# 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 diagram

Description automatically generated*

### UML Activity Diagrams

### A diagram of a software project Description automatically generated

A diagram of a payment process

Description automatically generated

## Technical Requirements

* Cloud hosted backend database that can scale to the load placed on it. Response times need to be less than half a second.
* Cloud hosted web-application that can be access from many different internet enabled devices such as computers, phones, and tablets.
* The web-application need to be lightweight enough that running on a 500 MB phone will not cause issue or delays.
* The database will receive automatic delta backups ever 15 minutes and then once every 24 hours a full backup will be automatically saved in cloud storage.
* The system shall validate user credentials when logging in.
* The system shall allow the scheduling and canceling of driving sessions.
* The system shall generate records and usage reports.
* The system shall allow students to purchase and track product packages.
* The system shall allow packages to be deleted or made unavailable.
* The system shall securely store user information such as personal identification and billing information.
* The system shall allow users to reset their password and change their user information.
* The system shall display online test progress, driver notes, and driver and student photos.
* The system shall send messages between users.
* The web-application should function all the major browsers: Chrome, Edge, Firefox, and Safari.
* The web-application will be launched and scaled using
* The backend will run on an Ubuntu Linx server and manage a DynamoDB database.
* The cloud infrastructure needed will be provided by Amazon Web Services. The backend will be an EC2 instance of a Ubuntu Linx server and the web-application will be hosted using Elastic Beanstalk. The database will likewise use Amazon DynamoDB for it’s hosting.