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Online Car Rental system using Web Technology

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Abstract: ***A car rental service is wishing to have a user interface that will allow their customers to view the models, descriptions and prices of different cars available. The user has the ability to register and log in to the web site and see their rental plan. The web site will be responsive, allowing for the customer to view it on any device, from tables to mobile phones and desktop computers. The administrator will also be able to login through the same from but have the ability to add/remove new car rentals, change prices, and so on. Potential customers should be able to view all the cars available to rent even without logging in as well as rent without having an account, through the option is provided upon checkout.***
Keywords: web based system, car rental system, DBMS, XAMPP, PHP.

I. INTRODUCTION

Car rental or car hire agencies are private companies that provide short time leasing vehicles for a specified time with a fee to their customers. car rental service increasingly becomes the preferred option for most people, especially among students in campuses and universities. This occurs because not all students can afford having their own vehicle and perhaps the university bus service doesn't always help. Besides, the raising taxi fares and inconsistent bus arrivals in Malaysia continue to discourage people from taking up the public transport. Many organizations used web-based system because most people often used mobile phone that gives convenience to the users who are familiar with web technology. The technology has been implemented into the wide-range different sectors, such as education.

The project is designed to help people utilize transport effectively. In recent times cars have become most convenient modes of transportation. Our Car rental system helps in making this an easier, hassle-free and enjoyable experience to acquire and use a car as per ones needs. A person can book a car specifically for his travel time, co-travelers and the nature of travel. The rental system traverses from designing a database to understanding business concept and above all to make this an easy to adapt system for various travelling needs.

II. PROBLEM DEFINITION

Car rental is a vehicle that can be used temporarily for a fee during a specified period. Getting a rental car helps people get around despite the fact they do not have access to their own personal vehicle or don't own a vehicle at all. The individual who needs a car must contact a rental car company and contract out for a vehicle. This system increases customer retention and simplify vehicle and staff management. The Manual car rental system provides services only during office hours. So; customers have limited time to make any transactions or reservation of the cars. The existence of the online car rental systems nowadays has overcome the limitation of the business operation hour. However; there is still a few numbers of these online car rental systems and most of the systems offered reservation service for tourists or traveler. Besides that, there are some customers who faced a problem in choosing car to be rented which suitable with some of the important requirements.1. To rent a car a prospective renter must first go to the nearest office to register as a client.2. Cars that provide difficulties to rent out are normally advertised in local or national newspaper.it involves a lot of paper work and consume time.

III. METHODOLOGY

A. Product Perspectives

The proposed system falls under RDBMS (Relational Data Base Management System) category. I have adopted PHP as front end for the software and MYSQL as back end. PHP is at present one of the most popular development platforms for web-based system that is efficient for web programming. MYSQL is at present the most reliable and secure RDBMS tool. MYSQL Server works to efficiently manage its resource, a database of information, among the multiple clients requesting and sending data in the network. MYSQL has many important features that make it not only an exceptional database management system but also an excellent database server choice for client/server database computing. So, the overall system will prove to reliable, secure and efficient for the organization.

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B. Product Functions

Functionalities

1) Any person can query for books availability according to specified conditions.
2) Person can book/cancel the book only after he logs in.
3) A user can sign up for a profile if he doesn't have one already.
4) On logging in, the user has options to:
a) Book issued
b) Edit Profile information
c) Cancellation of his booked issued.
d) View all current books booked by him.
e) Logout

5) A person can get all information regarding a car list if he keys in it.
a) A person can get all information about a car if he keys in the book id.
b) Official members are supposed to do that work which distributed by the administrator
c) Administrator or assigned can add/modify/delete car information.
d) Administrator or assigned official members can add/modify/delete seat type according their availability and generate report.
e) Administrator or assigned official add/modify/delete cars information.
f) Administrator or assigned official members can define and manage charges information.
g) Administrator or assigned official members can define scheme and modify time to time and generate report.
h) Administrator can add/modify/delete official member and generate report.
i) Administrator can add/modify/delete user information and generate report.

C. Operating Environment

The proposed software is to run on client/server model network.

A client/server can deliver the better performance than the file server system because a client application and database server work together to split processing load of applications (thus the term distributed processing). The server manages the database among the number of clients, while the client sends, request, and analyse the data entry form with small specific data set, such as rows in a table not file as in the file server system. A database server is intelligent enough so that it locks and return only the rows a client request, which ensure concurrency, minimize the network traffic and increase the system performance.

