ONLINE BOOKING SYSTEM FOR CAR RENTAL

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Abstract. The Online Booking System For Car Rental is an essential tool for modernizing the operations of car rental businesses. As these businesses evolve from manual, labor-intensive processes to automated, data-driven models, the system becomes crucial for efficiently managing vehicles, optimizing reservations, and providing seamless operational control. The system offers a centralized, internet-accessible platform that allows both customers and administrators to manage various aspects of car rental operations remotely. Customers can create accounts, browse available cars, make and cancel reservations with ease, while administrators have comprehensive tools to manage the car reservations. The system is developed using PHP and Laravel framework for the backend, and utilizing HTML, CSS, and Bootstrap for the front-end interface, in order to be powerful and user-friendly.

Keyword: car, rental, vehicles, booking, reservation

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INTRODUCTION

The Car Rental Booking System, developed using PHP, focuses on core operations such as adding new cars, updating vehicle information, searching for available cars, and managing rental bookings. On the administrative side, the system empowers car rental staff to manage car profiles, rental rates, and bookings. Customers can book cars, view their rental history, and manage their bookings without a cancellation option. The system allows users to search for cars by model, type, or availability, view detailed car profiles, and make reservations with just a few clicks. This combination of user-friendly design and robust functionality makes the Car Rental Booking System a vital tool for improving the efficiency and effectiveness of rental services, ensuring that customers have quick and easy access to the vehicles they need.

PROBLEM

The online booking system for car rentals is designed to provide a seamless and efficient platform for customers and administrators alike, similar to a hospital appointment system. Customers often face challenges like long waiting times, difficulty in finding available vehicles, and uncertainties about pricing and rental conditions. This system simplifies the car rental process by allowing customers to browse available cars, view their specifications, and book rentals at their convenience. Car rentals are an essential part of travel and transportation, and a smooth booking process improves customer satisfaction and business efficiency. This

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system not only offers customers the ability to check car availability and rental rates but also ensures that the booking process is streamlined. Administrators can manage the fleet, oversee bookings, and maintain customer records easily. In this design, both customers and admins benefit from an intuitive, efficient, and well-organized platform that enhances the overall car rental experience.

APPROACH

This system consists of two roles. They are administrator and customer. In this system, the user must log in first. After logging in, the customer can search for cars. The customer can then car booking, view booking history. Figure 1 shows the system flow diagrams for customer and admin, representing data flow within the system. The admin system flow diagram presenting administrative functions and data flow from the admin perspective.

