# 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 diagram of a payment method

AI-generated content may be incorrect.

### UML Activity Diagrams

Schedule Lesson

A screenshot of a computer

AI-generated content may be incorrect.

Take Practice Test

A screenshot of a computer screen

AI-generated content may be incorrect.

### UML Sequence Diagram

A diagram of a project

AI-generated content may be incorrect.

### UML Class Diagram

A screenshot of a computer screen

AI-generated content may be incorrect.

## Technical Requirements

Hardware & Hosting:  
- Cloud-hosted with load-balanced app servers and managed relational DB.  
- Nightly snapshots and multi-AZ replication.  
  
Software Stack:  
- Front end: responsive web UI.  
- Back end: RESTful API with authentication/authorization.  
- Database: relational (MySQL/PostgreSQL) with normalized schema.  
- Messaging for email/SMS notifications.  
  
DevOps:  
- GitHub, CI/CD, infrastructure as code, monitoring & centralized logs.  
  
Security:  
- TLS 1.2+, AES-256, tokenized payments, RBAC, MFA, audit logs.  
  
Performance & Scalability:  
- Horizontal scaling; caching; <2s p95 page loads.  
  
Accessibility & UX:  
- WCAG 2.1 AA, mobile-first, plain-language copy.