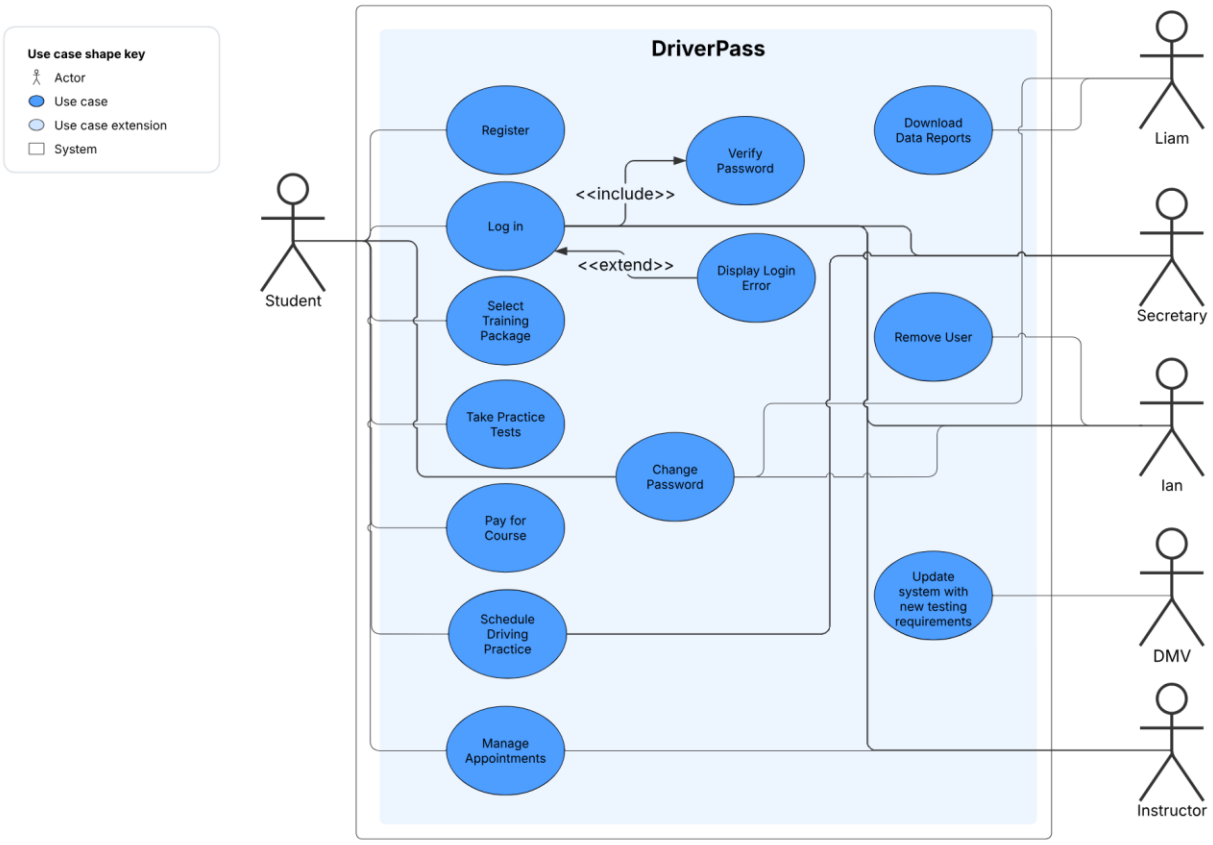
CS 255 System Design Document Template

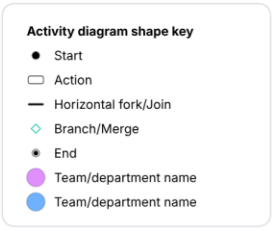
This template lays out all the different sections that you need to complete for Project Two. Each section has guidance to prompt your thinking. You will need to continually reference the interview transcript as you work to make sure that you are addressing your client's needs. There is no required length 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.

