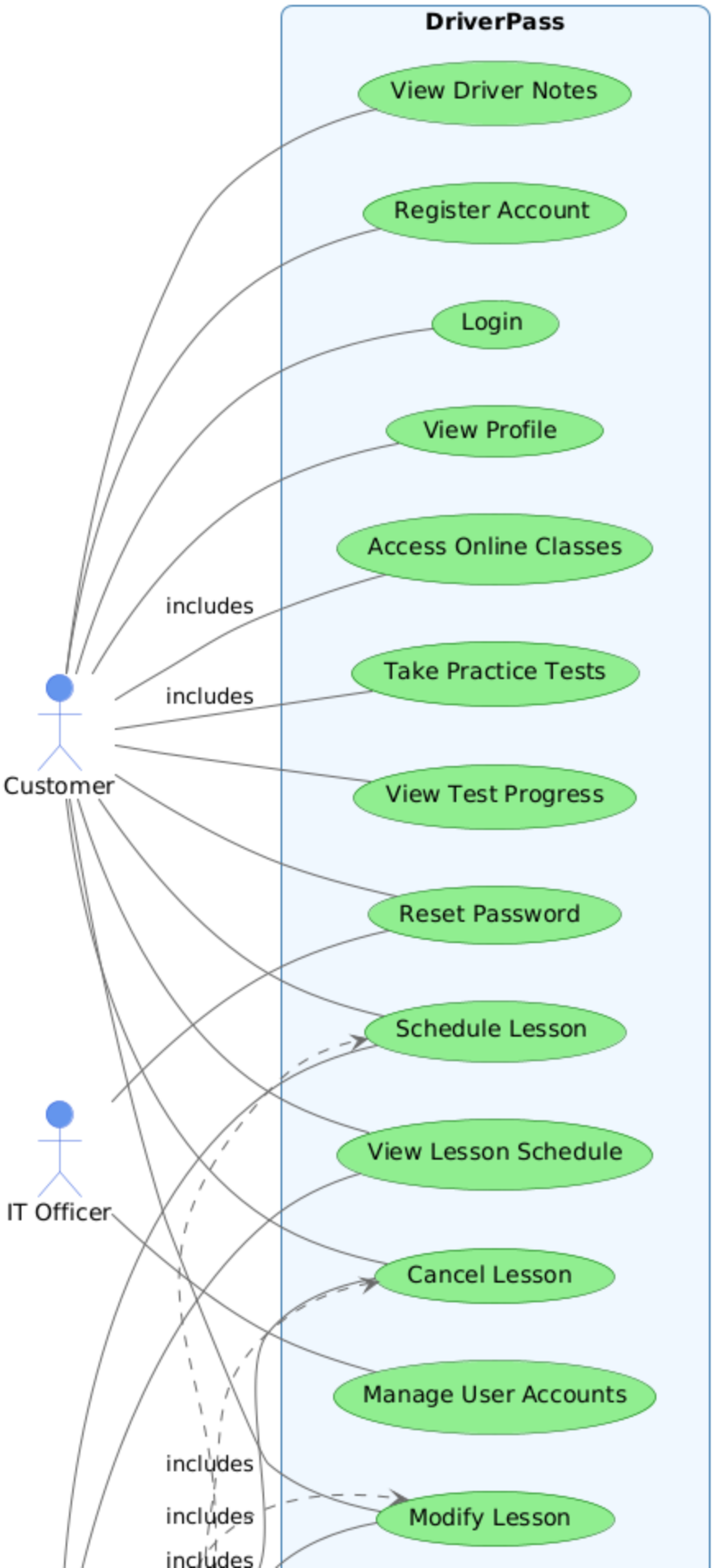
Brandon Canady

CS 255 System Design Document

UML Diagrams

UML Use Case Diagram


DriverPass
View Driver Notes
Register Account
Login
View Profile
Access Online Classes
Take Practice Tests
View Test Progress
Reset Password
