

Online Parking Management System

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ABSTRACT: *The Online Parking Management System is a system that helps customers to book a parking space in online.*

It also allows the customers to view the parking slots for the vehicles.

parking status at kyebando people's park. It was developed because the congestion and collision

Therefore the project aimed at solving such problems by designing a web based system that will enable the customers to make a reservation of available parking space at people's park.

The requirements for the developed system were collected using observation and interviewing the customer .

The data from interviews was analyzed using Microsoft Excel so as to come up with the functional, non-functional and system requirements. These requirements were later used to design the system by creating data flow diagrams and entity relationship diagrams. The designed system was implemented using different development tools which include HTML for creating interfaces, CSS for styling web pages ,JavaScript, and Jquery for dynamism in the web pages and as an input validation tool.XAMMP was used to build the database and PHP used as a server side scripting language to connect the user interfaces to the database. The system was tested by the researchers for errors.

KEYWORDS: *Digitalization, php*

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I. INTRODUCTION

Currently, most of the existing parks do not have a systematic system. Most of them are manually managed and a little inefficient. The problem that always occurs at the park is time being wasted in searching for the available parking spaces. Users will keep on circling the parking area until they found a vacant parking slot. This problem usually occurs in urban areas, where number of vehicles is higher as compared to the availability of parking spaces. These ineffective conditions happened because of the lack of implementation in technologies which are available in the market today. Nowadays many local parks are built inside shopping mall or multipurpose building to provide parking lot to driver. park inside a building is become popular in many shopping centrals because it is user friendly drivers still need to find out empty parking slot themselves. They will definitely waste a slot time for searching an empty parking slots if they do not know where they are, especially when there are only a few of empty parking slot available at each row of parking slot. Therefore, it is important to have an effective empty parking slot tracking system to display empty parking available at each row of parking slot and guide driver to there. Smart Parking System helps to reduce the time consumption as the travel time is reduced because of the information provided. Based on the information provided, the drivers can avoid searching a vacant parking space that is actually fully occupied.

II. METHODOLOGY

Nowadays most of the parks require user's initiative to search for empty space to park their . This will cause problems when it is too many s and it makes them wasting their time and energy . One of the factors that contribute to this problem is because of lack of information that given at parking lot. So, one system has to be design to solve this parking problem which will include the information interface criteria. Nowadays, Parking Information and Guidance (PGI) system have been put into practice in India. the numbers of s that use the parking space in the shopping complex become higher compared to during working day. This will make the parking space become full and the driver need to drive slowly in order for them to check for the free space parking in the shopping complex. This is time consuming and people will become more impatient. Besides that, there are also problems of the parking space which are located far from the entering zone or the building or destination. This situation makes the drivers to choose the nearest parking space as they do not want to walk far. As the fuel price is keep increase nowadays, users will try their best to save their vehicle energy. At the peak

hour, they need to wait for a long time at the entrance gate before they can find the empty parking space. So the users will waste their time and energy to find a free space. Last but not least, the major issue of the parking system is the insufficient parking spaces provided for the user. This may cause by the improper planning by developers of the places. Besides that, the convenient system did not equip with helpful information.

So I developed this online parking system to overcome above Problems in **Online Parking Management System** for the implementation of this we use PHP and MySQL database. This is the project which keeps records of the vehicle which is going to park in the parking area.

III. MODULES

The entire project mainly consists of 7 modules, which are

- ❖ Admin module
- ❖ User module (Parking)
- ❖ Attendant module

Admin module:

- manage Attendant of Parking Space, user and Parking Places.
- Adding Attendant assigning Password and Viewing Parking Details
- watch transaction reports of parking and payment

user module(patient):

- Register and Login
- View Available Parking Place and Parking Slots details
- Booking for Parking
- View Parking History in list

Attendant module:

- Manage Parking Places View Booking Details
- Create, Receipt and Assign Place for Parking After Booking Conformation

IV. SYSTEM DESIGN

The Unified Modeling Language (UML) is a standard language for specifying, visualizing, constructing, and documenting the software system and its components. It is a graphical language , which provides a vocabulary and set of semantics and rules. The UML focuses on the conceptual and physical representation of the system. It captures the decisions and understandings about systems that must be constructed. It is used to understand, design, configure, maintain, and control information about the systems.

The UML is a language for:

- Visualizing
- Specifying
- Constructing
- Documenting

Visualizing

Through UML we see or visualize an existing system and ultimately we visualize how the system is going to be after implementation. Unless we think, we cannot implement. UML helps to visualize, how the components of the system communicate and interact with each other.

Specifying

Specifying means building, models that are precise, unambiguous and complete UML addresses the specification of all the important analysis design, implementation decisions that must be made in developing and deploying a software system.

