Assignment Online Airlines Booking System

Assignment: Online Airlines Booking System

You are tasked with designing and architecting an Online Airlines Booking System for your company, similar to Orbitz. Your system should be able to handle a large number of users and transactions simultaneously while ensuring a high level of availability, scalability, and reliability.

Requirements:

1. User Registration and Login System
2. Flight Search and Booking System
3. Payment Gateway Integration
4. Flight Reservation Management System
5. Ticket Cancellation and Refund Management System
6. User Profile Management System
7. Reporting and Analytics Dashboard
8. Integration with third-party flight APIs

Assignment Tasks:

1. Design a high-level system architecture for the Online Airlines Booking System that addresses the requirements listed above. Consider the various components that will make up the system and how they will interact with each other.
2. Develop a detailed data model that defines the various entities and relationships that will exist within the system. Consider how you will store and retrieve data, and how you will ensure data consistency and integrity.
3. Identify and select the technology stack that you will use to implement the system. Consider the programming languages, frameworks, and tools that will be most suitable for the task.
4. Develop a detailed project plan that includes the tasks, timelines, and milestones for the system development. Consider the various stages of the development cycle, including design, development, testing, and deployment.
5. Implement the system according to the design and project plan developed in the previous steps. Ensure that the system is scalable, reliable, and highly available.
6. Test the system to ensure that it meets the functional and non-functional requirements defined in the initial design. Consider both manual and automated testing approaches, and include performance and load testing to ensure that the system can handle a large number of users and transactions.
7. Deploy the system to a production environment and monitor its performance and availability. Consider how you will handle system maintenance and upgrades, as well as how you will respond to any system failures or outages.
8. Develop a user manual and training materials for the system, and provide training to the end-users and support staff.
9. Provide ongoing support and maintenance for the system, including bug fixes, performance optimizations, and system upgrades.
10. Finally, present your Online Airlines Booking System to the class and demonstrate how it meets the functional and non-functional requirements defined in the initial design.