# 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

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### UML Activity Diagrams

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### UML Sequence Diagram

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### UML Class Diagram

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## Technical Requirements

1. *Hardware Requirements:*
   * *Server infrastructure: Sufficient servers to host the system and handle concurrent user requests.*
   * *Storage: Adequate storage capacity to store customer data, reservations, lesson details, and system logs.*
   * *Networking: Reliable network connectivity to ensure seamless communication between the system components and external systems.*
2. *Software Requirements:*
   * *Operating System: The system should be compatible with a chosen operating system, such as Linux or Windows Server.*
   * *Web Server: A web server software, such as Apache or Nginx, to handle HTTP requests from clients.*
   * *Database Management System (DBMS): A DBMS, like MySQL or PostgreSQL, to store and manage the system's data.*
   * *Programming Language: The chosen programming language(s) for system development, such as Java, Python, or C#.*
3. *Development Tools:*
   * *Integrated Development Environment (IDE): An IDE, like Eclipse, IntelliJ IDEA, or Visual Studio, for coding, debugging, and testing.*
   * *Version Control System: A version control system, such as Git, to manage source code changes and collaboration among developers.*
   * *Project Management Tool: A project management tool, like Jira or Trello, to track and organize tasks, milestones, and project progress.*
4. *Infrastructure Requirements:*
   * *Cloud Platform: A cloud infrastructure provider, such as Amazon Web Services (AWS), Microsoft Azure, or Google Cloud Platform, for scalable and reliable hosting of the system.*
   * *Backup and Disaster Recovery: Implement regular backups of the system's data to ensure data integrity and availability in case of unforeseen events.*
   * *Security Measures: Implement robust security measures, including encryption, secure authentication, and authorization mechanisms, to protect sensitive customer data.*
5. *Integration Requirements:*
   * *DMV Integration: Establish a secure connection and API integration with the DMV to receive updates on rules, policies, and sample questions.*
   * *Payment Gateway Integration: Integrate with a secure payment gateway to handle customer transactions and credit card processing.*
   * *Email Service Integration: Integrate with an email service provider to send notifications, password reset emails, and other communication to customers and system users.*