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BUS TICKET BOOKING SYSTEM,

DESIGNING DOCUMENT

Contents

INTRODUCTION

Why this project

The **bus ticket booking system** is a software application designed to enable customers to tickets online. The aims of this project is to develop a consol-based bus ticket booking system to simplify and streamline the bus ticket booking process. The system typically consists of a consol-based that allows customers to search for a bus routes, view schedules and purchase tickets using a credit or debit card.

Objectives

General objectives:

- ✓ Develop a web-based bus ticket booking system that is easy to use and secure.
- ✓ The system should allow customers to search for available buses, routes, and schedules.
- ✓ The system should enable customers to reserve and purchase tickets online.
- ✓ The system should generate electronic tickets and send them to the customers email.
- ✓ The system should provide a dashboard for the bus operator to manage buses, routes, schedules ad ticket sales.

Challenges of current existing system:

The current system involves manual ticket booking, which is time-consuming and error-prone. All the necessary booking stuffs are being done in hard copy. So it become much difficult for stuffs to keep the records updated all time. As for example, if the customers need to change the check in date it become difficult for them to find out the customers booking details for updating as there are so many customers booking records. It also requires customers to visit the bus operators office to purchase tickets.

Solution to current business operations:

The proposed system will automate the ticket booking process, reduce errors, improve customer satisfaction, and increase revenue for the bus operator.

Deliverable

The bus ticket booking project is to deliver a comprehensive software application that enables customers to search and book bus tickets online, as well as providing a streamlined ticketing process for bus companies. The deliverables for this project include a web-based user interface that allows customers to search for bus routes, view schedules ad purchases. Other deliverables may include documentation such as user manuals, technical specifications and project reports.

REQUIREMENTS ANALYSIS

Function Requirements:

- ✓ User registration and login.
- ✓ Bus search and selection.
- ✓ Seat selection and booking.
- ✓ Payment processing.
- ✓ Ticket confirmation and cancellation.
- ✓ Ticket printing or digital delivery.

Non-function requirements:
- ✓ User-friendly interface.
- ✓ Fast and responsive system
- ✓ Reliable and secure payment gateway
- ✓ Scalable and maintainable system architecture
- ✓ The system must provide customers 24*7 hours online booking service

Security Requirements:
- ✓ Secure user authentication and authorization
- ✓ Secure data storage and transmission
- ✓ Protection against common web vulnerabilities such as SQL injection, cross-site scripting, etc.
- ✓ Secure payment processing, the system should use secure payment gateways and adhere to relevant industry standards to ensure secure payment processing.
- ✓ User awareness, the system should educate users on safe online practices and encourage them to adopt secure behaviors such as using strong passwords and avoiding public Wi-Fi networks.

DEVELOPMENT METHODOLOGIES

Advantages and disadvantages:
The system of collecting data for research project is known as research methodology. The data may be collected for either theoretical or practical research. This project is used waterfall methodology.The advantages and disadvantages of this methodology are:

Waterfall: Is the sequential method of software development where are simple and easy to understand, but the disadvantages are inflexible and may not meet changing requirements.

Choice of Methodology:
Based on careful consideration and analysis of various software development methodologies , including Agile, Spiral and others, We have chosen the Waterfall model for the development of the bus ticket booking system project. Here is the reasons why we believe the Waterfall model is the most suitable choice compared to others:

Stability of Requirements: the waterfall model aligns well with the projects stable and well defined requirements. The Waterfall Models linear and sequential approach allows for a systematic development process based on the projects stable requirements.

