# CS 255 System Design Document Template

## UML Diagrams

### *A diagram of a system Description automatically generated*UML Use Case Diagram

### UML Activity Diagrams

A screenshot of a computer screen

Description automatically generated

A screenshot of a diagram

Description automatically generated

### *A screenshot of a computer Description automatically generated*UML Sequence Diagram

### A screenshot of a computer screen Description automatically generatedUML Class Diagram

## Technical Requirements

*The system specifications for DriverPass are crafted to guarantee that all elements operate both efficiently and securely, ensuring a smooth user experience. The hardware prerequisites encompass computers and mobile devices for various users like customers, instructors, administrators, and IT staff. Additionally, the system necessitates servers for storing data, which may be either physical or cloud-based, to hold details such as user profiles, driving lesson timetables, payment data, and logs of user activities. The infrastructure should support remote accessibility and scalability, able to manage multiple users simultaneously without a drop in performance, suggesting the utilization of cloud-based servers equipped with load balancing features.*

*On the software side, the system will utilize a combination of backend and frontend technologies to enable a secure and user-friendly interface. The system’s backend will be developed using programming languages such as Java or Python to handle business logic, while the frontend will employ HTML/CSS and JavaScript to ensure responsiveness and compatibility across different platforms. Data management will be facilitated by MySQL or another relational database system, which will ensure efficient data handling for user profiles, lesson schedules, payments, and compliance updates with DMV standards. Security measures will include multifactor authentication to provide role-based access control, safeguarding against unauthorized entry.*

*Moreover, the system architecture requires specific tools and infrastructure to aid in development and ongoing maintenance. Tools like Lucidchart will be essential for generating UML diagrams that illustrate the system’s processes and interactions. Hosting will be carried out on cloud platforms such as AWS or Azure, which will enhance scalability and data security through backups. These platforms will also manage the encryption of communications between clients and servers to protect data during transfer. Logging frameworks and analytical tools will be employed to monitor usage and produce reports on activities, giving administrators valuable insights into user interactions and assuring smooth system operation. This comprehensive configuration ensures that DriverPass remains a secure, efficient, and accessible service for all stakeholders, fulfilling both functional and nonfunctional requirements effectively.*