# CS 255 System Design Document Template

## UML Diagrams

### UML Use Case Diagram

A diagram of a driver pass system

Description automatically generated with medium confidence

### UML Activity Diagrams

Customer Login Activity Diagram

A picture containing text, diagram, line, screenshot

Description automatically generated

User scheduling an appointment Activity Diagram

A diagram of a customer service

Description automatically generated with low confidence

### UML Sequence Diagram

User scheduling an appointment Sequence Diagram

A picture containing text, diagram, plan, parallel

Description automatically generated

### UML Class Diagram

A picture containing text, receipt, diagram, plan

Description automatically generated

## Technical Requirements

Based on the functional and nonfunctional requirements described in the business requirements document for Project One, the technical specifications for the proposed system are as follows:

Hardware Requirements:

* Hardware resources to support simultaneous user sessions and handle increased user traffic.
* Compatibility with various devices, including desktops, laptops, tablets, and smartphones.

Software Requirements:

* Web-based environment for accessing the DriverPass system through different web browsers.
* Compatibility with commonly used operating platforms.
* Adoption of a reliable database management system to store and retrieve user information, driving lesson schedules, test results, and system configurations.

Tools and Technologies:

* Utilization of the HTTPS protocol to establish secure data transmission and safeguard against unauthorized access.
* Implementation of robust user credential validation mechanisms, including username and password verification during the login process.
* Introduction of security measures, such as temporary account locking or delays between login attempts, to mitigate brute force hacking attempts.
* Provision of a password recovery process, such as password reset links or security questions, in case users, forget their passwords.

Scalability and Adaptability:

* Designing the system with scalability in mind, ensuring it can accommodate a growing user base and increasing data volume.
* Development of a user-friendly administrative interface enabling administrators to modify user accounts without requiring code modifications.

Performance Optimization:

* Optimization of page loading speed to reduce wait times.
* Resource scaling capabilities to sustain optimal performance even with high user traffic.
* Regular deployment of updates and bug fixes without disrupting user access.

Security Measures:

* Secure storage of passwords and adherence to best practices for password management.
* Real-time notifications to users regarding test schedules and updates.
* Provision of differentiated access privileges based on user roles to maintain system security.