# CS 255 Business Requirements Document

## System Components and Design

### Purpose

*What is the purpose of this project? Who is the client and what do they want their system to be able to do?*

* Give students access to better driver training with online classes and practice tests, as well as in-person on-the-road training.
* Allow students to create appointments for training sessions.
* Allow management to view reports of the system and give access to secretaries to create, modify, and remove appointments.
* Receive live updates from DMV on new rules or policies.

### System Background

*What does DriverPass want the system to do? What is the problem they want to fix? What are the different components needed for this system?*

* DriverPass saw a need for better training for students that are trying to obtain a driver’s license.
* The system will allow customers to take online classes, practice tests, and on-the-road training sessions.

### Objectives and Goals

*What should this system be able to do when it is completed? What measurable tasks need to be included in the system design to achieve this?*

* Provide reports for the owner such as activity tracking within the system.
* System will utilize a cloud setup to reduce the need for technical support.
* Allow customers to set/keep track of reservations or allow them to call a secretary to set it for them.
* Show customers who their assigned trainer is as well as the car they are going to be using.
* Interface to show relevant information such as their current test progress, or previous test grades, basic information to who they are, notes from the drivers they were with as well as lesson times, and contact information to DriverPass.
* Allow the system to get updates and send notifications when changes are made by DMV involving rules on the road.
* When registering for a driving session, the secretary receives a call from the customer or the customer is prompted with a form that is filled out including information about name, address, pickup/drop off location, date, etc. \*\*Only available dates should be shown\*\*

## Requirements

### Nonfunctional Requirements

*In this section, you will detail the different nonfunctional requirements for the DriverPass system. You will need to think about the different things that the system needs to function properly.*

#### Performance Requirements

*What environments (web-based, application, etc.) does this system need to run in? How fast should the system run? How often should the system be updated?*

* Web-based application stored in the cloud.
* The chosen Cloud platform should allow for automatic backups at regular intervals.
* The system is to be updated every time the local DMV makes changes to their rules.
* Will need somewhat quick data speeds due to the need for customers to view training videos.
* Allow users to download data locally so that the site can be viewed offline.

#### Platform Constraints

*What platforms (Windows, Unix, etc.) should the system run on? Does the back end require any tools, such as a database, to support this application?*

* The system should be able to run on any platform, including mobile and accessed by anyone.
* The backend will require a database for storing customer account information and training videos.

#### Accuracy and Precision

*How will you distinguish between different users?* *Is the input case-sensitive? When should the system inform the admin of a problem?*

* Users can be distinguished via a randomly generated account number or using their full name and email.
* If by account number, inputs will be case-sensitive.
* Admins will receive notifications if a user makes too many login attempts with the wrong information or if a user needs to reset their account.

#### Adaptability

*Can you make changes to the user (add/remove/modify) without changing code? How will the system adapt to platform updates? What type of access does the IT admin need?*

* The DriverPass owner will be able to change aspects of the user’s access.
* When platform updates arise, the system will adapt accordingly, and changes will be made to ensure there are no compatibility issues.
* The IT admin should be able to make changes to the system and, after being given authority, have access to accounts to make any changes necessary to fix any issues.

#### Security

*What is required for the user to log in? How can you secure the connection or the data exchange between the client and the server? What should happen to the account if there is a “brute force” hacking attempt? What happens if the user forgets their password?*

* Possible login requirements could include password requirements to ensure it is unique and hard to guess.
* Two factor authentication could be added where the system sends a unique one-time code to the user’s email or phone number via text that must be entered.
* Certain security layers could be utilized by the server to create an encrypted session between the server and client and make sure transmissions are encrypted.
* If an attempted hack is found, the victim’s account should be locked until further verifications can be made to ensure the hacker no longer has access.
  + This could be done by using tracking services to keep track of the devices that have access to an account and in the event of unwanted access, all devices should be removed.
* If the user forgets their password, a link to their email could be sent to reset it.
  + A security question could also be utilized to ensure that it is the real owner.

### Functional Requirements

*Using the information from the scenario, think about the different functions the system needs to provide. Each of your bullets should start with “The system shall . . .” For example, one functional requirement might be, “The system shall validate user credentials when logging in.”*

* The system shall validate user credentials.
* The system shall allow users to change their account information (i.e., Name, address, email)
* The system shall allow the owner to add/remove/modify system admin’s privileges.
* The system shall allow admins to customize driving session packages.
* The system shall allow users to create/cancel/modify reservations for test drives and select available cars/instructors.
* The system shall allow secretary admins to add/remove/modify reservations to a user’s account.
* The system shall create reports for various data points in the system.

### User Interface

*What are the needs of the interface? Who are the different users for this interface? What will each user need to be able to do through the interface? How will the user interact with the interface (mobile, browser, etc.)?*

* General Users – Only edit their own information, create reservations, view instructor comments.
* Secretary Admins – Create/Edit reservations for customers, Create/Edit customer information.
* Owner Admin – Create/Edit/Remove other admins, fix errors with user accounts.
* All information must be able to be viewed on mobile devices.

### Assumptions

*What things were not specifically addressed in your design above? What assumptions are you making in your design about the users or the technology they have?*

* Users may not have much experience with the system so it must be simple (easy to read) yet detailed.
* No experience with online systems which will need a good amount of tech support.
* Changes will be made to the design.
* Users could have older technology so it should be as compatible as possible for them.

### Limitations

*Any system you build will naturally have limitations. What limitations do you see in your system design? What limitations do you have as far as resources, time, budget, or technology?*

* The available budget for DriverPass may not be enough.
* Limited info on the way that available vehicles will be tracked.
* Allocated time may not have enough free time for future changes.

### Gantt Chart

*Please include a screenshot of the GANTT chart that you created with Lucidchart. Be sure to check that it meets the plan described by the characters in the interview.*

A screenshot of a project

Description automatically generated