# CS 255 System Design Document

## UML Diagrams

### UML Use Case Diagram

A diagram of a driver pass

Description automatically generated

### UML Activity Diagrams

A diagram of a software system

Description automatically generated

A diagram of a student selection

Description automatically generated

### UML Sequence Diagram

### A diagram of a login Description automatically generated

### UML Class Diagram

A diagram of a driver pass

Description automatically generated

## Technical Requirements

**Hardware Requirements**

* A dedicated web server such as Apache should be used to handle user requests and serve the application.
* A separate or integrated database server (e.g., MySQL, PostgreSQL) would be ideal for data storage and management.
* Cloud storage such as Amazon Web Services(AWS) would be ideal for storing the system data, ensuring data integrity and recovery.

**Software Requirements**

* Cross-platform compatibility with major operating systems such as Windows, macOS, Android, and iOS is vital to ensure smooth system operation.
* A versatile programming language like Python, Java, or Ruby should be used to develop the backend framework.
* A database management system(DBMS) such as MySQL, PostgreSQL, or MongoDB is vital for storing user data, transaction records, and system configurations.

**Security Requirements**

* Database encryption is essential to protect sensitive data at rest and in transit.
* Two-step authentication and strong password requirements will ensure that only authorized users have access to the system.