# 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

A document with text and arrows

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### UML Activity Diagrams

A diagram of a diagram

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### UML Sequence Diagram

A diagram of a system

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### UML Class Diagram

A diagram of a computer

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## Technical Requirements

### ****Functional Requirements****

* Customers must be able to register, schedule lessons, and take practice exams.
* Admin must be able to manage reports and disable/enable packages.
* The system must send notifications upon lesson scheduling.

### ****Non-Functional Requirements****

* The system must handle at least **100 concurrent users**.
* Data must be encrypted for security.
* Response time must be **under 2 seconds** for booking lessons.

### ****Hardware Requirements****

* **Server:** Cloud-based hosting (AWS or Azure)
* **Database Server:** MySQL or PostgreSQL with **SSD storage**
* **Client Devices:** Web and mobile-responsive support

### ****Software Requirements****

* **Backend:** Java (Spring Boot) or Python (Django)
* **Frontend:** React.js or Angular
* **Database:** MySQL/PostgreSQL
* **CASE Tool:** Lucidchart for UML modeling

### ****Infrastructure Requirements****

* Cloud-based deployment with auto-scaling.
* Secure authentication using **OAuth or JWT**.
* Daily automated database backups.