# CS 255 System Design Document Template

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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

*A diagram of a company

Description automatically generated*

### UML Activity Diagrams

*A diagram of a schedule

Description automatically generated*

A diagram of a course

Description automatically generated

### UML Sequence Diagram

A diagram of a student

Description automatically generated

### UML Class Diagram

*A diagram of a class diagram

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## Technical Requirements

For hardware, a reliable server will be required to host the DriverPass web application. The server needs to have enough processing power, memory, and storage capacity to handle multiple user interactions, database operations, and system maintenance tasks smoothly. Also, users will access the system from various devices like desktop computers, laptops, tablets, and mobile devices. The system must be compatible with different kinds of devices and screen sizes.

For software requirements, the server should run on a stable operating system like Windows Server or Linux. Webserver software would be needed to host the web application and serve web pages to users. A relational database management system would also be needed to store user data, course information, appointment times, and other relevant information.

Lucidchart is a very useful tool for creating and maintaining UML diagrams, keeping clear system design and communication amongst team members. Front-end web development tools like HTML, CSS, and JavaScript frameworks/libraries are used to create user interfaces and enhance user experience. Security measures like encryption algorithms and firewall protection would be needed to help protect against hackers, keeping the integrity of user information and privacy.

To keep system performance optimal, monitoring tools like Zabbix or Nagios could be used to keep track of server health and identify any errors. Having backup mechanisms would help in the event of system failure, to reboot from a recovery point. Routine updates should also be applied to keep up with any errors or exceptions within the application after deployment.