# CS 255 System Design Document Template

## UML Diagrams

### UML Use Case Diagram

*[In Module Six, you were asked to complete a use case diagram based on your system design. If you would like to make any adjustments to your diagram, please do so. Please insert your use case diagram here. Check to make sure that you included appropriate components and symbols and that your design meets the client’s needs.]*

### UML Activity Diagrams

**User Authentication**

A diagram of a flowchart

Description automatically generated

**Route Optimization**

A diagram of a process

Description automatically generated

### UML Sequence Diagram

A white board with blue writing on it

Description automatically generated

### UML Class Diagram

A diagram of a vehicle

Description automatically generated with medium confidence

## Technical Requirements

*Based on the information provided from the DriverPass interview and the subsequent discussion on schedule planning, we can derive the following technical requirements for the system:*

*1. Web-based System: The system needs to run off the web, preferably over the cloud, to ensure accessibility from anywhere with internet connectivity.*

*2. Offline Access and Data Syncing: Users should be able to access certain data offline but cannot modify or update it without being online to prevent data redundancy.*

*3. Security Features: Different user roles with varying access rights are required. For example, an IT officer should have full access to all accounts for maintenance purposes. Security measures like password reset functionality are essential.*

*4. Activity Tracking: The system should track user activities such as making, modifying, or canceling reservations to maintain accountability.*

*5. Reservation Management: Users should be able to schedule, modify, and cancel driving lesson appointments online or via phone. The system must track the association of users with specific drivers, times, and cars.*

*6. Customer Registration: Registration involves capturing customer information such as name, address, contact details, and payment information, including credit card details.*

*7. Compliance and Updates: The system needs to stay compliant with DMV regulations and should be able to receive updates on rules, policies, and sample questions from the DMV.*

*8. Interface Design: The interface should be user-friendly and intuitive. Specific design elements, such as progress tracking for tests and displaying driver notes, need to be implemented based on provided sketches.*

*9. Future Flexibility: The system should be built to accommodate future changes, such as adding or removing driving lesson packages.*

*10. Integration: The system should be capable of integrating with external systems, particularly with the DMV for updates and compliance.*

*11. Performance and Reliability: The system should be robust, scalable, and reliable to ensure smooth operation under varying loads and conditions.*

*12. Documentation and Reporting: Proper documentation of system design, requirements, and user manuals is necessary. Additionally, the system should provide reporting features for generating activity reports, reservation logs, etc.*