# CS 255 System Design Document Template

This template lays out all the different sections that you need to complete for Project Two. Each section has guidance to prompt your thinking. You will need to continually reference the interview transcript as you work to make sure that you are addressing your client’s needs. There is no required length for the final document. Instead the goal is to complete each section based on what your client’s needs are. Remove this note when you are finished, and replace all bracketed text with the relevant information.

## UML Diagrams

### UML Use Case Diagram

Diagram

Description automatically generated

### UML Activity Diagrams

*Diagram

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*Diagram

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### UML Sequence Diagram

A picture containing timeline

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### UML Class Diagram

Diagram

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## Technical Requirements

#### Performance Requirements

* This web-based system will operate using externally contracted cloud services.
* The system will run in real-time.
* The system will be updated by the DriverPass team to account for new features when required. One recommendation would be monthly updates to account for smaller changes in the system.

#### Platform Constraints

* This system will operate on server architectures running Windows, Linux, and macOS.
* A back-end database containing user data, historical/future schedule data, and payment history will be required for this system to operate as requested.

#### Accuracy and Precision

* Individual users will be registered under different email addresses. This will act as a personal ID and will allow the external differentiation of users.
* The system will assign each user with an internal user identification number.
* Input fields for password entry will be case-sensitive. Email entry field will not be case-sensitive.
* The system will inform the administrator in the event of an update to the DMV rules.
* The system will inform the administrator in the event of a security event on the hosting server or with an end-user.
* The system will record data regarding any issues passively for administrator reference.

#### Adaptability

* The system will allow the addition, removal, or modification of user accounts without changing the code.
* The system will require updates in correspondence to updates of the platform upon which it is running.
* The owner will retain full control over all aspects of the system, including the addition, removal, or modification of user accounts.
* The administrator will retain control over the system required for maintenance and modification.

#### Security

* The user will be required to supply their account username/email and password before access to the website is enabled.
* All data sent/received by the client/server will be transferred using HTTPS for encryption.
* User accounts will be subject to a maximum number of login attempts within a given time period before their account is locked for a time.
* Users will be provided with the ability to reset their password through email validation.
* Email verification for password resets will provide a specific time frame before verification fails and the verification email is void.
* All payment information will be transferred between the client, server, and financial institution using a defined SSL certificate on the server.
* The back-end server will backup information on the system databases.