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# 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?*

* The purpose of this project is to design and develop a comprehensive system that addresses the needs of DriverPass, a company aiming to enhance driver training and preparation for the DMV driving test. The client, DriverPass, envisions a system that provides online classes, practice tests, and on-the-road training, ultimately improving success rates among individuals taking their driving tests. The consulting company aims to create a user-friendly, secure platform that enables customers, administrators, and employees to efficiently manage appointments, track progress, and access relevant resources.

### 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 recognizes a significant problem prevalent in society: high failure rates among individuals attempting the DMV driving test. Many individuals struggle to pass due to inadequate training and preparation. In response, DriverPass seeks to offer a solution that combines comprehensive online training, in-person lessons, and practical driving experience. The company envisions a platform that empowers customers to schedule driving lessons, access training materials, practice tests, and effectively track their 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?*

* Provide an intuitive and secure platform for customers to seamlessly schedule and manage driving lesson appointments online.
* Offer comprehensive online classes and practice tests that align with DMV rules and policies, ensuring effective preparation.
* Enable administrators to efficiently manage customer data, appointments, and training materials, promoting operational efficiency.
* Implement a role-based access system to ensure data security and restrict access to authorized personnel only.
* Facilitate seamless communication among customers, administrators, and instructors, enhancing user experience.
* Establish a robust connection with the DMV to remain up-to-date with rule changes and policy updates, ensuring compliance.
* Create an appealing user interface that provides clear insights into progress, appointments, and training materials.
* Ensure the system operates reliably across various platforms, including web and mobile devices, enhancing accessibility.

## 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?*

* The system must be accessible via web browsers on diverse devices, including mobile phones and desktop computers.
* Response times for different operations should not exceed 2 seconds.
* Regular system updates, including database synchronization, should occur at least once per day.

#### 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 must be compatible with popular web browsers (Chrome, Firefox, Safari, Edge) on multiple operating systems (Windows, MacOS, iOS, Android).
* A robust database system is necessary for storing customer data, appointment details, and training materials.

#### 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 identification during login should be case-insensitive.
* Real-time alerts must be provided to administrators for critical issues.

#### 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?*

* Administrators should have the capability to add, modify, or remove user accounts without requiring code changes.
* The system should readily integrate with future platform updates.

#### 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?*

* User authentication must involve a combination of username and password.
* Data exchange between the client and server must be encrypted using HTTPS.
* Accounts should be temporarily locked after a specific number of failed login attempts.
* Password reset functionality must be securely facilitated through an email-based process.

### 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.”*

* Validate user credentials during login to ensure secure access.
* Allow customers to schedule, modify, or cancel driving lesson appointments conveniently.
* Provide various driving lesson packages for customers to select from, catering to their needs.
* Deliver comprehensive online classes and practice tests based on DMV rules and policies.
* Enable administrators to efficiently manage customer accounts, appointments, training content, and system settings.
* Establish a reliable connection with the DMV to receive updates on rules, policies, and regulations.
* Display comprehensive progress tracking information, including completed tests and lessons.
* Offer an intuitive interface for instructors to leave comments, specify lesson times, and interact with appointment details.
* Notify administrators promptly of any unusual activity or failed login attempts.

### 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: Seamless scheduling, appointment management, access to training materials, practice tests, and progress tracking.
* Administrators: Efficient management of user accounts, appointments, training materials, and system settings.
* Instructors: Intuitive interaction with appointment details, lesson times, and the ability to leave comments.
* The interface must be accessible via web browsers and mobile devices, ensuring broad usability.
* Users must benefit from an easy-to-navigate dashboard that provides a clear overview of appointments and progress.

### 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 possess basic internet access and are familiar with common web and mobile device usage.
* Users will provide accurate and valid personal information during registration.
* The system will regularly receive necessary updates from the DMV to maintain compliance with their rules and policies.

### 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?*

* System development will be influenced by resource availability, budget constraints, and project timeline.
* Future system features may require additional development to align with evolving business needs.

### 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.*

[Insert chart]