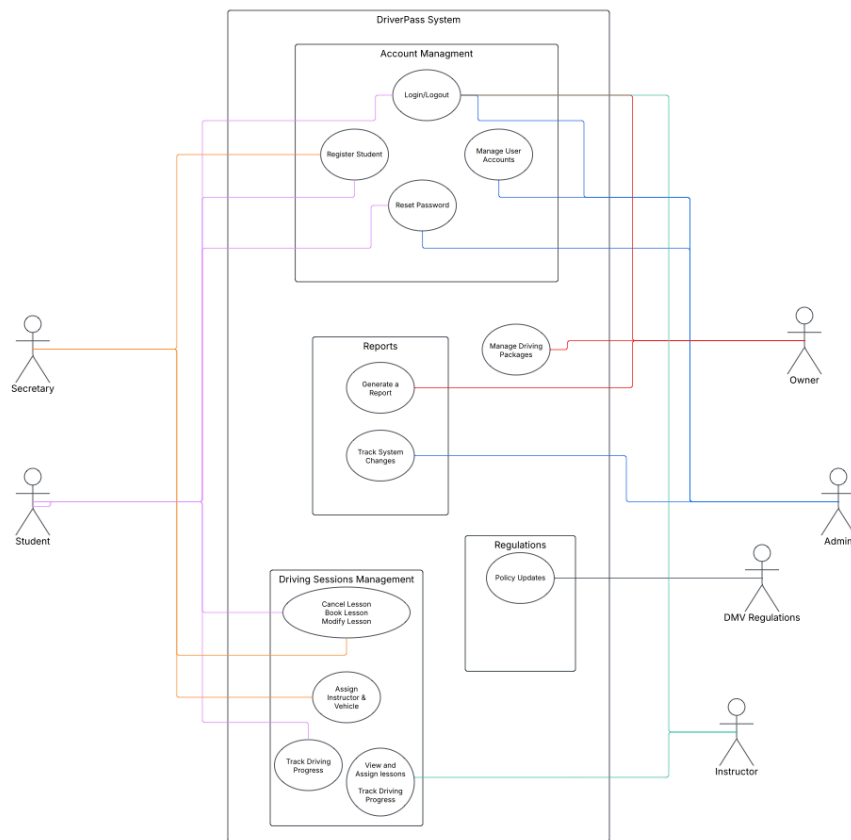Southern New Hampshire University

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.
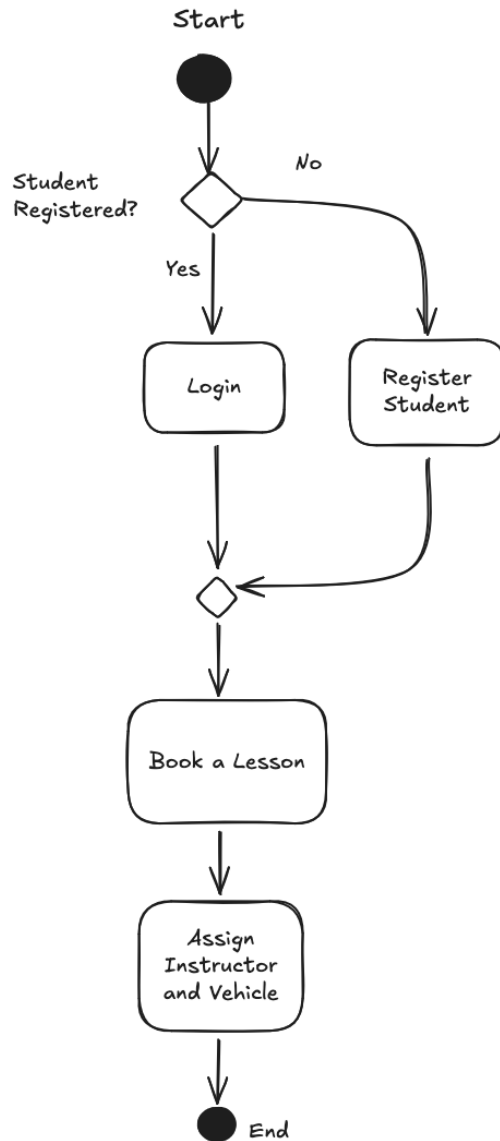
UML Diagrams

UML Use Case Diagram
[In Module Six, you were asked to complete a use case diagram based on your system design. If you would like to make any adjustments to your diagram, please do so. Please insert your use case diagram here. Check to make sure that you included appropriate components and symbols and that your design meets the client's needs.]