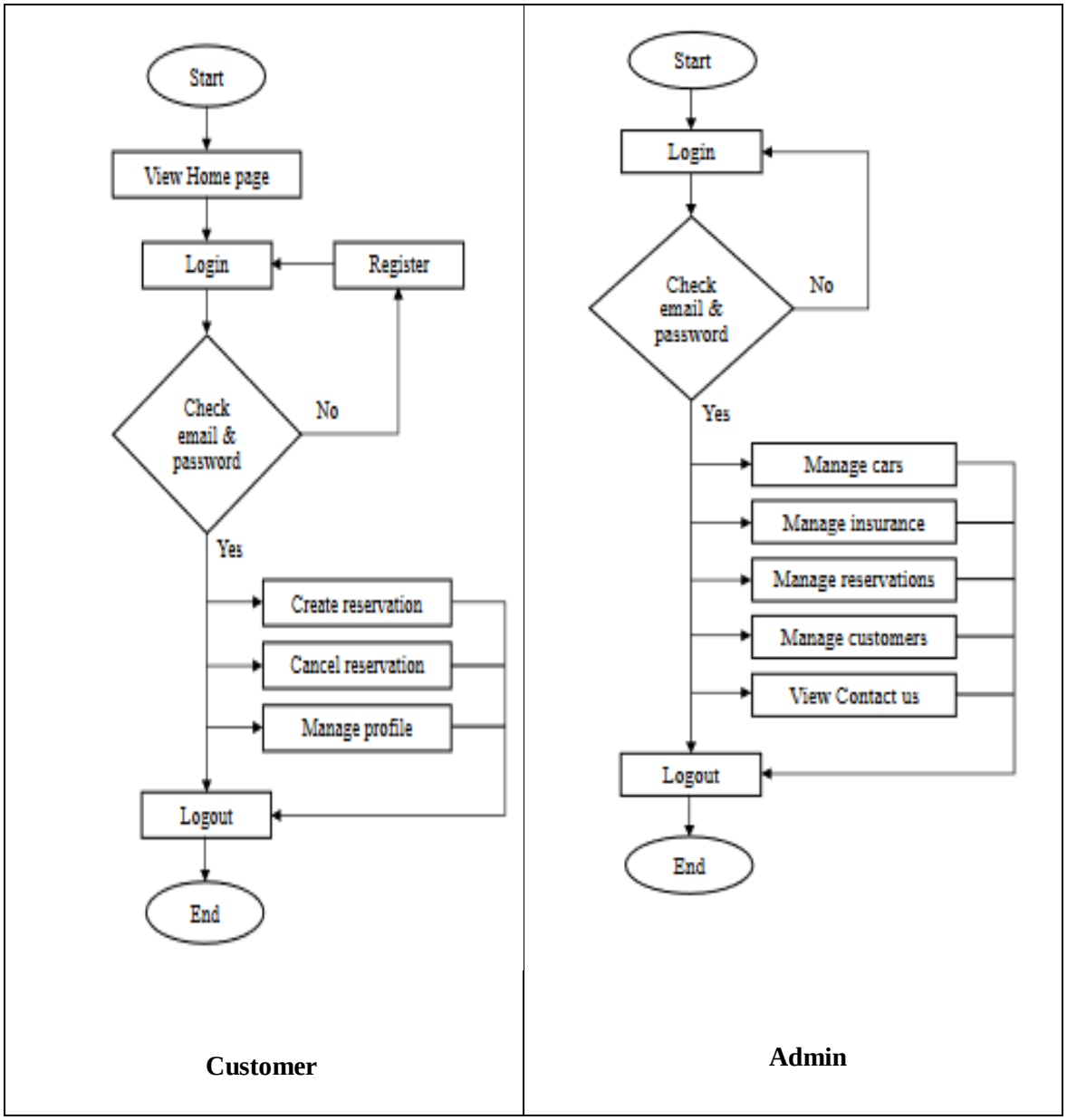

Figure 1: System Flow Diagrams

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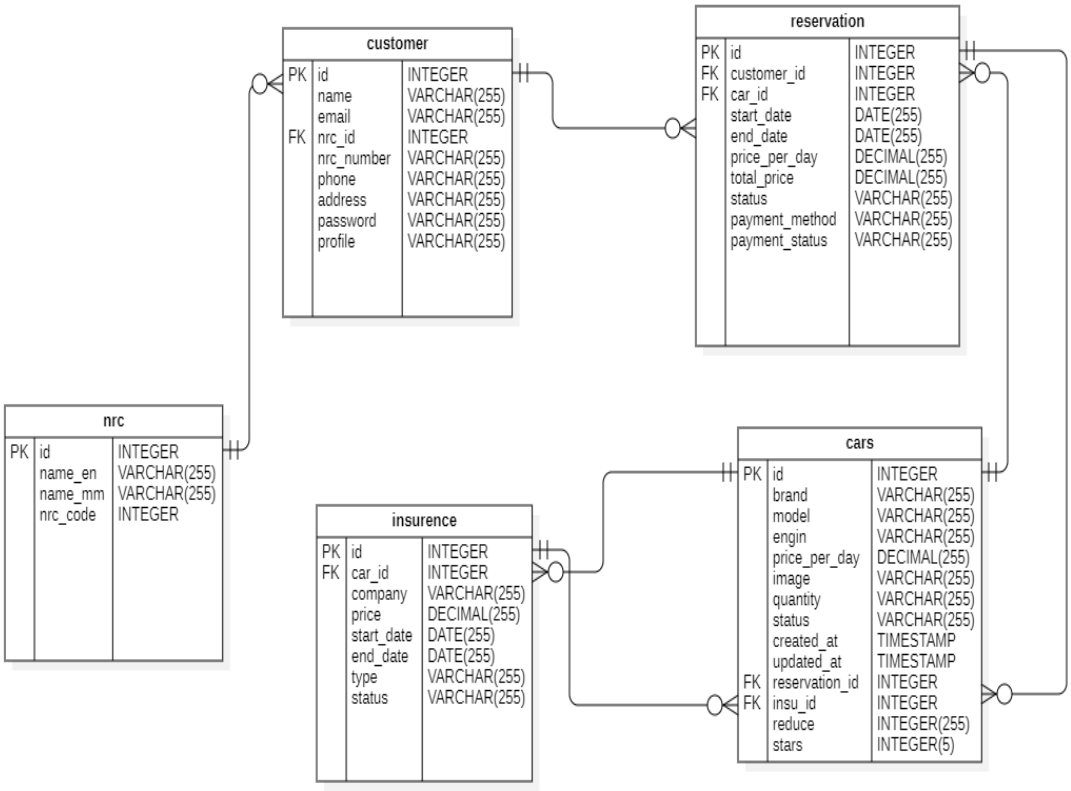

Figure 2: Database Design

In the design of the online booking system for car rental, an Entity-Relationship (ER) diagram has been constructed to represent the data architecture and relationships among various entities involved in the system. In the database, there are five data tables. The tables are customers, reservations, nrc, insurence and cars. The ER diagram for online booking system for car rental is presented in Figure 2.