D. Assumptions and Dependencies

While cost estimation of the proposed system it has been assumed that the cost hardware and for license of Operating System and back end will be met by client (the organization). Hence only the cost incurred for the proposed software is included therein.

The followings are identified as some of the potential risk factors or dependencies:

1) Non-availability of required resources.
2) Power cuts.
3) Slippage of schedule due to unpredictable holidays, etc.

IV. PROPOSED SYSTEM

This Car Rental System project will enable the user to rent a vehicle. The user shall login to the system and check for availability of cars. The user specifies a type of car and the journey date and time. The Car Rental System shall check for the availability of the car and rent the car to the customer. The user can make payment online. The tool is designed using VB.net. All the data regarding the rental cars are stored in MySQL database. The user has to enter his name, address, phone details and check for the cars available for rent. The UI is very simple and the connectivity to back end is robust. The main advantage is that the user shall be able to choose a car depending on his budget.

This Car Rental System project is designed to aid the car rental company to enable renting of cars through an online system. It helps the users to search for available cars view profile and book the cars for the time period. It has a user-friendly interface which helps the user to check for cars and rent them for the period specified. They could also make payment online. The rental cars shall be categorized into economy, premium etc.

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Based on the type of car required by the customer, the user shall be able to make bookings. The use of internet technology has made it easy for the customers to rent a car any time. This Car Rental System makes the bookings easy. It saves time and labour. The tool shall ask the user for information such as the date and time of journey, type of car etc. Also, it will need an identification number. Using these details, the tool shall help the customer to book a car for the journey.

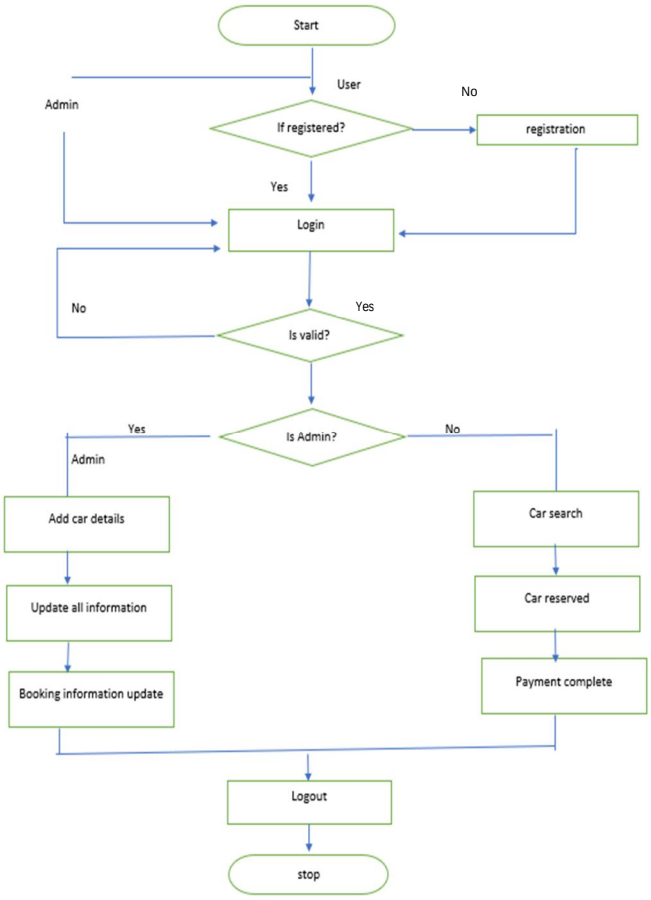


Fig.1: System flowchart

V. RESULTS AND DISCUSSION

The developed system covers the registration login page for customer and administration. The system is designed with a security access level. The system is responsible for determining who is the administrator to user and redirect them to their perspective dashboard. The administrator has the only right to access the admin dashboard which has the modules for verifying user, adding car, and booking the customer when they had paid the reservation fee.

