# 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

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### UML Activity Diagrams





### UML Sequence Diagram



### UML Class Diagram



## Technical Requirements

**Hardware Requirements:**

Web Server: To host the DriverPass application. This would need great processing, memory, and storage to handle new users, and consistent users. This will come in handy during times of high traffic.

Access To Internet: Since this is a web application users will need access to the internet. So they will need devices that are capable of doing that.

**Software Requirements:**

Operating Systems: It needs to be able to run on different operating systems.

Web Application: Backend application could be developed using code like Python, Java, or JavaScript. This will ensure scalability and overall support if Driver Pass would need it later down the line.

On the front end we could use HTML, and JavaScript frameworks to create a responsive design, that will work on all devices that can connect to the internet.

Database: We would need a database to store driver account information, schedule information, and report data. For this we would use MySQL.

Security: We would need to take into account that since we are storing data, and transmitting data, we would need to keep that data secure. We can do this through SSL certificates, and things like 2 factor authentication. We want our account information to be secure. So creating modular, and encapsulated code would be a good practice for helping with securing data.

**Development Environment:**

IDE: We could use Visual Studio Code, PyCharm to develop our code.

Version Control: We could use GitHub to push and pull to make sure our work is backed up, as well as this is great to test out different versions of our code base. We can use this to update our platform with up to date coding practices.

Monitoring: We can use tools like Prometheus for monitoring our systems performance and health.

**Infrastructure Requirements:**

Hosting: We could utilize different platforms like AWS, or Microsoft Azure. This will help with improved load times for the application online, as well as we can utilize these platforms for better scalability looking towards future iterations of the Driver Pass System.

**Compliance:**

Compliance: We need to ensure that our system is integrated with the DMV for updates on rules and regulations. We also need to make sure that we are compliant with state, and federal regulations.

Documentation: We need to keep updated documentation on our system. This could be things like our system diagrams, documentation on integrating with the DMV, and federal and state documentation and policies.