# 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 software development process

Description automatically generated

### UML Activity Diagrams

*A diagram of a diagram

Description automatically generated*

### A diagram of a system Description automatically generatedUML Sequence Diagram

### UML Class Diagram

A diagram of a computer

Description automatically generated

## Technical Requirements

*The technical requirements regarding this booking system are summarized below: having a stable hardware configuration, with dedicated servers for hosting applications, maintaining databases, and taking backups; and a proper network infrastructure with routers, switches, and firewalls for effective and secure communication. The booking system needs a modern server OS, including Linux and Windows Server, a relational database management system, such as MySQL or PostgreSQL, and a web server, such as Apache or Nginx. Development will include the use of backend languages such as Java and Python, with frontend technologies like HTML, CSS, and JavaScript, along with tools to adhere to version control: Git and IDEs like Visual Studio Code.*

*Add monitoring and performance and reliability testing tools; leverage CI/CD pipelines for deploying with ease. Infrastructure measures to be employed are SSL/TLS encryption, OAuth2 over the authentication side, back up of data on a regular basis—secure the user data, safeguard the sanctity of the system. It can be hosted on scalable cloud infrastructure, disaster recovery through AWS/Azure. You get a robust, scalable, and secure environment to help you manage your lesson booking.*