# 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 application

Description automatically generated with medium confidence

A diagram of a application

Description automatically generated

### UML Sequence Diagram

*A diagram of a student's lesson

Description automatically generated*

### UML Class Diagram

A diagram of a company

Description automatically generated

## Technical Requirements

Given the provided diagrams, nonfunctional requirements, and functional requirements, the system has specific technical requirements. To begin, the database used to store all data objects of the system must be relational due to how related its information is throughout the system; specifically, an SQL database must be used for its reliability and extensive documentation.

The server must use a unix-like operating system (OS) so to support multiple authorized users (such as the owner and IT administration) accessing the server, as well as for its better performance relative to other OSs such as Windows or MacOS; specifically, the Ubuntu OS must be used for its reliability and extensive documentation.

The server hardware must have a minimum of 4GB RAM and 100GB SSD storage. This is due to support hundreds of requests concurrently, as well as to provide enough space for the database, OS, and to store each customer’s photo image on the server.

The server backend must use Java, using the Spring Boot library as its web framework. This language and library are reliable, can be easily secured, and have extensive documentation. The server frontend must be written in HTML and JavaScript as it will be deployed on user devices within the user’s browser.

The server backend must be deployed on the cloud. This is to follow the client’s request of not deploying the product in-house.