# CS 255 Business Requirements Document

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## 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?***

The client is Driver Pass , and the purpose of this project is to provide people with better driver training to prepare them for the DMV test. The client wants to do this by giving their customers access to online classes, quizzes, and the ability to make online reservations

### 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?***

* Driver Pass wants to provide high quality resources to prepare people for the DMV exam. They want to do this through online classes and practice quizzes.
* The problem they want to fix is to fill the market void for training students for their driving test.
* Option for on-road training
* The first component of the system is ensuring the reservation system can identify the driver that the customer is scheduled to go with.
* Another component is having the ability to track the driver that the user is matched with, as well as the time and car.
* Ensure that all online classes and quizzes are current to DMV requirements.
* System must be connected to the DMV to provide Driver Pass with new rules, policies or sample questions. They want to receive notifications when an update is made.
* The client wants the system to run on a cloud to avoid dealing with backup and security issues and operate with minimal technical problems.

### 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?***

* Make online reservations
* Customer can choose from one of three driving packages. Each package includes a trainer, and each driving session is 2 hours long, but the total amount of driving hours varies per package. The minimum amount of total driving time offered is six hours.
* Display test progress information: test name, time taken, score, and status (i.e: in progress, failed, or passed).
* The client also wants driver notes to be visible with any comments made, and times the lessons took place. They would like this in a table format( Lesson Time, Start Hour, End Hour, Driver Comments).
* The client wants an input form for the student or secretary to fill out with first name , last name, address, and student contact information .
* Client can access on the road training if desired.

### Nonfunctional Requirements

#### 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 on a cloudn accessible from computers and mobile devices
* The system should run with minimal technical problems and without performance degradation
* System must provide real time access to customer and scheduling data

#### 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 back end must support an integration with the DMV for rule and policy updates
* The system must run on modern web browsers such as : Chrome, Safari, Firefox, and be OS independent (Windows, MacOS, and mobile platforms)
* Secure cloud-hosted database (ex. Firebase or Azure SQL) is required to store scheduling data, customer data, driver logs, test results and driver package options

#### 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?***

* Each user will need to log in using a secure, unique username and password combination
* The users will be admin secretary, IT officer, and customers
* The input for names and passwords should be case sensitive for security purposes
* Activity tracking will create a log of every change that is made to a user’s information, existing reservations, or training logs for auditing purposes

#### 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?***

* Admin users must have access to a control panel that allows them to enable/disable packages, reset user accounts and manage appointments without requiring any code changes
* IT admins require full access to account management, user permissions, and system settings
* The interface should be responsive to any updates made to the browser and platform while relying on a modern framework

#### 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?***

* Users must log in using a strong password, and password resets will be accessible via secure email or SMS verification
* All data exchanges between client and server must be encrypted using HTTPS/SSL to protect sensitive information
* If multiple failed login attempts are made, this could indicate a brute force attempt. The system will lockout the user, notify the user and alert IT admin.
* If a user forgets their password, they can submit a password reset request with a link that has an expiration on the time limit

### 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 new customer registrations, scheduling, cancellations, and online driving lesson modifications
* The system shall allow the secretary to manage lesson reservations on phone or in person
* The system shall match reservations according to the available instructors, vehicles and time slots
* The system shall be integrated with the DMV to allow automatic updates on rules, policies, or test questions
* The system shall provide instructors with the ability to record lesson times, driver notes, and test results.
* The system shall allow administrators to enable or disable training packages without requiring a code change.
* The system shall track and log all changes to reservations, customer accounts, and lesson notes for auditing purposes

### 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.)?***

* **Customers:** Account creation, lesson reservations, view schedules, take practice tests, and track progress
* **Secretary:** Manage lesson bookings, view customer details, and update schedules.
* **Instructors:** View assigned lessons, record lesson notes, and update student progress.
* **Admin (Owner):** Access to all system functions, reporting, user and schedule management.
* **IT Officer:** Management of security settings, account resets, and ability to maintain the system.
* **Users:** will interact with the interface via desktop or mobile browsers, with a clean, intuitive layout for easy navigation.

### 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 will have access to a reliable internet connection and a modern web browser.
* DMV will provide timely updates in a compatible format with system integration.
* All employees and customers will have basic computer literacy.
* The initial version of the system will only be available in English.
* Lesson time length, package items, and pricing are determined by the business and not by the system.

### 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?***

* Adding or removing training packages/modules will require developer intervention, and an administrator can enable/disable existing packages.
* The system’s performance relies on internet connectivity, and offline changes will not be supported.
* The budget can limit advanced features such as predictive analytics or optimization using AI-based scheduling.
* External dependencies, such as DMV updates, can cause delays in maintaining up-to-date training materials.
* Development timelines are subject to available personnel and project deadlines, which will limit the scope of features available in the initial system release.

### Gantt Chart

A calendar with a schedule

AI-generated content may be incorrect.