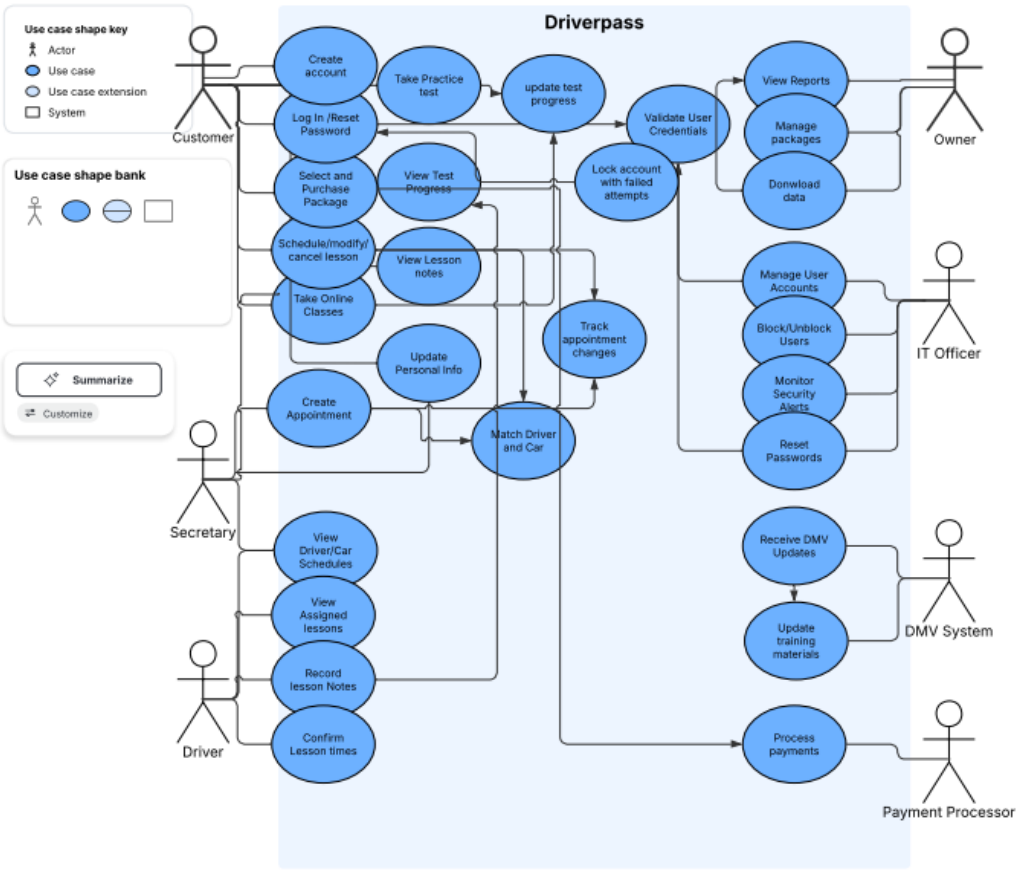
CS 255 System Design Document Template

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.

