# CS 255 Business Requirements Document Template

## System Components and Design

### Purpose

* The purpose of this project is to provide students with access to online practice exams and on-the-road training to better prepare them for driving tests. DriverPass wants our help in designing a system that can handle these needs.

### System Background

* DriverPass want the system to be able to train driver students using online classes, practice tests, and on the road training. The problem they are trying to fix is the lack of better driver training.
* The different components of this system that are required are:
  + Security
  + Tracking
  + Reservations and cancellations
  + User Accounts
  + The Packages
  + System Flexibility
  + Registration information
  + DMV Connection and Updates (Compliance)
  + User Password Reset
  + User Interface

### Objectives and Goals

* When this system is completed, it should:
  + Have a user interface pertaining to the sketch of the owner where users can interact with the system based on their level of authentication.
  + Have a page where users enter their information.
  + Have an authentication page where it requires the username and password.
  + Have a system by which a user can reset their password.
  + Have a registration page where users can select their purchase package.
  + Have a progress bar on the home page where it shows the progress of the students and their scores.
  + Have an online class system where the students can learn online driving lessons.
  + Have an authentication system that passes the owner, where he can update the packages and edit the system.
  + Have a system by which the owner can access the entire system while online or offline.
  + Have compatibility with mobile as well as computer devices.
  + Have the owner account have access to all other accounts with permission to modify, create and delete accounts.
  + Have a system by which the owner receives alerts on reservations and cancellations.
  + Have a way for the registrations to be modified by the secretary.
  + Have 2 other special accounts: the secretary’s and Ian’s accounts.
  + Be carried out in the cloud.

## Requirements

### Nonfunctional Requirements

#### Performance Requirements

* The data users will access will be stored on servers within the cloud.
* The user environment will be web-based.
* Users should load the website without complications.
* The data should not be updated or modified unless the updater is online, for the sake of minimizing duplicate data on different servers.
* There should be a connection with the DMV so that the DMV can update DriverPass with new rules, policies, or sample questions.

#### Platform Constraints

* The system should be able to connect to a diverse set of clients including Windows, Linux, MacOS, Android OS and iOS. This is required to target customers that use this set of platforms.
* The back end requires a database that hosted in the cloud. The website will have built in API system that is used to connect the client to the database over the internet. Data will not be stored on the client’s end, rather, all data will be stored in the cloud.
* When a mobile device browser acts as a client, the user interface should be able to adapt to the size of the screen.

#### Accuracy and Precision

* Users will register or have a registered username and password; both should be case sensitive. The authentication system should be able to accurately identify different accounts based on the username and password.
* 2-factor authentication system should be provided as an option for added security.
* The use of cookies on the website will identify new visitors from returning customers.
* The system should inform the admin of a problem in the software as soon as it is detected and identified. The timing should be based on the severity of the issue, with critical problems requiring immediate attention and less pressing issues being reported at the earliest opportunity. The goal is to ensure that any problems are dealt with promptly so as to minimize their impact on the software and its users.

#### Adaptability

* The system should be able to notify the admin account and certain employee accounts of changes in DMV rules or policies.
* The IT admin account should be able to modify any user or employee account username or password without any change of code. It should be able to block access to the database should an employee be let go.
* The IT admin account should be able to modify existing modules or packages with the help of a developer. The code should be as adaptable as possible.
* As demand for new functionalities arise, the system should be updated as required.

#### Security

* When a user visits the website, the website should give a choice to the user whether to sign into a previous account or to create a new account. The authentication system should be able to identify different accounts based on the entered username and password.
* Two factor authentication system must be present via SMS message or a verification application.
* If user has forgotten their password, an automatic system should be present to reset the password via sending a verification message to the user’s mobile phone or email address.
* An indication of a brute force attempt, such as 20 attempts within 10 minutes, should activate locking of the account. The system should promptly notify the user and have them reach out to user support.

### Functional Requirements

* The system shall validate users using their credentials and the two-factor authentication when logging in.
* The system shall lock the account if a brute force attempt is suspected; the user shall be notified promptly.
* The system shall display the progress of the customer in the driving training or class they are taking.
* The system shall provide three driving appointment packages.
* The system shall provide reservations for customers via the secretary account.
* The system shall provide contact information between the customer and the instructor during reservation.
* The system shall provide written notes and exercises categorized under driving classes.
* The system shall provide the right tools (such as schedulers) for registration in classes, tests or driving lessons.
* The system shall make it possible to cancel reservations.
* The system shall process payments from PayPal, credit cards and bank transfers.
* The system shall display the contact information of customer service.
* The system shall be designed in a way that it is responsive to and accessible on various devices and screen sizes.
* The system shall give the IT admin the option to modify all user and employee accounts.
* The system shall give the IT admin the option to download reports for offline analysis work
* The system shall keep track of changes made to reservations and the employees who did it. It shall be summed up in a printable activity report.
* The system shall give the IT admin the option to cancel the display of a package.
* The system shall notify the IT admin when there are rule or policy changes at the DMV.

### User Interface

* Available device platforms include non-touch display screens and touch screens; input method shall be flexible accordingly.
* The user interface will change according to user authentication. For example, if the user is a customer, they will see the home page, their progress in class, scheduler, profile information, instructor information, customer service contact information in the display screen. If the user is and admin, the display screen will show much more choices for the modification of the components of the system. If the user is the secretary or an employee with access to the system, the display screen would show the interface to cancel reservations or cancel appointments.

### Assumptions

* The system assumes customers have their own device for online learning.
* The system assumes customers have a reliable connection to the internet.
* We assume that all development costs come under a provided budget.
* We assume that the initial phase of the development of the system will be completed within 95 days.
* We assume that the educational content lies within legal and regulatory compliance.

### Limitations

* Certain feature might take longer to develop than expected.
* Potential budget constraints.
* Internet availability to the customer.
* A device is needed to access the online content.
* Potential performance limitations.
* Time constraint for project completion.
* Compatibility with numerous browsers.

### Gantt Chart

Chart, waterfall chart

Description automatically generated