the end of a user's and administrator's a parking lot and. Parking space reserved for the application in the user's phone issued in the desired parking lot. The first is to create a user account to be able to use the service provided. After creating an account, the user username, and password can login to his mobile phone. The user can select the proper parking lot and check availability free spaces are available so the user can go to a space reservation. A user is only allowed to reserve a space.

For booking, please enter the identification number of the user's vehicle is the start time and end time of reservation. Once reserved parking space, a QR code, which was created at the end of the e administration used for authentication. The user is provided with the service user 15 minutes of the start time (which allows you to delay the arrival time). Extended user can not arrive in time, if the reservation is removed. The user is also going to have the opportunity to delay the end time. Users are prompted to send the phone is out of date information reservation time (time to reach the end). Then the user will get a chance to finish the term. Additional travel is calculated according to the extended hours.[6]

At the end of the administration Fig.4 application is scan the QR code at the time of application for reserving parking space for users to create. This makes sure that the reservation is allowed only to users of the vehicle park. Once the QR code is scanned, and the phone is found in the user identity, is occupied by the database automatically updates the status is changed to reserved parking slots and related. Administration can see all the details of the parking slot. Parking red, green and white as a colour graphical box is displayed. Green indicates the slot is reserved slot is free and indicates notify Red white expires slot. Delete option is available out of the slot, which turn the mint of reeslots.

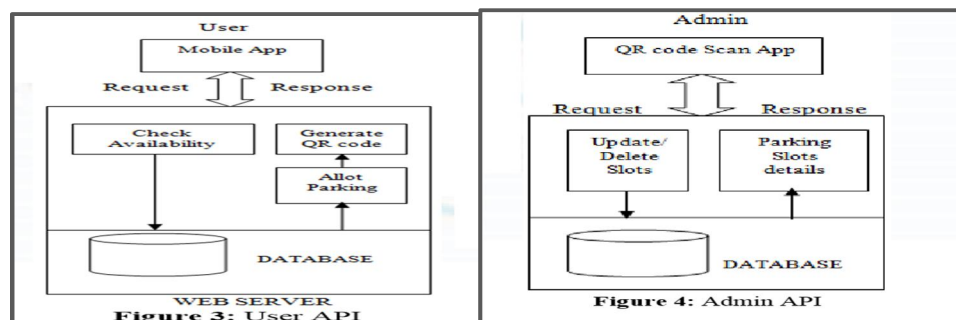


Figure 3: User API

Figure 4: Admin API

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VI. EVALUATION AND RESULTS

A. Parking Demand and Imitation Simulation

We use the track to generate real traffic parking demand. Here is the number of drivers who are required to target areas of demand for parking spaces in the parking. However, in reality, it is difficult to collect the target track traffic parking area. For incoming and outgoing traffic in the parking lot to parking lot monitoring personal literally thought were quest, that here we have a number of assumptions in the real total transport traffic on the highway or parking on the street. Although all parts of the transportation target parking spaces are pursuing the goal area of the park or the highway traffic highway or road need, and no, you can park. We classify the total traffic in the incoming traffic and outgoing traffic on the high way traffic approaching and leaving that represent the target area. Serves as a reference for incoming traffic parking demand. And we are having allotted of 100 parking spaces at the same time after the copy has 100 users, 120 users are getting much parking space and not much to say to request the user be able to delay or for some reasons not because of the car park, so the user will get the remaining 20 parking spaces. There are no parking spaces available to the user while waiting position, and users are requested to consider how much time you have based on how the user is waiting for the car park. We calculate the waiting time for users of the car park area of the goal line to use incoming and outgoing traffic graph.[1]

B. Simulation Set-Up

Our simulation, we want to prove a target de Yusuf Patil, use the map of Nerul the area, which is surrounded by highways NH4. In this area, there are many incoming and outgoing traffic was clear in below fig two different days. We see incoming traffic has grown from 8 to 11 hours at night time and rush; traffic is between 4 to 6. There, in front of the regular schedule most people work in the morning and in the evening, then drive 5 to go home. Therefore, parking is areas on able demand to make the transport of trace simulation. So having a clear night as are quest for more time during the 11 traffic 8 there will be more to come from the user. Each user request to handle a heavy user can show full-service transport parking.[5]

