



SMART PARKING SYSTEM USING WEB APPLICATION

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Abstract: In this project we are developing an application for smart parking system; this system can be useful for parking system in malls, theaters, hospitals etc. In this application the user need to login and select the place where they need parking and also need to mention the time duration in hours. If the place was free that would be allocated to the person and when person leave it will show free.

Keywords: Parking lot , Users , Database , Server , Smart Parking, Web A

I. INTRODUCTION

Seeking a vacant parking space during peak hours in areas like Hospitals, Hotels & Shopping Centers, Universities, and Exhibitions has always been causing troubles for many drivers. Survey says that traffic generated by cars searching for vacancies in Parking Spaces is up to 40% of the total traffic. Now that is a serious issue to look after, and Smart Parking System is one of the best available solutions. This application gives information about the occupancy status of the spaces in the parking lot equipped with application that detect the available of slots.

II. ABOUT THE PROPOSED WORK

A. Literature Survey

As the first of the project, we decided to write a brief history of car parking system and its processes so as to enlighten and understand clearer what the project is all about. Some of the features of the current car parking systems will be documented here, together with the major and general types of car parking system. We hope to find and document some basic advantages, disadvantages used in parking area. The chapter is also going to explore the product of the research conducted on existing car parking systems. The scope of this chapter is basically to identify some car parking system and compare them, to produce some limitations of the current system. Types of car Parking System Based on the research, there are mainly four categories of park guidance systems using different technologies image based, counter based. Image based Image based techniques or some people call it as video sensor techniques. There are arguments concerning the viability of using image-based techniques.

Disadvantage: The disadvantages are video sensor is energetically expensive and video sensor can generate large amount of data which can be difficult to transmit in a wireless network. Counter-based the last category of car park guidance systems use is Counter-based systems which use sensors to count the number of vehicles entering and exit a car park area. This can be gate-arm counters and induction loop detectors located at the entrances and exits. This system can give information on the total number of vacant lots in a closed car park area, but does not help much in guiding the driver to the exact location of the vacant lots. Manual parking a car enters the car parking area. The concerned worker their checks for the availability of slots for the car.



This checking process involves multiple chains of asking the co-workers at different lots of that are either directly or through internal calling systems. If there is a slot available, then the car is directed to that place by manual guidance which is prone to have hindrances at multiple places before reaching the allotted slot. If there is no slot available, then the car has to go back and search for a parking slot in some other car parking area. Due to manual guidance there will be disturbance and confusion among drivers to reach the desired parking slot which leads to clash of vehicles and more fuel consumption and wastage of time and reduces the human efficiency. Hence we proposed a project called "**SMART PARKING SYSTEM**" using detection sensors such as Infrared sensors which are installed at each parking lot. These sensors are wired to a central control unit that store and manage the parking occupancy information. This information is then forward to display panels at intentional locations in the vehicle park.

B. Proposed Work

Functional Requirements:

1. Login
2. Show 4 parking places
3. Each place has 4 parking slots
4. So in app can book any slot in any parking place
5. If someone booked, it will show red color in app to others like it is already booked
6. In this approach slot booked will before 1hr only., if u want to continue for next through have to book again

Non-Functional Requirements:

1. Design more user friendly Environment.
2. Improve the performance using better component design.
3. Performance.
4. Reliability.
5. Scalability.

Technologies used:

1. Android.
2. PHP.

Tools Used:

- Android studio.

Server Used:

- UWAMP Server.

Database Used:

- MYSQL

Technologies used:

Android:

Android is a mobile operating system based on a modified version of the Linux kernel and other open sources software, designed primarily for touch screen mobile devices such as smart phones and tablets. Android is developed by a consortium of developers known as the Open Handset Alliance and commercially sponsored by Google. It was unveiled in November 2007, with the first commercial Android device, the HTC Dream, being launched in September 2008.

It is free and open-source software; its sourcecode is known as Android Open Source Project (AOSP), which is primarily licensed under the ApacheLicense. However most Android devices ship with additional proprietary software pre-installed, most notably Google Mobile Services(GMS) which includes core apps such as Google Chrome, the digital distribution platform Google Play and associated Google Play Services development platform. About 70 percent of Android smart phones run Google's ecosystem; some with vendor-customized user interface and software suite, such as Touch Wizand later One UIby Samsung, and HTC Sense. Competing Android eco systems and forks include Fire OS (developed by Amazon) or Lineage OS. However the "Android" name and logo are trademarks of Google which impose standards to restrict "uncertified" devices outside their ecosystem to use Android branding. The source code has been used to develop variants of Android on a range of other electronics, such as game consoles, digital cameras, portable media players, PCs and others, each with a specialized user interface. Some well knew derivatives include Android TV for televisions and Wear OS for wearable's, both developed by Google. Software packages on Android, which use the APK format, are generally distributed through proprietary application stores like Google Play Store, Samsung Galaxy Store, Huawei App Gallery, Cafe Bazaar, and GetJar, or opensource platforms like Aptoide or F-Droid. Android has been the best-selling OSworldwide on smart phones since 2011 and on tablets since2013. As of May2021, it has over three billion monthly active users, the largest installed base of any operating system, and as of January 2021, the Google Play Store features over 3 millionapps. The current stable version is Android 11, releasedonSeptember8, 2020.

