# 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

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

*[Based on the diagrams you have created, describe the technical requirements of your system. These requirements should address the required hardware, software, tools, and infrastructure necessary for your system design.]*

Since the owner prefers the system to be cloud-based, we will be using Microsoft Azure as a cloud service provider.

The web application will use a REST API for fast communication between the client-side web browsers and the cloud-hosted servers. The REST API will be managed by Postman, which works well with Microsoft Azure.

The web application, including the student’s learning environment, driver and receptionist portal, and owner portal will be written using the Angular JS framework for fast development.

Reports will be managed using Azure SQL database, which supports exporting for the owner to access.

At the business site, Drivers will use Windows desktops for access to their portal through the website to enter notes and coordinate driving sessions. On the road, they can also use their personal phones to access the same portal to check pickup locations etc. for their next session.

The user account database shall be run on a Windows machine running Windows Server and Active Directory to better protect user account information and supports role-based access control. This is what the admin can use to issue password resets, delete old accounts, manage roles, and perform other account operations.

The secretary will use a Windows work desktop to access a software interface that utilizes the local user account database and the cloud databases hosted by Azure SQL Database to register new students and also schedule driving sessions that were called in.

Since the owner stressed that they don’t want manage security, Azure Security center will be used since it automatically assesses the cloud environment protects against threats and integrates with other Azure services. Backups will also be independently managed by Azure Backup as it is simple to setup, supports scaling, and runs on its own once configured.

The connection between the client and the server shall be secured using SSL encryption.

Data in the cloud databases will use Microsoft Azure’s data – at - rest encryption to prevent further damage from to the system if compromised.

The local user account server will be protected by a firewall.