# CS 255 System Design Document Template

## UML Diagrams

### UML Use Case Diagram

A diagram with writing on it

Description automatically generated

### UML Activity Diagrams

*A diagram of a software system

Description automatically generated with medium confidence*

### A paper with writing on it Description automatically generated

### UML Sequence Diagram

Authentication Manager

*A diagram of a company

Description automatically generated*

### UML Class Diagram

Mission statement: Shows system level design for DriverPass

A diagram of a software company

Description automatically generated with medium confidence

## Technical Requirements

* DriverPass must be able to run 24 hours, 7 days of the week
* DriverPass must be able to handle any operating system, and be able to be accessible on any device, desktop, mobile, etc
* DriverPass must be able to handle X amount of users on it at the same time
* DriverPass must be able to process X registrations of packages per hour
* DriverPass must be able to handle X amount of financial transactions per hour
* DriverPass must be able to handle X amount of downloads of reports per day
* The system shall run off any web cloud based platform
* Rationale: The client said he wanted to utilize cloud however this design is not necessary in order to fulfill all the functions the client wants to accomplish. Therefore utilizing a fully web based system is sufficient.
  + The system shall be compatible with PC, mobile devices, and any other device that can access the application through a secure connection
* The system shall display all information for user in less than 2 seconds at least 80% of the time, and less than 4 seconds, 90% of the time
  + Rationale: According to the research (Wiegand, 2019) a load speed from 0-4 second load time is good for website engagement but one should aim for 0-2 second load times.
* The *client* system shall run on any platform (Windows, Unix, etc), for accessibility
* The system shall have database to store data about users and educational content
* DriverPass shall distinguish between regular users and special users (admin, developer, or system analyst) via password/pin
* The system shall store information like first name, last name, address, phone number, state, credit card number, expirations date, and security code, pickup locations, and drop off location, for when customers call in to register.
* The input in the system shall be case-sensitive
  + Rationale: According to (Sether, 2015), case sensitive passwords significantly increase the number of possibilities, therefore the increased search space makes attacks on leaked hash databases less feasible. In other words, it helps with security.
* The system shall allow staff to update instructional content and exam to current DMV requirements upon update by the DMV
* The system shall allow a developer or a system analyst to dynamically update packages (for example add or remove modules, instructors, etc.
* The system shall allow the owner to be able to disable a package without code.
* The system shall let customer who forgot their password to be able to automatically reset it
* The system shall allow an IT to block access to someone’s access if they are ‘let go’ (meaning if an employee is fired or a customer cannot pay)
  + The system shall allow the IT to have full access over all accounts so that he/she can reset them if someone forget their password
* The system shall not allow duplicate users to be made