# CS 255 System Design Document

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## UML Diagrams

### UML Use Case Diagram

Diagram, schematic

Description automatically generated

### UML Activity Diagrams

Create an Appointment

Diagram

Description automatically generated

View/Take Test

Diagram

Description automatically generated

### UML Sequence Diagram

Create an Appointment

Diagram

Description automatically generated

### UML Class Diagram

Diagram, schematic

Description automatically generated

## Technical Requirements

According to SNHU, technical requirements can generally be grouped into the following three categories (SNHU, n.d.).

* **Hardware**
  + Secure Database
    - A database is a necessary component for this system since it will need to store user data including account information, personal information, and financial information.
  + Permanent Internet Connection
    - This system is internet accessible and should be ready to accept connections with an uptime of at least 99.99%.
  + Cloud Server
    - Client cannot / will not maintain server hardware themselves so a cloud server should be used to hold and run the associated software.
  + Phone System
    - Client wishes to provide alternative appointment access for customer via phone to an employee. A phone system will need to be in place for this system to properly meet this requirement if one is not available already.
* **Software**
  + Server operating software (Linux, Windows, Mac)
    - This system is primarily a software system and will need to run in the environment of an operating system. The three common operating systems all have pros/cons for hosting server software.
  + Security software
    - Encryption
      * Security is a must have for the client. Sensitive information stored in this system cannot be accessible to outside accessors.
    - Data redundancy
      * The system must be reliable for the user in order to facilitate the business needs of the client. Loss of personal information is unacceptable.
* **Geographic**
  + Central server location
    - The DriverPass system is designed to be used by customers seeking a driver’s license in the USA. The location of the server should provide fast access from any internet location in the US.
  + Onsite security and maintenance
    - The cloud provider must have secure data centers hosting the services of this system. Unauthorized physical access or sabotage should not be possible.

**Reference:**

SNHU - Southern New Hampshire University. (n.d.). *CS255 thinking through technical requirements.* Retrieved April 17, 2022, from <https://learn.snhu.edu/content/enforced/1007765-CS-255-T4484-OL-TRAD-UG.22EW4/course_documents/CS%20255%20Thinking%20Through%20Technical%20Requirements.pdf?_&d2lSessionVal=XRKpq6qtMyOhid9eSAmb041Jv&ou=1007765>