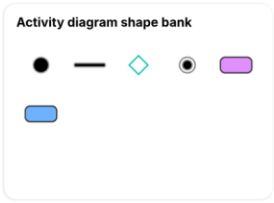
UML Diagrams

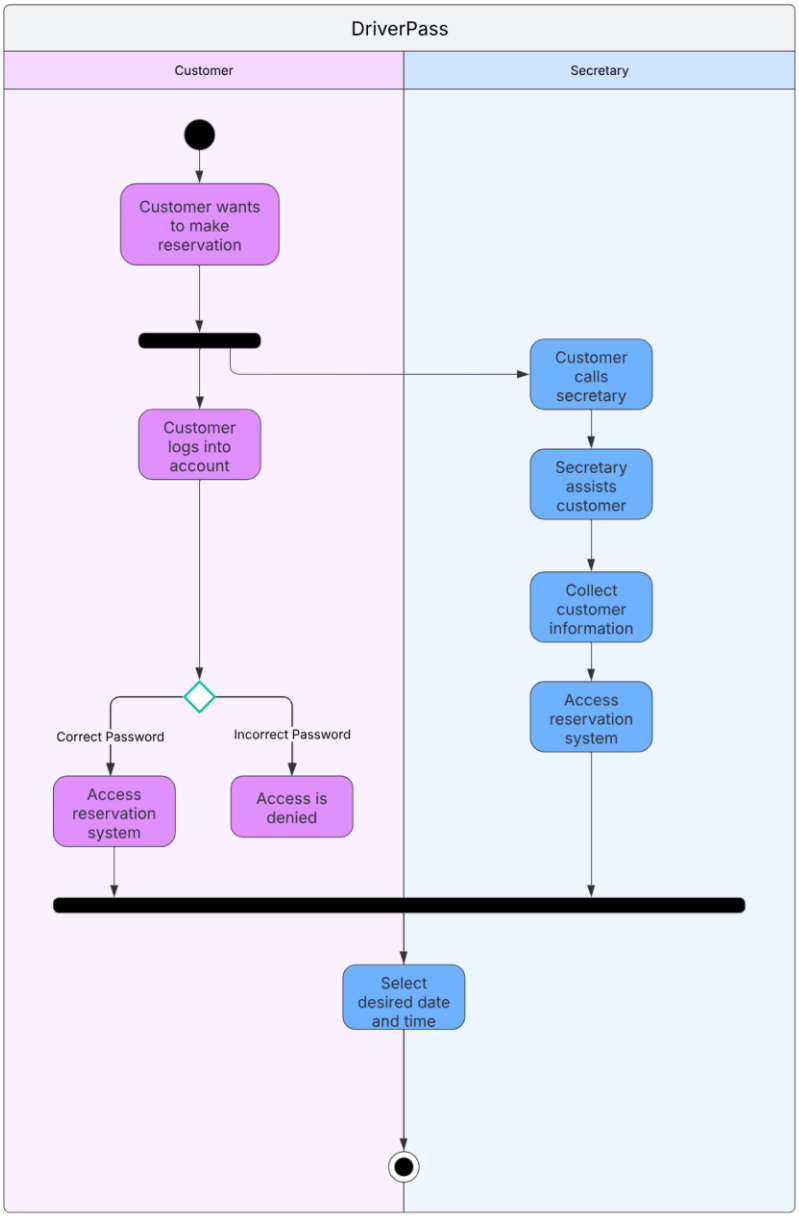
UML Use Case Diagram

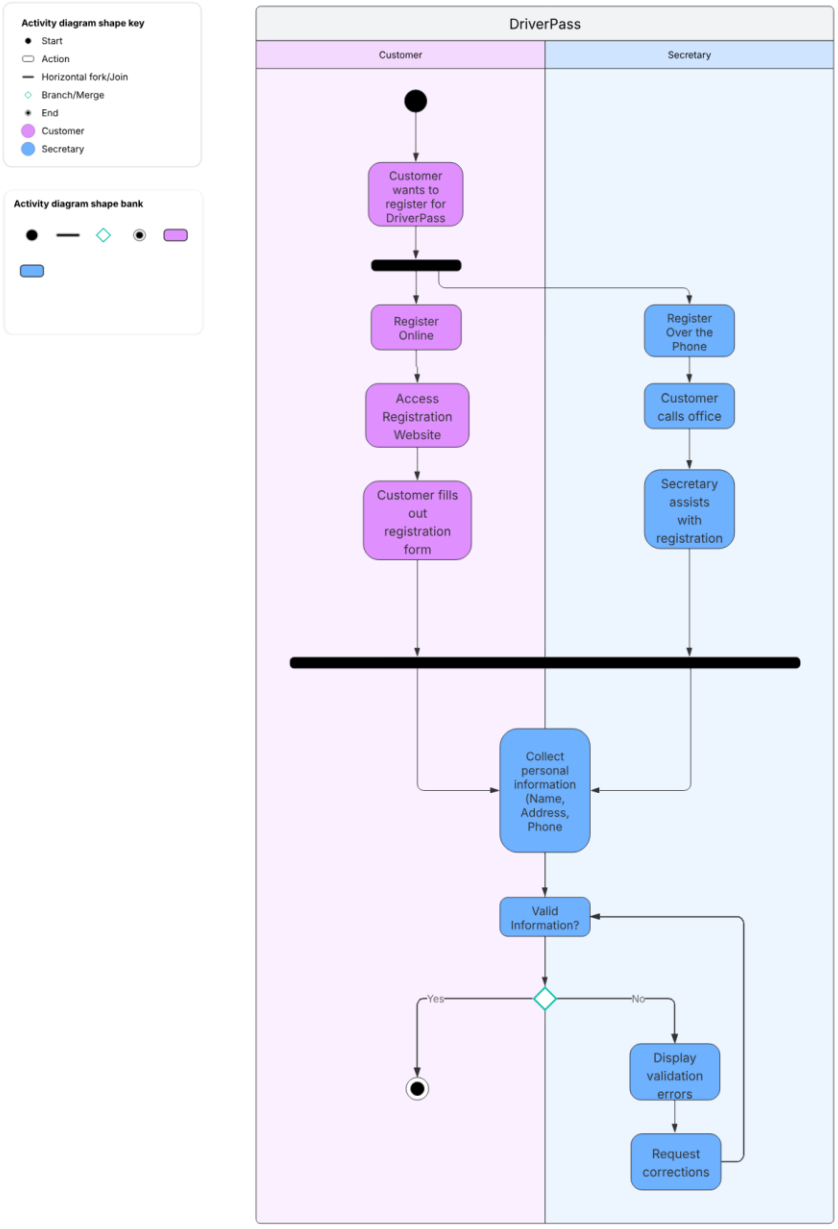


UML Activity Diagrams

