# CS 255 Business Requirements Document

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## System Components and Design

### Purpose

* 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

* 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

* 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

* **Responsiveness:** The system must respond to user actions within a maximum of 2 seconds for all standard operations.
* **Availability:** The system should be accessible 24/7, with scheduled maintenance windows communicated in advance.
* **Scalability:** The system must gracefully handle an increasing number of users and data without significant performance degradation.
* **Load Handling:** The system should be capable of supporting at least 1,000 concurrent users during peak usage periods.
* **Cross-Platform Support:** The system should function seamlessly on popular web browsers and various operating systems, such as Chrome, Firefox, Safari, Edge, along with compatibility among various operating systems like Windows, MacOS, iOS, Android.
* **Database Compatibility:** The system should work seamlessly with a widely used, robust database system for efficient data storage and retrieval.
* **Case Insensitivity:** User identification during login should be case-insensitive to prevent login errors.
* **Alert Precision:** Real-time alerts must be precise and promptly delivered to administrators for critical issues.
* **User Management:** Administrators should have the capability to add, modify, or remove user accounts without the need for code changes.
* **Future Integration:** The system should be designed to easily integrate with future platform updates and additional features to accommodate evolving business needs.
* **Authentication:** User authentication must involve both a username and password for enhanced security.
* **Data Encryption:** All data exchange between the client and server must be encrypted using HTTPS to ensure secure communication.
* **Account Lockout:** User accounts should be temporarily locked after a specified number of consecutive failed login attempts.
* **Password Reset:** Password reset functionality must be securely facilitated through an email-based process, following industry best practices for account recovery.

#### Performance Requirements

* 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

* 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

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

#### Adaptability

* 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

* 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

* 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

* 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

* 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

* 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