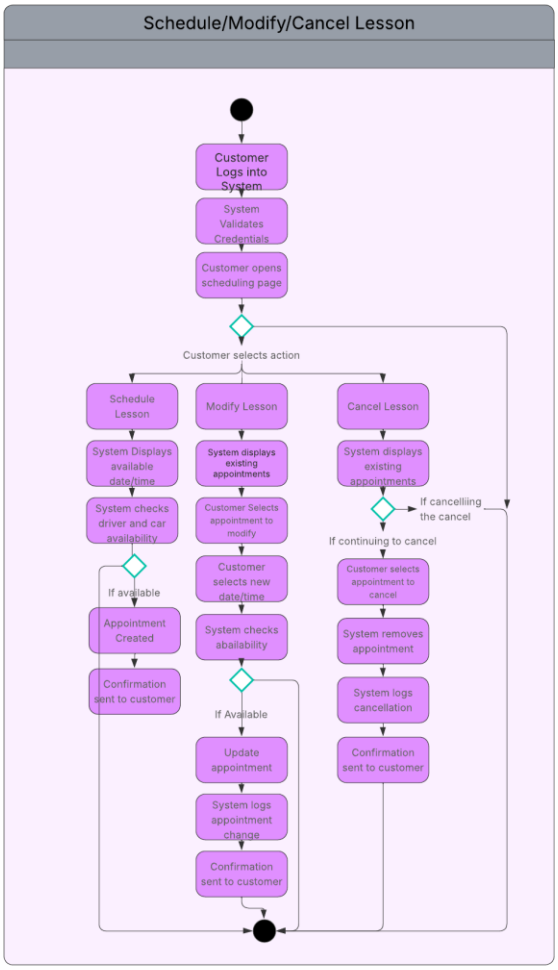
UML Diagrams

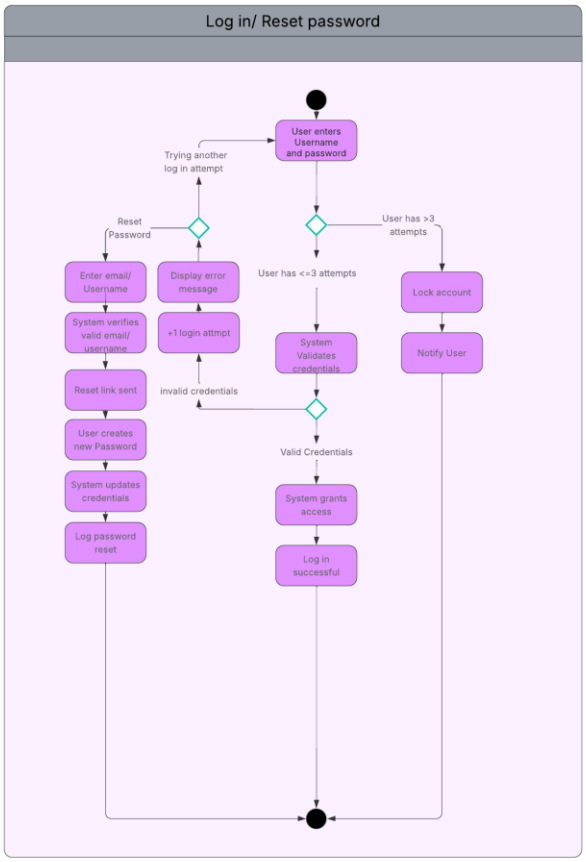
UML Use Case Diagram



UML Activity Diagrams

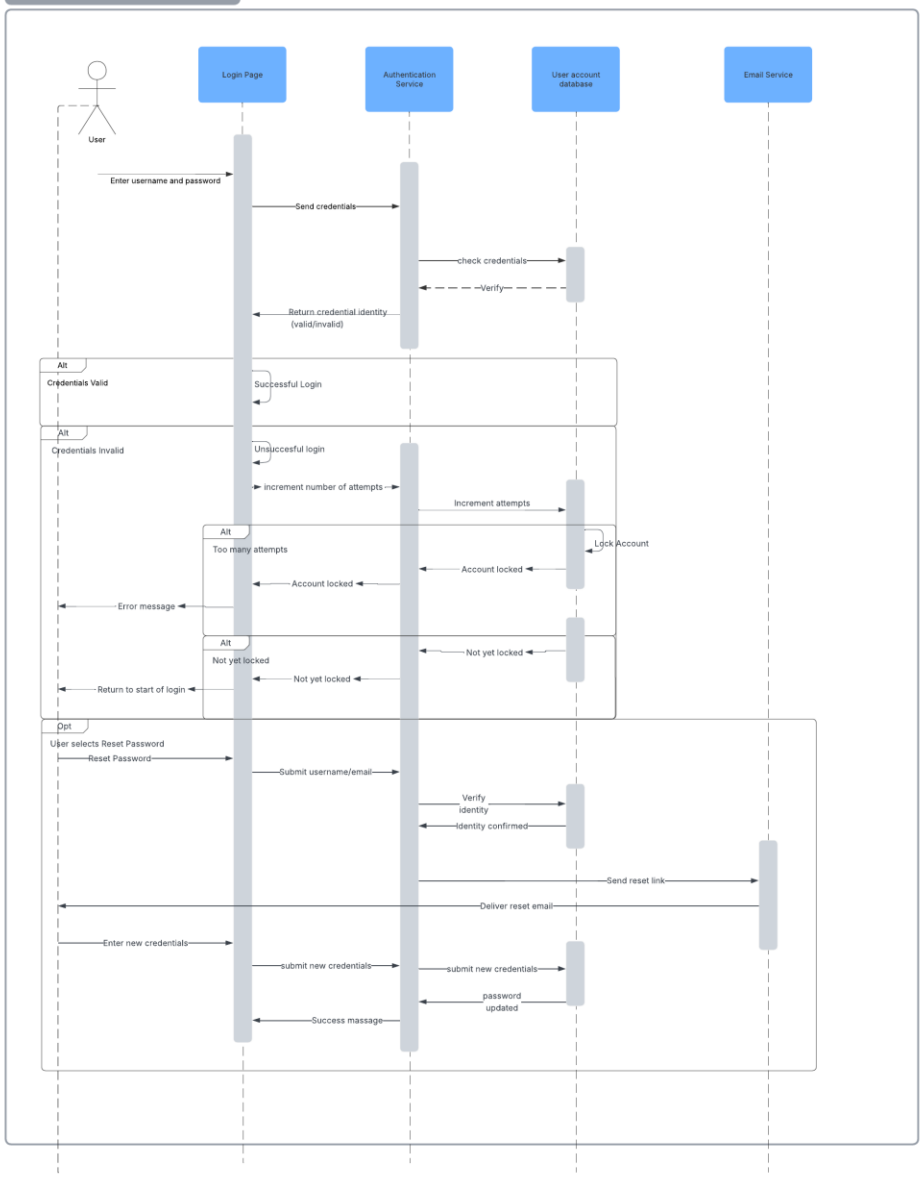
*[You were asked to choose **two** use cases and create **two** activity diagrams, one for each use case. Please insert **both** of your activity diagrams here. Check to make sure that you included appropriate components and symbols and that your design meets the client's needs.]*