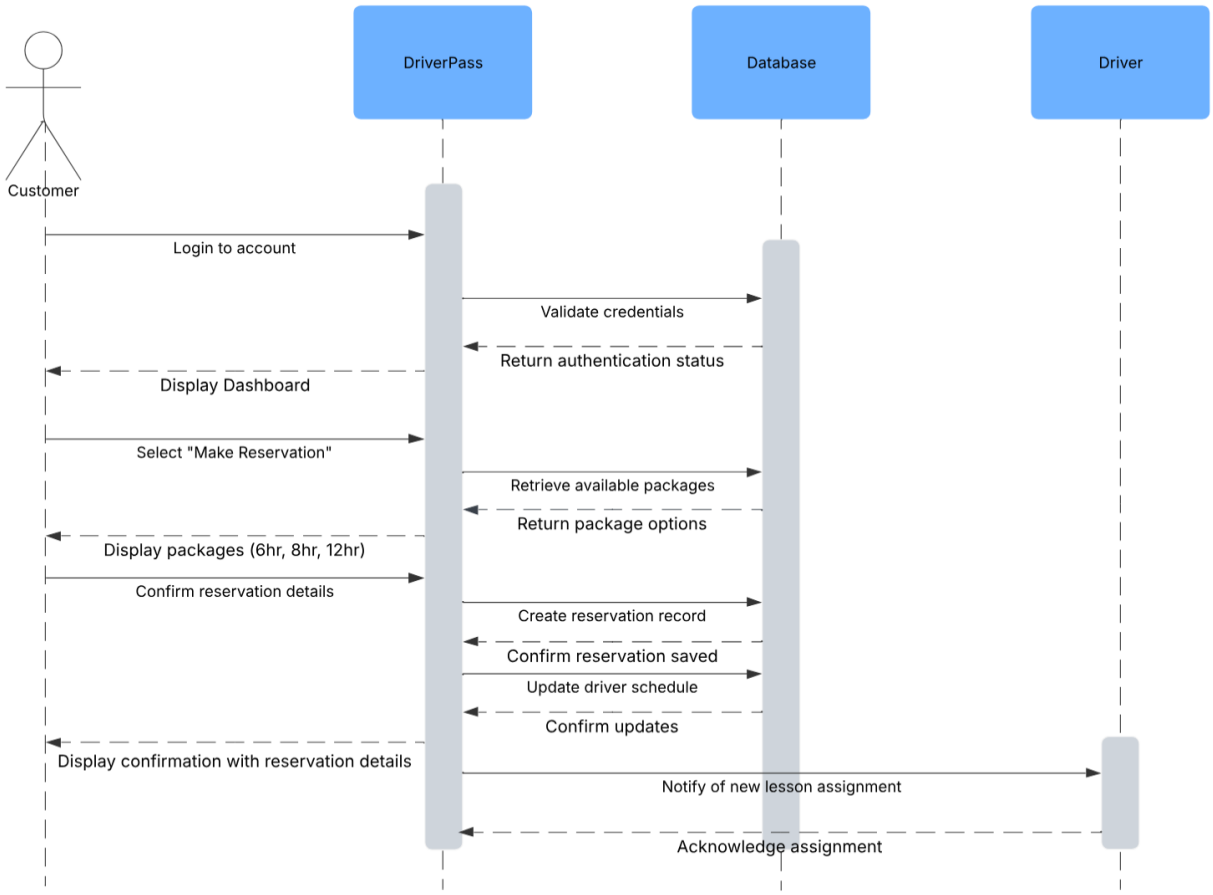

Activity diagram shape key
Start
Action
Horizontal fork/Join
Branch/Merge
End
Team/department name
Team/department name