Clear and Structured Development Path: the nature of a bus ticket booking system necessitates a clear flow from searching for available tickets to making booking. The waterfall model provides a structured and step-by-step development path, ensuring that each phase is completed before moving on to the next. This sequential approach offers better control and management, enabling a focused and organized development process.
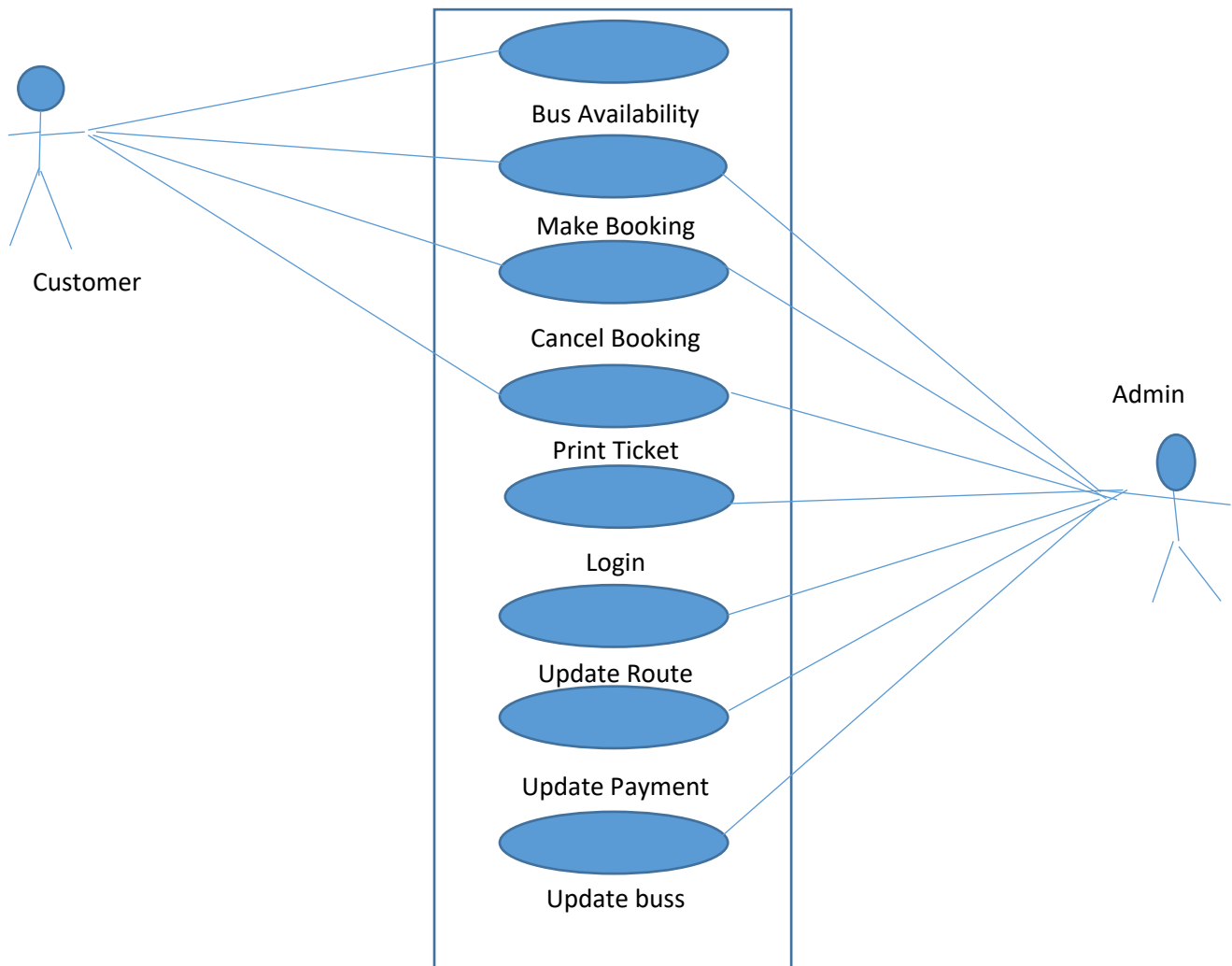
ACTIVITY FLOW OF THE SYSTEM

The activities involved in a bus ticket booking system project are;

- ✓ User visits the bus ticket booking website or app
- ✓ User enters their travel details such as origin, destination, date of travel and number of passengers
- ✓ The system displays a list of available buses along with their schedules and fares
- ✓ User selects a bus and seats, and enters their personal details such as name, contact information, and payment details
- ✓ The system confirms the booking and generates the ticket, which is sent to the user via email or SMS
- ✓ The user can print the ticket or show the e-ticket on their phone while boarding the bus
- ✓ The system updates the booking and seat availability information in real time to avoid double bookings

USE CASE

A use case is a particular activity a user can do on the system. A use case is a descriptions of a system behavior as it responds to a request that originates from outside of that system (the user). The figure below show use case of the activities in a booking system process.

Customer

Bus Availability

Make Booking

Cancel Booking

Print Ticket

Login

Update Route

Update Payment

Update buss

Admin

In other words a use case describes "who" can do "what" with the system in question. The use case technique is used to capture a systems behavioral requirements by detailing scenario-driven threads through the functional requirements.

CLASS DIAGRAM

Class diagram is a graphical representation of the system objects, classes and their relationships. It shows static structure of the system and how the objects interact with each other. Class diagram are one of the most commonly used diagrams in object-oriented system, models the static design view for a system. The static view mainly supports the functional requirements of a system, the services the system should provide to the end users.

The following figure are the class diagram for the Bus Tickets Booking System

Booking

-PNRNo: Integer

-Pass_Id: Integer

-No_tickets: Integer

-Seat_No: Integer

-Destination: String

-Book_date: Date

-Journey_date: Date

+Amount:Double

+PNRGen()

System

-Login()

Cancellation

+PNRNo: Integer

-Pass_Id: Integer

-No_tickets: Integer

-Seat_no: Integer

-Cancel_date: Date

+Amount: Double

+TicketCancel()

+PayDeduct()

+CancelRecGe()

Payment

-Pass_Id: Integer

-Amount: Integer

-Paymode:String

-Credit_no:Integer

-Cheque_No: Integer

-Pay_Date: date

+PayReceiptGe()

Passenger

-Pass_Id: Integer

-Pass_name: String

-Pass_add: Variant

-Pass_tel: Integer

-Pass_birth: Date

+Enquiry()

+PassReg()
+PassIdGen()

1   1   1   1   1   1   1   *   *   1   1   1