# CS 255 System Design Document Template

## UML Diagrams

### UML Use Case Diagram

A picture containing text, diagram, sketch, plan

Description automatically generated

### UML Activity Diagrams

A picture containing text, diagram, sketch, drawing

Description automatically generated

A diagram of a lesson

Description automatically generated with low confidence

### UML Sequence Diagram

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Description automatically generated

### UML Class Diagram

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Description automatically generated

## Technical Requirements

Hardware Requirements:

Host:

* Processor: Multi-core processor with adequate processing power.
* Memory: RAM to handle the expected workload.
* Storage: Sizable storage capacity for storing system data, logs, and backups.
* Network: Stable and fast network connection to handle incoming and outgoing traffic.

Client:

* Processor: Modern processor capable of running web browsers or application software.
* Memory: RAM to support the operating system and software requirements.
* Storage: storage for storing local data or cached resources.

Software Requirements:

Host:

* Operating System: Compatible operating system (e.g., Windows, Linux, macOS)
* Web Server: Web server software to handle incoming requests and serve webpages.
* Database Server: Database management system to store and manage the system's data.
* Backend Framework: Framework to handle server-side logic and communicate with the database.
* Security Software: Firewall, and other security measures to protect the system and data.

Client:

* Operating System: Compatible operating system (e.g., Windows, macOS, Linux) for the client's device.
* Web Browser: Latest version of popular web browsers to access the web.
* Network Connectivity: Internet connection to establish communication with the host.

Infrastructure Requirements:

Network Infrastructure:

* Local network infrastructure to connect the host and client devices.
* Internet Connection: Stable and reliable internet connectivity for accessing the web

Security Infrastructure:

* Firewalls: Network firewalls to protect against unauthorized access.
* Encryption: Secure Sockets Layer (SSL) or Transport Layer Security (TLS) for secure communication over the network.
* Access Control: User authentication mechanisms, access controls, and role-based permissions to ensure data security.