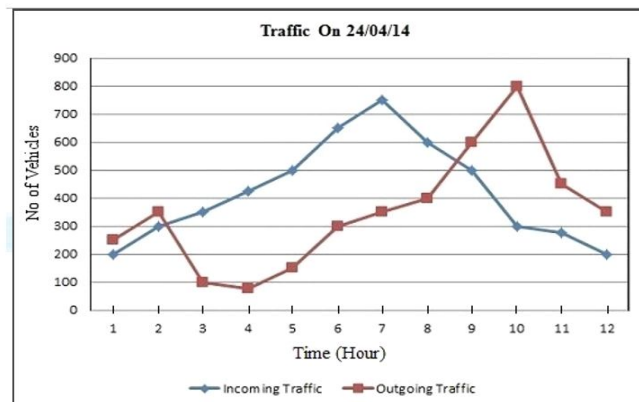


Figure 5: Incoming and Outgoing Traffic

In this paper, we have developed a new model of smart parking management system based on favourable parking reservation (SPSR). In this system, we implement the reservation service providers and users need to balance the benefits of parking. Furthermore, we have presented a detailed sample design, implementation and devaluation. Based on the results of our simulation study, we were looking for a proposed reservation based smart parking system can prevent and alleviate traffic congestion and reduce traffic looking for parking, no parking section, conclude.

VII. FUTURE SCOPE

As he paper show the user and administration application that we can embedded Google Map into the application helps the user to see through the right way to reach the parking spot maps. Helps GPS (Global Position System) and a parking spot equivalent user to find the right way. The scope of the future to adopt this online smart parking system(OSPS) so it can be displayed on a space availability satellite navigation device or even a smart phone application drivers are not free there will always be aware of this, no spaces. And send some information to enhance the when the vehicle enters a specific smart phone users to buy some of the places and streets in a city, etc.

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REFERENCES

- [1] Andre Barroso, Jonathan Benson, Tina Murphy, UtzRoedig, Cormac Sreenan, John Barton, Stephen Bellis, Brendan Flynn, and Kieran Delaney, "The DSYS25 SensorPlatform," t Ireland,2004
- [2] ZigBee/IEEE 802.15.4 Summary, "SinemColeriErgen,"tech. rep., EECS Berkely, September 2004.ech. rep., University College, Cork, Irelandand National Microelectronic Research.
- [3] Itziar Marin, Eduardo Arceredillo, AitzolZuloaga, and Jagoba Arias, "Wireless Sensor Networks: A Survey on Ultra-Low Power-Aware Design," tech. rep., World Academy of Science, Engineering and Technology, August 2005.
- [4] B. Yan Zhong, S. Li Min, Z. Hong Song, Y. Ting Xin, and L. Zheng Jun, "A Parking Management System Based on Wireless Sensor Network," tech. rep., Institute of Software Graduate School of Chinese Academy of Sciences, Beijing, November 2006
- [5] . Benson, "Car-Park Management using Wireless Sensor Networks," tech. rep., University College Cork (UCC), Cork, Ireland, November 2006.
- [6] Vanessa W.S Tang, Yuan Zheng, and JiannongCao,"An Intelligent Car Park Management System based on Wireless Sensor Networks," tech. rep., Internet and Mobile Computing Lab, Department of Computing, The Hong Kong Polytechnic University, P.R.China, August 2006
- [7] Sangwon Lee, DukheeYoona, and AmitabhaGhosh, "Intelligent Parking Lot Application Using Wireless SensorNetworks," tech. rep., Autonomous Networks ResearchGroup, Ming Hsieh Department of Electrical Engineering,University of Southern California, Los Angeles,May 2008.h Center, Cork



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