Activity diagram shape bank

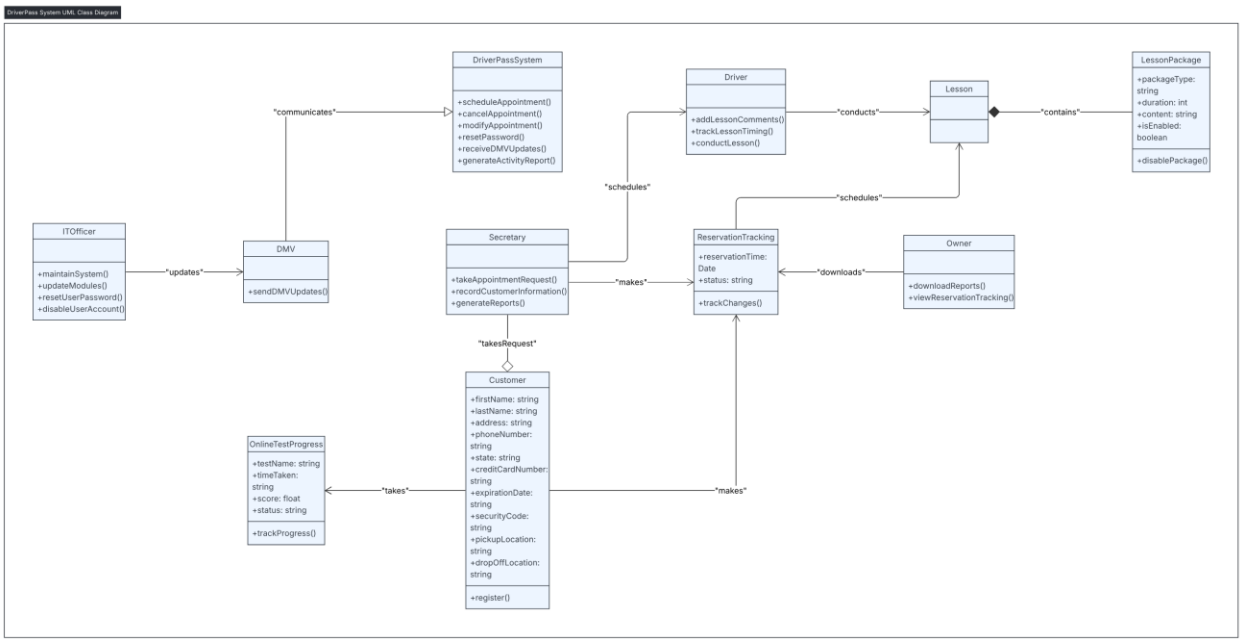

DriverPass
Customer
Secretary
Customer wants to make reservation
Customer logs into account
Customer calls secretary
Secretary assists customer
Collect customer information
Access reservation system
Correct Password
Incorrect Password
Access reservation system
Access is denied
Select desired date and time


Activity diagram shape key
Start
Action
Horizontal fork/Join
Branch/Merge
End
Customer
Secretary
Activity diagram shape bank
DriverPass
Customer
Secretary
Customer wants to register for DriverPass
Register Online
Register Over the Phone
Access Registration Website
Customer calls office
Customer fills out registration form
Secretary assists with registration
Collect personal information (Name, Address, Phone
Valid Information?
Yes
No
Display validation errors
Request corrections

UML Sequence Diagram



UML Class Diagram



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.]

The DriverPass system has a variety of requirements. The hardware requirements include server infrastructure, utilizing cloud-based servers to host the web application and database, sufficient processing power to handle concurrent users accessing online classes, practice tests, and reservation systems. Additionally, we need storage capacity for customer data, test content, driver notes, photos, and activity reports. Finally, we should acquire backup storage systems for data redundancy and disaster recovery. In terms of required software, it will be a web-based application platform with cross-platform compatibility for various operating systems. It will also utilize a responsive web design framework to ensure proper display across different screen sizes. For system related data, we will implement a relational database management system to store customer information, reservations, test progress, and system data. Data encryption will be implemented for sensitive information (credit card details, personal information, passwords). Additionally, the database will have backup and recovery capabilities. SSL/TLS encryption will be used for secure data transmission. The system will require a multitude of tools, including a front-end framework, such as React, as well as a server-side language, such as Java. Additionally, we will need to craft database queries for the functionality of the backend using SQL. In terms of infrastructure, we will need to utilize a cloud-hosting platform, a content delivery network, load balancing to handle multiple concurrent users, and automated scaling capabilities to handle peak usage periods. To receive updates from the DMV, we will need API connectivity to be current on rules, policies, and sample questions.