Schedule Lesson
View Lesson Schedule
Cancel Lesson
Manage User Accounts
Modify Lesson
Customer
IT Officer
includes
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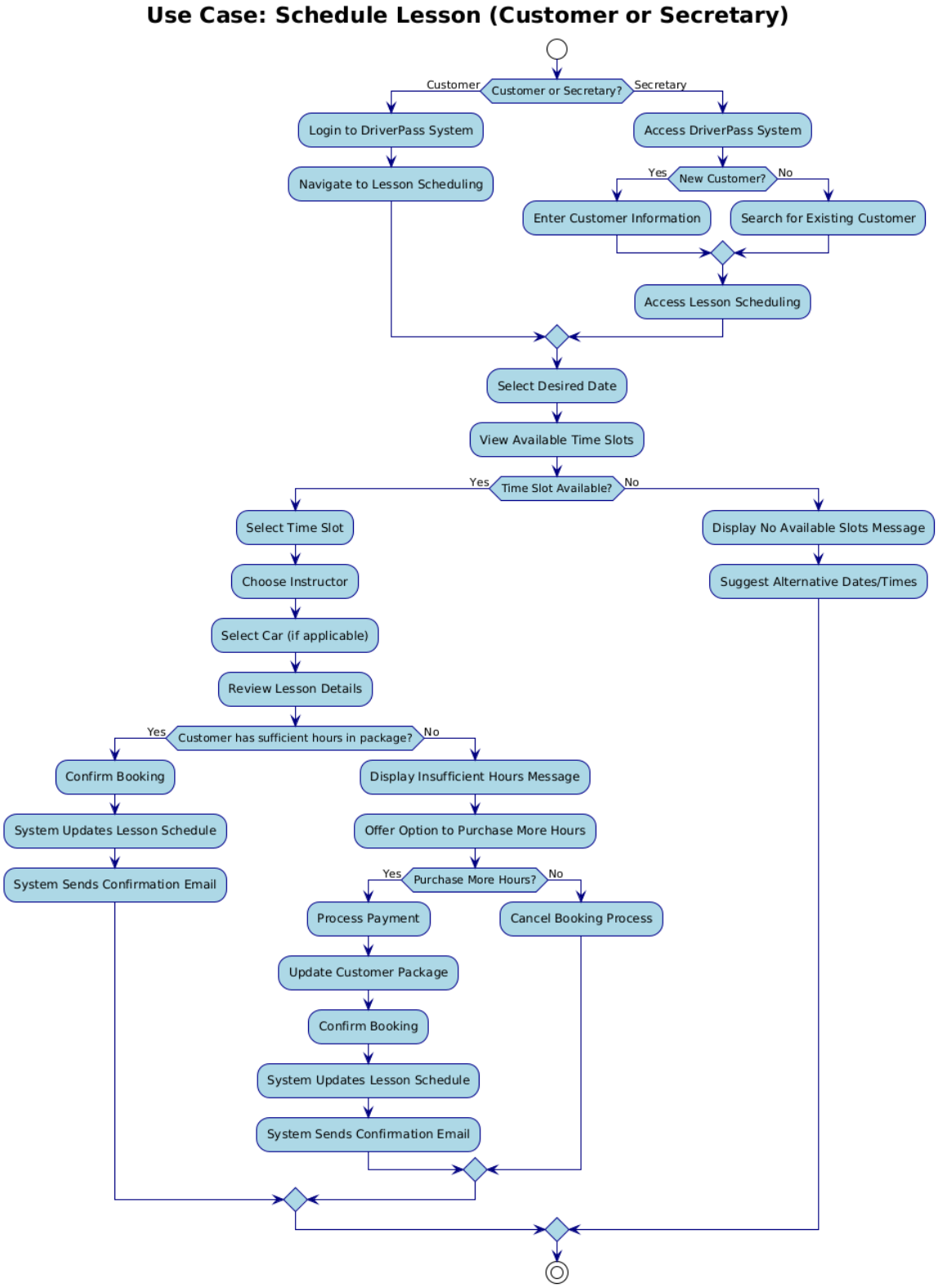
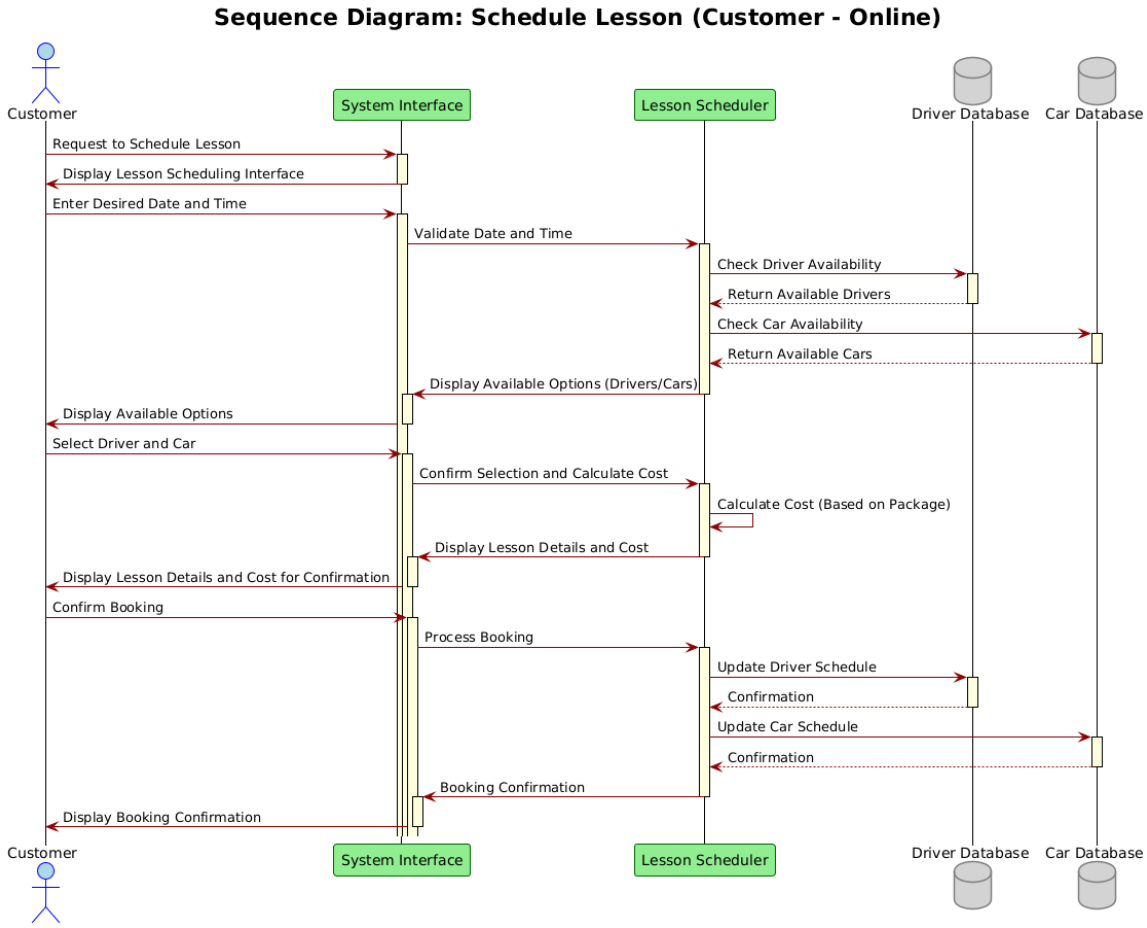
includes

