# CS 255 Business Requirements Document Project One

## System Components and Design

### Purpose

* This project has been commissioned by our client, DriverPass with the goal to expand resources to student drivers. We are to create a web-based platform that allows our client to provide online information and in person training to new drivers that is up to date with the latest regulations from the Department of Motor Vehicles (DMV).

### System Background

* The client would like to provide easy access resources to new drivers including practice tests, online lessons, and the ability to self-schedule in person lessons.
* Our client would like us to build a web-based system utilizing cloud architecture to provide cross-platform access to end users, as well as flexibility to employees.
* This system will be self-sufficient regarding security and backups, and the GUI will follow the provided blueprint.
* The system will receive current information regarding rules and regulations from the DMV and ultimately, reduce the number of failures of driving tests.

### Objectives and Goals

* The end user should have the following functionalities:
  + Reserve packages from the given selection
  + Access online informational content
  + Schedule in-person appointments and provide preferred time and day
  + Take practice tests online
  + Track progress
  + Access & fill out forms
* The business side should have the following functionality:
  + Multiple Roles with different access levels
  + IDs for cars, drivers, users, and appointments
  + Disable/modify packages
  + Receive notifications about changes to regulations from DMV
  + Download reports for offline work
  + Online access for credentialed employees
  + Three packages with client provided details
  + Ability to reset and modify user accounts
  + Store customer information including:
    - Name
    - Address
    - Phone #
    - State
    - Credit Card Info
    - Pickup & Dropoff Locations

## Requirements

### Nonfunctional Requirements

#### Performance Requirements

* System should have a MBTF of greater than 1 month
* System should have an uptime of greater than 98% between the hours of 8am-11pm
* Time to log on to the platform should not exceed 30 seconds
* Platform should be a web-based application
* System should check for updates to driving laws daily and provide an alert to admins

#### Platform Constraints

* Platform should be accessible on web browsers on MacOS, Windows, and ChromeOS
* System should maintain a database of users containing the following information
  + User ID
  + Password
  + Address
  + Payment Information
  + Account Type
  + Name
  + Phone Number
* Server application should be built on Windows
* System should store cars, drivers, and appointments in a database

#### Accuracy and Precision

* System should have three user types: Administrator, Secretary, and student
* Input should be case sensitive on the log in screen only
* System should track issues via a log and alert admins upon discovery of issue
* User information should be verified (e.g., make sure address is valid)
* Appointments should display according to the individual user’s time zone
* Appointments should pair a user with a driver

#### Adaptability

* Both students and admins should be able to modify user information
* Admins and secretaries should be able to modify appointments and curriculum
* Students should be able to modify appointments and view course progress
* Course progress consists of four states:
  + Not taken
  + In progress
  + Failed
  + Passed
* Platform should only update back-end functionality while leaving the UI intact
* Admin users should have access to the source code and the issue tracker
* Student users should only interact with the client side of the program
* Student users should only have access to the course materials based on their selected package
* Accounts should be created and removed by the user or an admin
* Platform should be accessible via any device with proper credentials

#### Security

* Password should require both an upper-case and lower-case letter as well as a number
* User account should lock for 1 hour after three failed login attempts
* User passwords can be reset by the user or an admin upon verification including:
  + Security Questions
  + SMS Code
  + Email
* Usernames should be unique with validation upon account creation
* Student users should only have access to the public server which relays data to the private server
* Sensitive information such as credit card details should be encrypted before transport
* Admin logins should be tracked within a data log
* Admin users should require Multi-Factor Authentication using SMS or email
* Platform should enable some form of DDOS protection such as Cloudflare
* Server should store passwords and usernames in separate databases.

### Functional Requirements

* The system shall allow students to message instructors
* The system shall validate user credentials when logging in
* The system shall allow instructors to update course material, grades, and appointments
* The system shall allow students to view their courses, grades, test progress, and messages
* The system shall contain predetermined statuses for student progress
* The system shall maintain up to date information regarding laws and regulations
* The system shall remain online as frequently as possible
* The system shall send reminders regarding appointments to the user’s email and phone number
* The system shall store payment and personal data securely
* The system shall allow administrators to monitor function and update when necessary
* The system shall contain three packages for the student to purchase

### User Interface

* The user interface shall contain a display layout which adapts to the aspect ratio of the window
* Prominent information including online test progress, driver notes, and user information shall be displayed on the home page regardless of the platform
* The user interface shall present the user with clear tabs to access different functionalities such as messages, appointments, forms, and account information
* The company logo shall be displayed at the top of the page
* Driver and student photos shall be displayed in the bottom right of the page

### Assumptions

* The users will have access to an internet connection
* The users will be able to take a picture and upload it
* The server will be maintained by a third-party cloud service
* The admins will be diligent in checking and identifying issues
* The student will have access to transportation to the appointment location
* All users will act in good faith when entering information and taking tests

### Limitations

* System is reliant on server uptime
* The system will not function without access to a web browser, electricity, or computer hardware
* Appointments can only be scheduled around the driver’s availability
* Business must use a developer of system analyst to add or remove modules

### Gantt Chart

*Chart, waterfall chart

Description automatically generated*