PHP:

PHP is a general purpose scripting language especially suited to web development. It was originally created by Danish Canadian programmer Rasmus Lerdorfin 1994. The PHP reference implementation is now produced by The PHP Group. PHP originally stood for *Personal Home Page*, but it now stands for the recursive initialize PHP:

Hypertext Preprocessor:

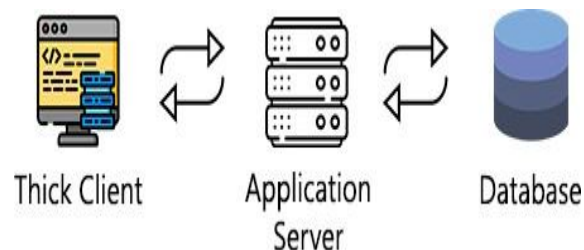
PHP code is usually processed on a web server by a PHP interpreter implemented as a module, a daemon or as a Common Gateway Interface(CGI) executable. On a web server, the result of the interpreted and executed PHP code which may be any type of data, such as generated HTML or binary image data would form the whole or part of an HTTP response. Various web template systems, web content management systems, and web frame works exist which can be employed to orchestrate or facilitate the generation of that response. Additionally, PHP can be used for many programming tasks outside of the web context, such as standalone graphical applications and robotic drone control. PHP code can also be directly executed from the command line. The standard PHP interpreter, powered by the Z end Engine, is free of tware released under the PHP License. PHP has been widely ported and can be deployed on most web servers on almost every operating system and platform, free of charge. Follow. Since 2014, work has gone on to create a formal PHP specification.

RESULTS AND OBSERVATIONS

A. Methodology

Client-Server:

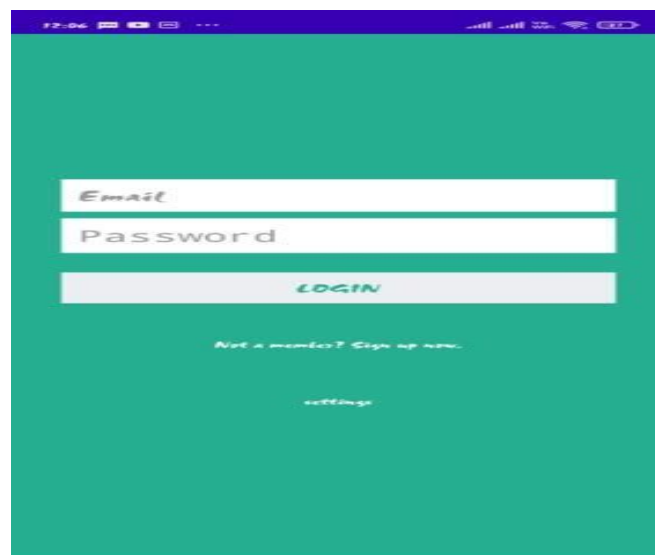
A client-server application is a distributed system made up of both client and server software. Client server application provides a better way to share the work load. The client process always initiates a connection to the server, while the server process always waits for requests from any client.



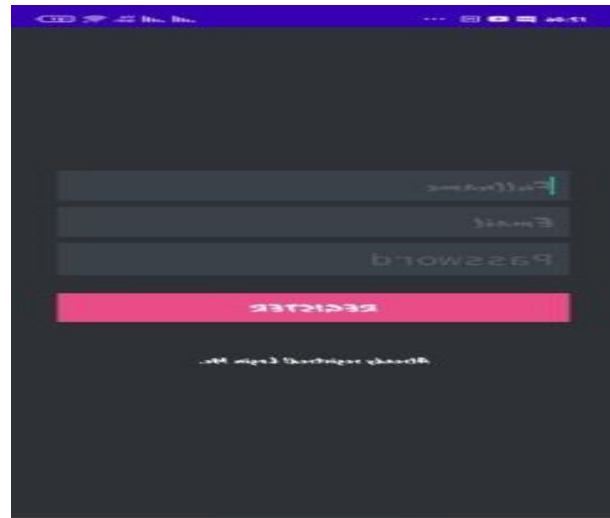
Results

User Interface:

Login page: The registered user to login into this page to get into access.



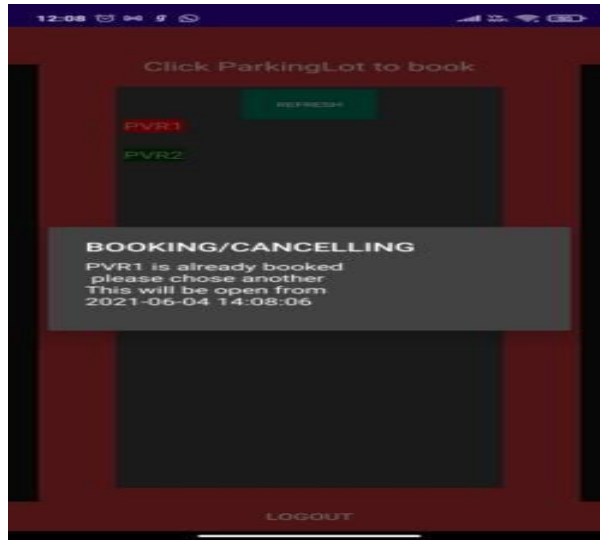
Register Page: New users need to register themselves here before logging in. The PHP language evolved without a written formal specification or standard until 2014, with the original implementation acting as the *defacto* standard which other implementations aimed to when the user logged in successfully the four parking areas will be displayed.



User need to select any parking area which he/she wants. Now user needs to book a available parking lot which looks in green color. User can able to book his/her slot up to 1 hr. if he/she wants to add more time or cancel the booking then the user need to click the same parking lot and click the option he/she needs. If user tries to cancel booking or add more time.



If another user tries to book the parking lot which was already taken



CONCLUSIONS

This is to conclude that by using this particular android app we can easily find the parking area in the particular time we need and also helps us from waiting for parking was avoided.

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