VI. CONCLUSION

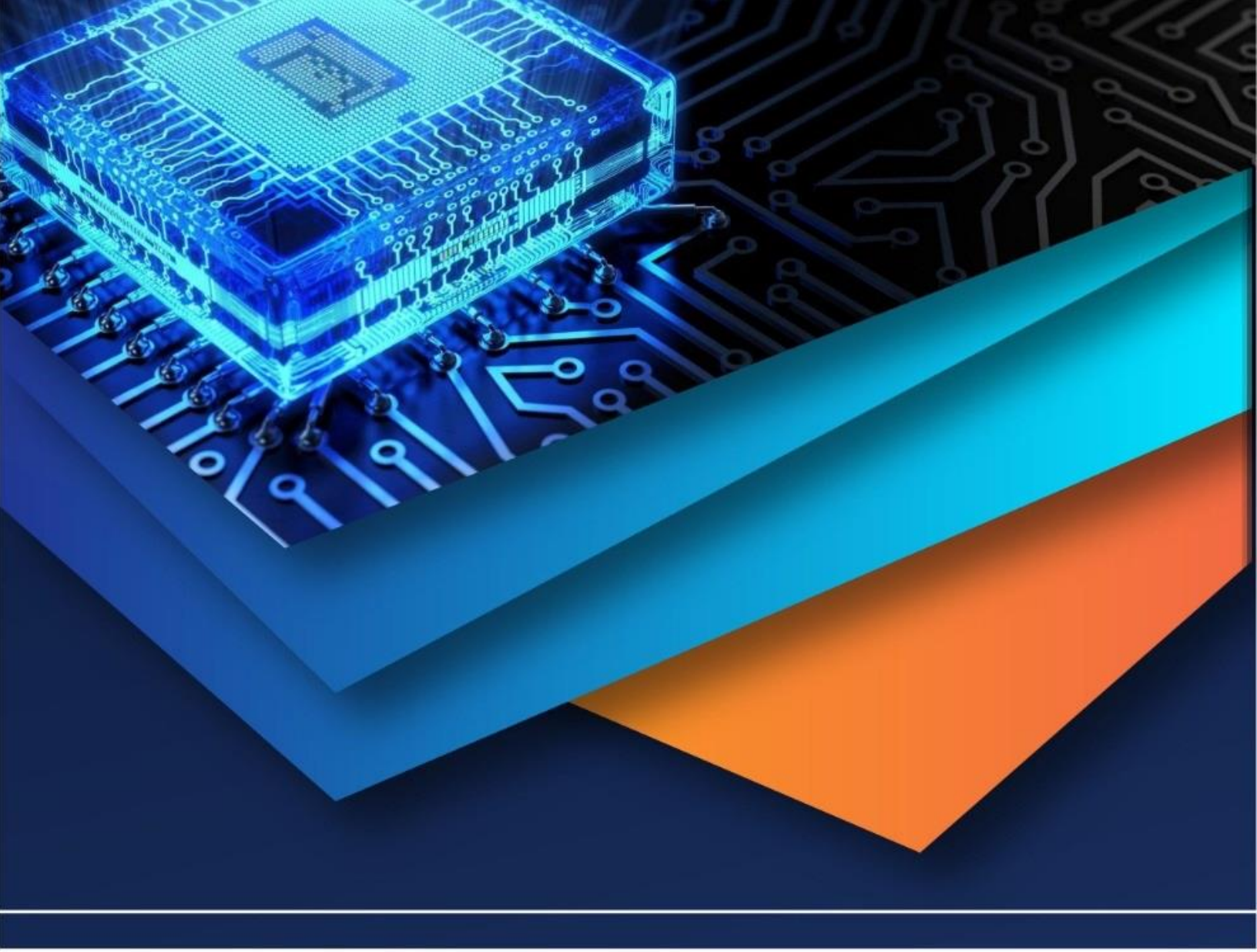
With web-based rental management information system, hassle free renting can be provided. There is efficiency in paper procurement for charging the product. The data of all the products is stored in a centralized manner and the costs can be controlled and monitored by the operational manager and owner thus avoiding the over-budgeting. Data storage which is already computerized will ease the process for companies and the users for performing pre-processing, recognizing the buying patterns and maintaining the integrity of the data and use this information to a personal benefit. Through this application we are trying to promote renting out products used on a daily basis instead of buying and discarding them. Our application is user-friendly, open source and is Free to use. It positively impacts the environmental situation by using fewer products a greater number of times. Hiring products provides a simple way of collecting useful information to measure this service. Concentrating on customer satisfaction and the four dimensions, “Reliability”, “Responsiveness”, “Tangibles” and “Quality” helps us to serve the users in a better manner and thus give us a competitive edge over the others.

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