RESULTS

The Car Rental Booking System is developed using PHP, focusing mainly on core operations such as adding new vehicles, updating rental information, searching availability, and managing reservations. On the administrative side, the system empowers rental staff to manage vehicle profiles, rental rates, and customer bookings. Customers can book vehicles, view rental history, and manage their reservations without a cancellation option. The system allows customers to search for vehicles by model, type, or availability, view detailed vehicle profiles, and book rentals with just a few clicks. The combination of user-friendly design and robust functionality makes the Car Rental Booking System a vital tool for improving the efficiency and effectiveness of rental services, ensuring that customers have quick and easy access to the vehicles they need.

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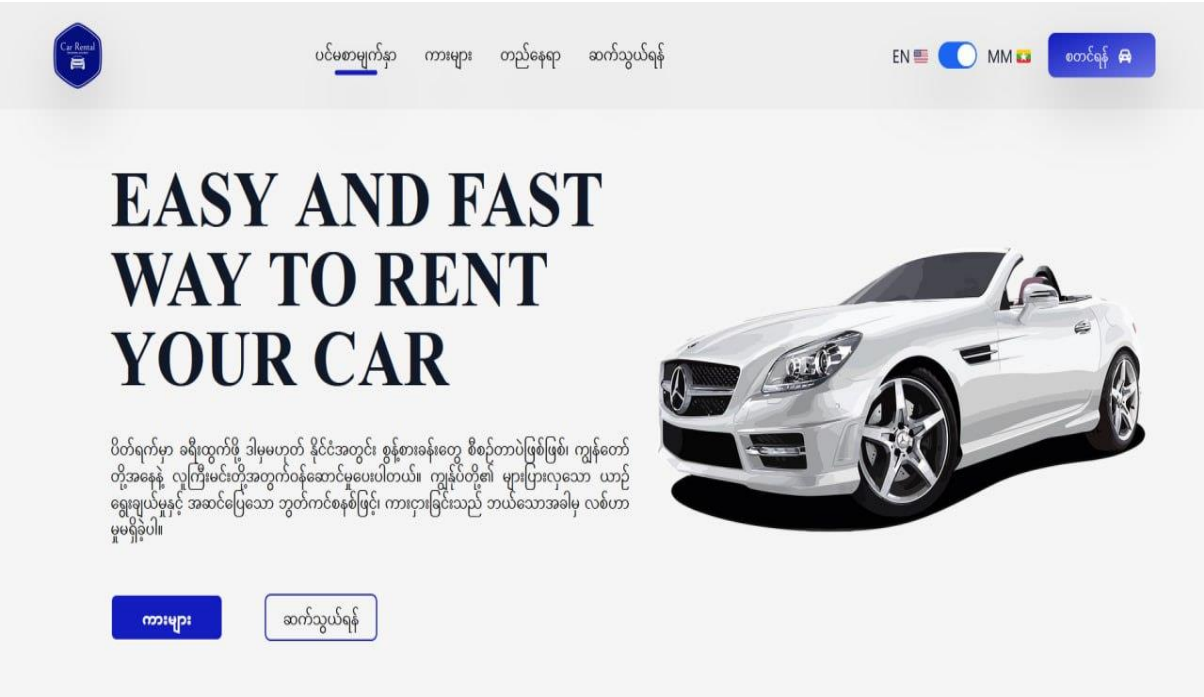

Figure 3: Implementation of the system

CONCLUSION

The Internet has become a vital resource in modern life; consequently, a Car Rental Booking System has gained significance from both administrative and user perspectives. For administrators, the system generates new opportunities to streamline rental services and operations, while for users, it makes comparing and selecting available vehicles and rental schedules more convenient. This system offers numerous advantages, such as reducing paperwork, labor, and expenses involved in managing rental operations, improving the quality of services, enhancing user satisfaction and convenience, creating digital records of bookings, and enabling remote access to reservation services. The Car Rental Booking System benefits administrators and users by making the entire process more efficient and user-friendly.

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