UML Activity Diagrams



UML Sequence Diagram



UML Class Diagram

Technical Requirements

Based on the UML diagrams, the DriverPass system requires the following:

- Cloud Infrastructure: Web-based platform with cloud hosting (e.g., AWS, Azure, Google Cloud) to handle backups and security.
- Web Server: Web server software (e.g., Apache, Nginx) to host the application.
- Database Management System (DBMS): Relational database (e.g., MySQL, PostgreSQL, SQL Server) to store customer, lesson, driver, car, package, user, activity log, and DMV update data.
- Programming Languages: Backend programming languages (e.g., Java, Python, C#) for business

logic and API development. Frontend technologies (e.g., HTML, CSS, JavaScript, React, Angular, Vue.js) for user interface.

- Development Tools: IDEs (e.g., Visual Studio, Eclipse, IntelliJ), version control (Git), build automation tools (e.g., Maven, Gradle, npm).

- Security Framework: Authentication and authorization mechanisms, password reset functionality, and data encryption.

- Reporting Tools: Libraries or tools for generating activity reports (e.g., JasperReports, Crystal Reports).

- DMV Integration: API or interface for receiving updates on rules, policies, and sample questions.

- Testing Frameworks: Unit testing, integration testing, and UI testing frameworks to ensure system reliability.