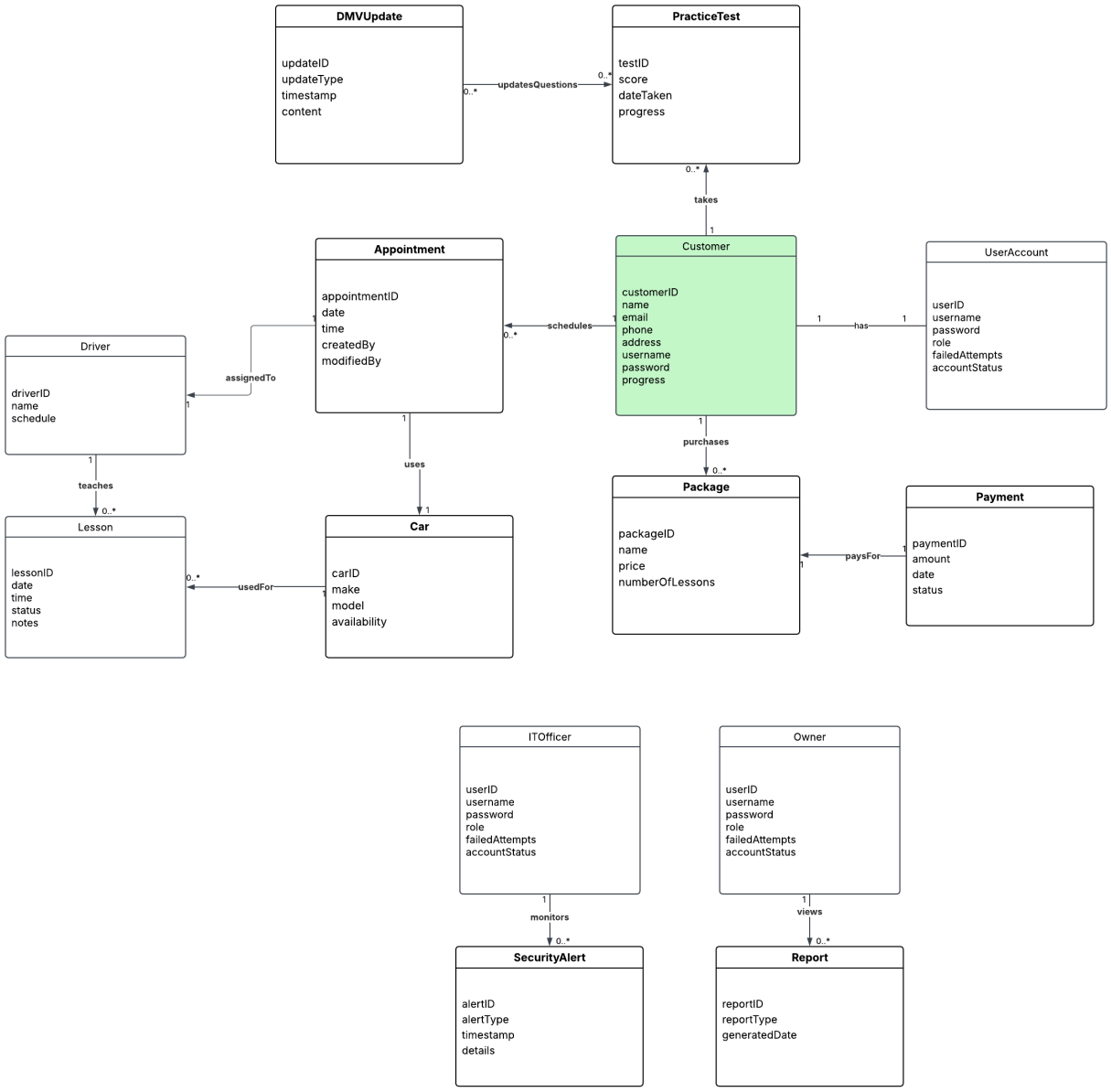


UML Sequence Diagram

Sequence diagram



UML Class Diagram



Technical Requirements

The technical requirements for the DriverPass system are based directly on the functional needs of the system, such as creating accounts, scheduling lessons, taking online tests, processing payments, and updating training materials, as well as the nonfunctional expectations for performance, security, and adaptability. Because the system must operate as a cloud-based web application, it requires reliable cloud server hardware capable of hosting the application, database, and authentication services. Users will access the system from personal devices like computers, tablets, and mobile phones, consistent with the requirement that customers and staff should be able to use the system from anywhere with an internet connection. On the software side, the system needs a web application framework, a secure database for storing customer information and appointments, and authentication tools that support case-sensitive logins, failed-attempt tracking, and temporary account lockouts. A modern web browser is required for all users, and the system must integrate with third-party services such as a payment

processor, an email service for password resets, and a DMV update feed to keep training materials current. Development and administrative tools, including Lucidchart for UML diagrams, version control systems, and user-management utilities, are also necessary to support system maintenance and staff operations. From an infrastructure standpoint, the system must run on scalable cloud services that can handle many users at once, maintain fast load times, and continue functioning even when browsers or platforms update. Strong security measures such as encrypted communication, role-based access control, monitoring for unusual activity, and backup systems are essential to protect user data and maintain system reliability. Together, these technical requirements ensure that the DriverPass system is secure, scalable, accessible, and capable of supporting both the business goals and day-to-day operations described in the functional and nonfunctional requirements.