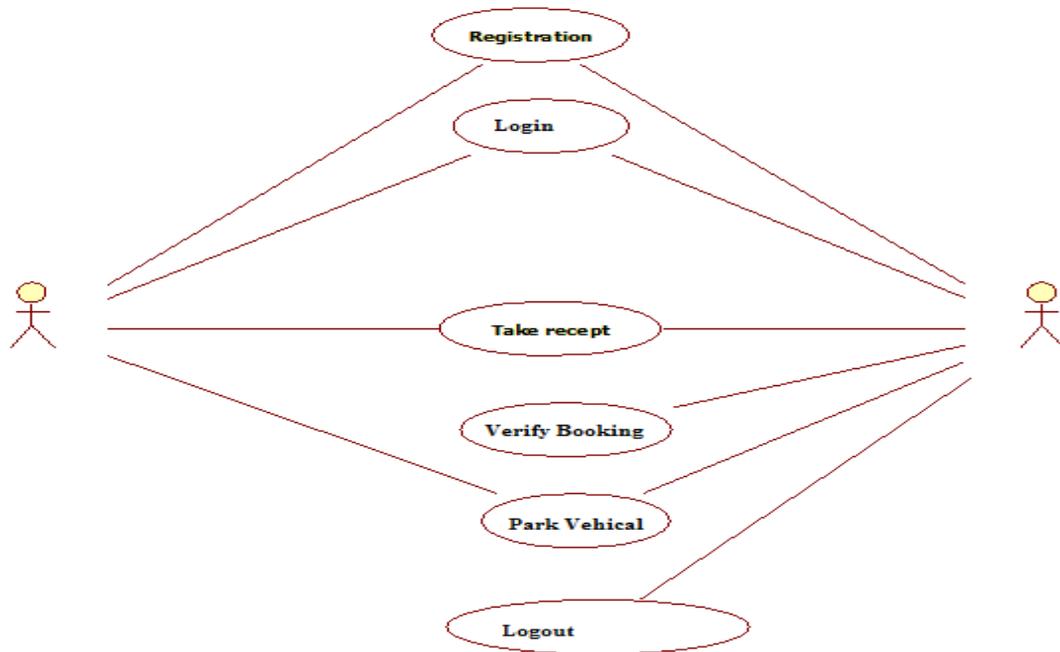
Constructing

UML models can be directly connected to a variety of programming language through mapping a model from UML to a programming language like JAVA or C++ or VB. Forward Engineering and Reverse Engineering is possible through UML.

Documenting

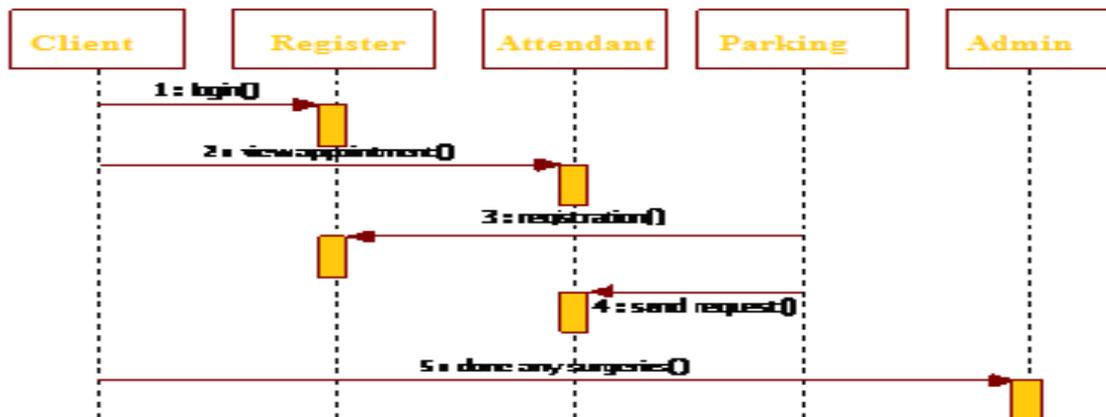
The Deliverables of a project apart from coding are some Artifacts, which are critical in controlling, measuring and communicating about a system during its developing requirements, architecture, design, source code, project plans, tests, prototypes releases, etc...

