# CS 255 Business Requirements

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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 DrivePass. They want a system that allows clients to schedule appointments and choose which package and days they want. The staff wants the ability to check openings, change information on the site, and disable scheduling if needed. The primary purpose is to create a site where DrivePass clients can visit to schedule online or in-person training.**

**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?***

* **DrivePass wants the system to be able to create schedules, provide online driver training, and retrieve information from the DMV site for continuous updates. They also want to fix the DMV's driving test pass rating. The system should be on a cloud server with an easy-to-use UI.**

**Objectives and Goals**

***When completed, what should this system be able to do? To achieve this, what measurable tasks need to be included in the system design?***

* **The system should make it easy for DriverPass to securely access data, handle appointment scheduling, and offer a simple online interface. It should work online and offline, allowing the owner and staff to look up customer records and download reports from any device. Different users (like the owner, IT staff, secretaries, and customers) will have specific permissions to keep data secure, with options to reset passwords and track security. Customers need to book, change, or cancel lessons online, and DriverPass should be able to assign each lesson to a driver and car. The system will include three package options with different training levels, and there should be an option to turn off packages if needed. Customer information, like registration and payment details, needs to be kept safe. Finally, the system should stay connected to the DMV to keep training materials current and be cloud-based for easy access with a simple layout that meets DriverPass's needs.**

**Requirements**

**Nonfunctional Requirements**

**Performance Requirements**

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

* **The system will be a web-based platform, so it needs to run smoothly on modern browsers like Chrome, Firefox, and Safari. It should load quickly, ideally in less than 3 seconds, so users do not have to wait around. The DMV information should also be updated daily to ensure everything stays current.**

**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 work on all major operating systems, including Windows, Mac, and Linux, for web access and administrative tasks. The back end will store customer data, schedules, and reports in a cloud database like AWS RDS or Azure SQL.**

**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?***

* **The system must recognize different types of users based on their login credentials. Each user type will have specific permissions to keep things secure. For example, only administrators should be able to change specific settings. The system will also require case-sensitive logins to improve security, and the admin should be notified of any login issues, like failed attempts.**

**Adaptability**

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

* **Admins should be able to add, remove, or change users without updating the code. The system should also be able to handle platform updates (like browser updates) automatically. IT staff should have full access to manage users and settings.**

**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 a "brute force" hacking attempt exists? What happens if the user needs to remember their password?***

* **To log in, users will need a username and password, and multi-factor authentication (MFA) will be required for admins to add an extra layer of security. All communication between the client and server will be encrypted to prevent data leaks. If someone tries to hack into an account by guessing the password (brute force attack), the account will be locked for 15 minutes after five failed login attempts. If someone forgets their password, they should be able to reset it using a secure link sent to their email.**

**Functional Requirements**

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

* **The system will need to do many things. For example, it will allow customers to register their personal and contact details and payment data. Customers can choose from three lesson packages, each with a set number of hours. The system lets customers schedule, modify, or cancel lessons online. Staff members can assign lessons to specific drivers and cars based on availability. The system will keep track of customer data securely, and only authorized users can change that information. Administrators can generate reports about customers, their activity, and their lesson histories. The system should also automatically fetch updates from the DMV for training materials and keep everything current.**

**User Interface**

***What are the needs of the interface? Who are the different users of 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.)?***

* **Four main types of users will interact with the system: customers, the owner, IT staff, and secretaries. The customer interface will be a simple web-based platform that lets customers book, change, or cancel lessons online, view available packages, and track their progress. Staff members will use the platform to manage customer information and lesson schedules. The system will be optimized for mobile devices so customers can book lessons.**

**Assumptions**

***What things should have been addressed explicitly in your design above? What assumptions are you making in your design about the users or the technology they have?***

* **It is assumed that everyone using the system will have internet access to a device, whether it is a computer or a smartphone. The system will be built using modern web technologies like HTML5, CSS, JavaScript, and React and hosted on a cloud platform.**

**Limitations**

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

* **There are a few limitations to consider. Due to budget and time constraints, certain advanced features like AI-powered scheduling or voice command functionality may not be possible to implement. The system will also rely on third-party services like the DMV API to keep things updated, so if those services change or become unavailable, it could affect the system.**

### Gantt Chart

A close-up of a project management

Description automatically generated