UML Activity Diagrams

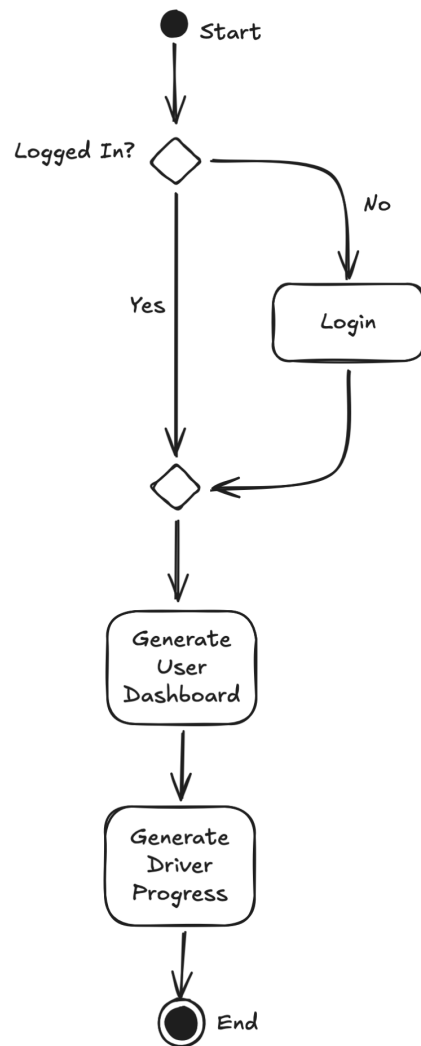Booking a Driving Lesson
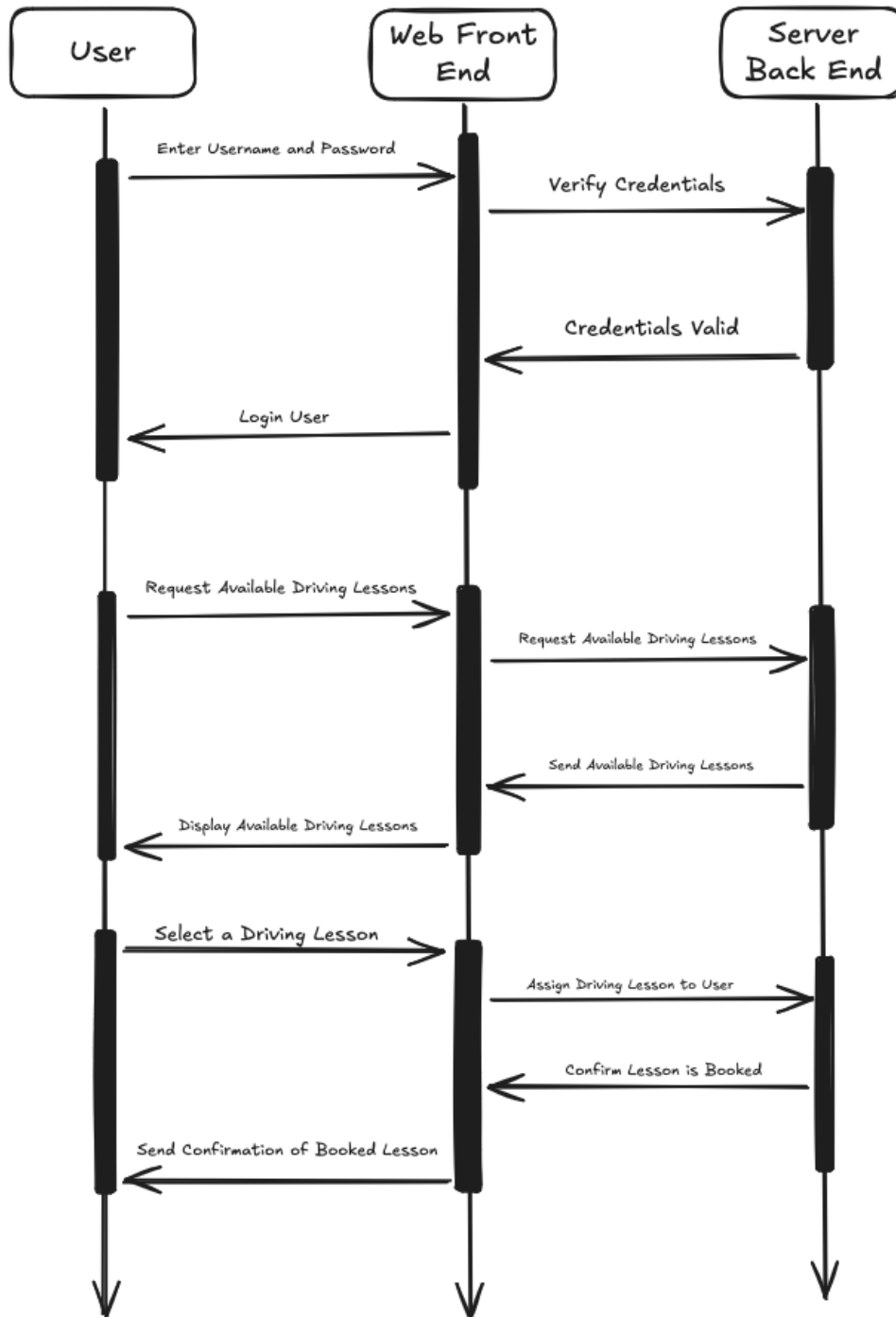
Start