USE CASE DAIGRAM



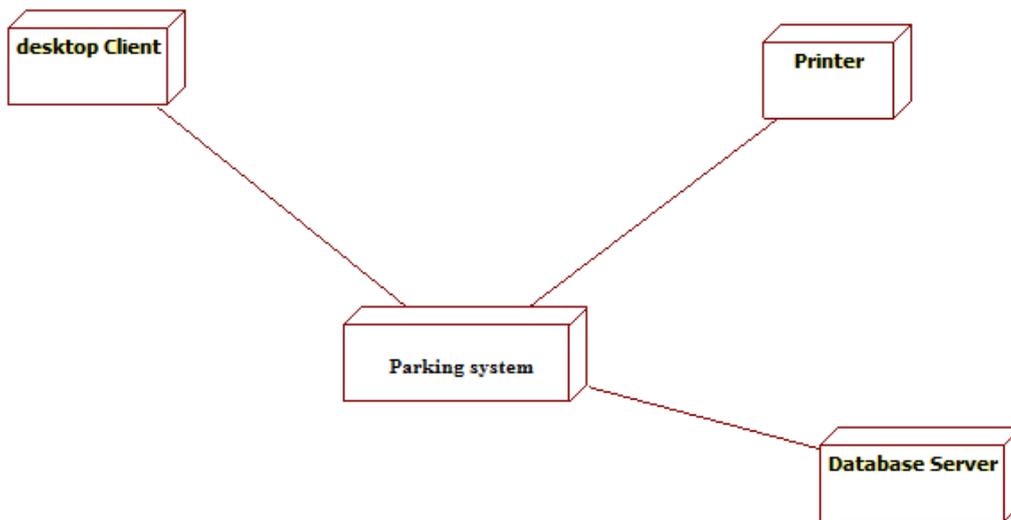
Sequence diagram:

A **Sequence Diagram** is an interaction diagram that emphasis the time ordering of messages; a collaboration diagram is an interaction diagram that emphasizes the structural organization of the objects that send and receive messages. Sequence diagrams and collaboration diagrams are isomorphic, meaning that you can take one and transform it into the other.

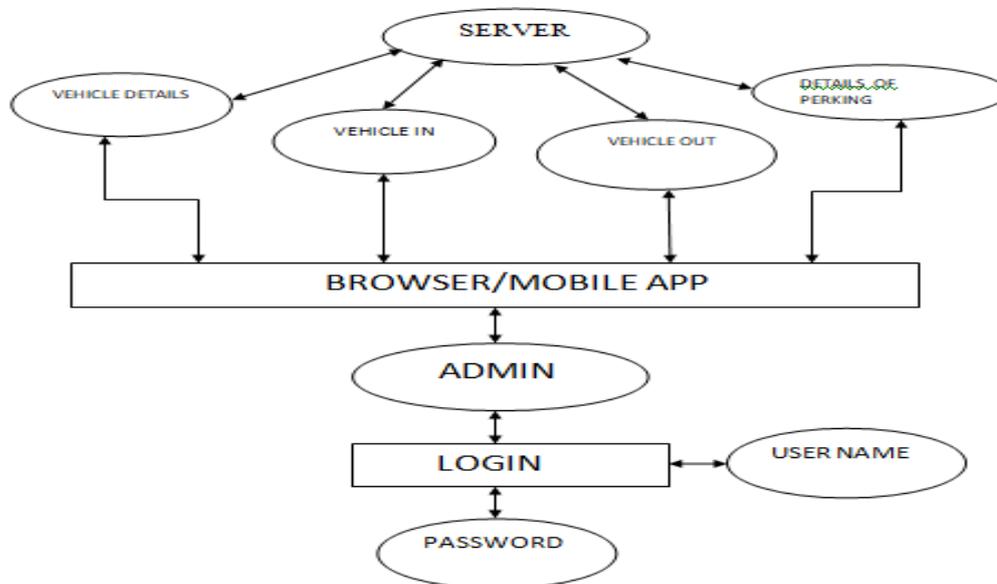


Deployment diagram:

A **Deployment Diagram** shows the configuration of run-time processing nodes and the components that live on them. Deployment diagrams address the static deployment view of architecture. They are related to component diagrams in that a node typically encloses one or more components.



DATA FLOW DIAGRAM



V. CONCLUSION

Since we are entering details of the parking Places electronically in the “Online Parking Management System”, data will be secured. Using this application we can Easily Get Information on parking places and our previous parking history with a single click. Thus processing information will be faster. It guarantees accurate maintenance of Parking details. It easily reduces the book keeping task and thus reduces the human effort and increases accuracy speed.

REFERENCES

- [1]. PHP MySQL Website Programming: Problem - Design – Solution by Chris Lea, Mike Buzzard, Dilip Thomas , Jessey White-Cinis
- [2]. Beginning PHP5, Apache, and MySQL Web Development (Programmer to Programmer) by Elizabeth Naramore
- [3]. MySQL/PHP Database Applications, 2nd Edition by Brad Bulger
- [4]. How to Do Everything with PHP and MySQL by Vikram Vaswani