# CS 255 System Design Document Template

## UML Diagrams

### UML Use Case Diagram

Graphical user interface

Description automatically generated

### UML Activity Diagrams

Diagram

Description automatically generated

### Diagram Description automatically generated

### UML Sequence Diagram

Diagram

Description automatically generated

### UML Class Diagram

Diagram, schematic

Description automatically generated

## Technical Requirements

The technical requirements addressed here are for a web application to help DriverPass students pass their driving test by providing them with written exams and driving tests.

The hardware requirements for accessing the web-based application are devices that have enough storage and memory to support the requirements of modern browsers, including Chrome, Edge, Firefox, and Safari. Accessing the application also requires a device that can connect to the internet using mobile data, LAN, or Wi-Fi. Since the DriverPass web application allows the owner to download reports, the device being used to download the reports needs file processing software to open the reports or an external memory card to open the reports on another device that has file processing software.

For the backend, the applications require a database to store users' data and settings. DriverPass will also need a cloud hosting provider to reduce the technicality of maintaining the health and security of the application. The application will run on code that supports modern browsers and will communicate with the backend using a RESTful API. Security considerations include installing an SSL certificate to keep data encrypted and safe from interceptions. The application will use best practices to authenticate and validate users before giving them access to certain privileges.

The DriverPass application will communicate with DMV using their API and/or subscribe to the DMVs newsletter to get the latest changes to exam questions and regulations. All the pages for the applications will be built lightweight to load within 2-seconds except for large file processing, which will notify the users of current progress while processing in the background.