Student
Registered?

No

Yes

Login

Register
Student

Book a Lesson

Assign
Instructor
and Vehicle

End

Tracking Driving Progress

Start

Logged In?

No

Yes

Login

Generate
User
Dashboard

Generate
Driver
Progress

End

UML Sequence Diagram

Booking a Driving Lesson

User	Web Front End	Server Back End

- Enter Username and Password (User → Web Front End)
- Verify Credentials (Web Front End → Server Back End)
- Credentials Valid (Server Back End → Web Front End)
- Login User (Web Front End → User)
- Request Available Driving Lessons (User → Web Front End)
- Request Available Driving Lessons (Web Front End → Server Back End)
- Send Available Driving Lessons (Server Back End → Web Front End)
- Display Available Driving Lessons (Web Front End → User)
- Select a Driving Lesson (User → Web Front End)
- Assign Driving Lesson to User (Web Front End → Server Back End)
- Confirm Lesson is Booked (Server Back End → Web Front End)
- Send Confirmation of Booked Lesson (Web Front End → User)

UML Class Diagram

Technical Requirements

- Hardware Requirments:
  - For the users:
    - Computers running Windows, macOS, or Linux
    - Tablets or Phones
  - Should be able to run modern web browsers
  - Networking:
    - Stable hi-speed internet connection
  - Server-Side
    - Web/Application Server:
      - High Power system capable of a high number of connections
      - RAID configuration of drives for data redundancy
      - Backup Server off site for data safety
      - Firewall for security
- Software Requirements
  - Client side
    - Firefox, Chrome, Edge, and Safari
  - Server Side
    - Linux Operating system for the server
    - Web server like Apache or Nginx
  - Application Framework
    - Like Spring Boot or another
  - Database Managment System:
    - SQL database
  - RESTful APIs
  - robust Security
- Infrastructure
  - Cloud or on Premise hosting