# 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?*

* This project is for one of our clients, DriverPass. The purpose is to provide robust training for prospective drivers. Currently a significant portion fail their initial driving test, their aim is to increase pass rates at the DMV. They want to prepare their customers by offering online classes and practice tests as well as on the road training classes aligned with DMV requirements.

### 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?*

* The client has asked us to build a system that provides better training for prospective drivers, currently a significant portion fail their initial driving tests taken at the DMV.
* The system will provide customers with the options to participate in and pay for online classes and practices quizzes as well as allow for the option to schedule, adjust and cancel in person training reservations based on three different packages offered.
* The client has 10 cars and drivers for the system to schedule appointments around, tracking cars and times that they are reserved to avoid scheduling conflicts.
* System sends alerts/notification to admis when DMV regulations update.
* The system will consist of a cloud-based web program that provides secure access according to roles/permissions and downloadable reports of tracked information/progress.

### 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?*

* The system will provide the user with the following functions:
  + Log into their account
  + Schedule in-person classes (choosing one of three packages).
  + Pay Balances
  + Take online training classes
  + Take online practice tests
  + Check their progress
  + Downloadable reports
  + Password Resets

## 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/cloud-hosted application
* Accessible via browsers and mobile devices
* Real-time data updates when online
* Reports downloadable in Excel format

#### 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?*

#### Must run on major browsers and mobile OS (Android/iOS)

#### Backend should support cloud storage (e.g., AWS/GCP/Azure)

#### Uses relational database (e.g., PostgreSQL, MySQL)

#### 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?*

* User roles must be clearly distinguished (Admin, IT, Secretary, Customer)
* Inputs case-sensitive where necessary
* Admin notified of repeated login failures or unexpected behavior

#### 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?*

* Ability to disable packages without code changes
* IT admin should manage user roles and content dynamically
* Future-proofed to allow module addition by a developer

#### 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?*

* Role-based authentication with secure login
* Encrypted storage of sensitive data (PCI-compliant)
* Account lockout after 5 failed login attempts
* Secure password reset via email verification

### 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 during login.
* The system shall allow customers to create, modify, and cancel reservations.
* The system shall allow IT admin to reset passwords and manage access.
* The system shall allow secretaries to book sessions manually.
* The system shall store and display customer driving session history and feedback.
* The system shall display package selection and progress for each customer.
* The system shall notify admin of DMV updates.
* The system shall generate downloadable reports.

### 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.)?*

* User roles:
  + Customers: Book classes, view test results, reset passwords
  + Secretary: Add new customers, schedule/cancel appointments
  + Admin/IT: Manage users, monitor activity logs, system configurations
* Platform: Web browser and mobile-responsive design
* Interactions: Form inputs, calendar scheduling, table views, notifications

### 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 have internet access and a modern device

* Admins and secretaries have basic tech skills
* DMV provides update feed or integration endpoint
* Future package customization will require developer input

### 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?*

* If payment or email providers go down, some features won’t work.
* Real-time synchronization is limited to online access only
* Budget constraints may limit features
* Performance may vary across older phones or browsers.
* Small development team may limit rapid iterations

### 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 graph with multiple colored bars

AI-generated content may be incorrect.