# CS 255 Business Requirements Document

## System Components and Design

### Purpose

* The project aims to develop a comprehensive system for DriverPass, a new client seeking to bring changes to driver training services.
* The system aims to address inadequacies in traditional driver training methods and reducing the failure rates in driving tests at local Departments of Motor Vehicles (DMVs).
* The system aims to integrate online classes, practice tests, on-the-road training, and appointment scheduling to enhance the learning experience and increase the success rate of their customers.
* DriverPass seeks to fill the gap in the market and ensure that individuals are well-prepared and confident when taking their driving test.

### System Background

* DriverPass recognizes a significant problem wherein many individuals fail their driving tests due to inadequate preparation and training. There is a need for a more organized and accessible way for customers to schedule driving lessons and access training materials.
* DriverPass wants a system that will provide online driver training courses and practice tests, scheduling and management of on-the-road driving lessons and tracking and reporting of student progress and system activities.
* The system requires the following components:
  + User management module for handling various user roles (admin, IT officer, secretary, customers) to allow for account registration, login, role assignments, and password resets.
  + Schedule system component for reserving, modifying, and canceling driving lessons.
  + Online training module for online classes, practice tests, and tracking student progress.
  + Notification component for managing alerts and updates from the DMV and system activities.
  + Driver and vehicle modules for managing driver schedules, vehicle assignments, and lesson tracking.

### Objectives and Goals

* Provide a user-friendly online platform for users to access online classes, practice tests, and schedule driving lessons conveniently.
* Implement a flexible system architecture that enables access to data from any device.
* Create user roles and permissions for different employees, allowing them to perform tasks such as resetting passwords, schedule appointments, and manage accounts.
* Facilitate easy customization of driving lesson packages and the ability to disable packages.
* Design an intuitive interface with features such as progress tracking for tests, display of lesson details, and input forms for student information.
* Establish a connection with the DMV to receive updates on rules, policies, and sample questions, ensuring compliance and relevance of training materials.
* Generate detailed reports on user activities and system usage.

## Requirements

### Nonfunctional Requirements

#### Performance Requirements

* The system should operate on various environments to ensure accessibility. The web-based application should run on the web, over the cloud, for ease of maintenance and reliability.
* The system’s data should be accessible both online and offline.
* The system should perform efficiently to provide a smooth user experience. For example, the system should load pages within 2 seconds and process transactions (e.g. booking lessons) within 5 seconds.
* The system should be updated frequently to incorporate new features and security patches.

#### Platform Constraints

* The system should run on web-based platforms, be accessible on both desktop and mobile devices.
* To support the functionalities of the DriverPass system, the backend should utilize a relational database to support data management. A database is necessary to store user data, scheduling information, and lesson records.

#### Accuracy and Precision

* Users will be distinguished by unique usernames or email addresses.
* Input should not be case-sensitive except for passwords.
* The system should inform the admin of login attempts and system errors in real-time.

#### Adaptability

* The system should allow the addition, removal, and modification of users without code change.
* The system should adapt to platform updates seamlessly, with minimal downtime.
* The IT admin should have full access to all system modules for maintenance and troubleshooting (e.g. reset user passwords, block user access).

#### Security

* Users should log in with a username or email address and password.
* The system should follow best practices and industry standards for secure connection and data exchange between the client and the server.
* The system should lock accounts after five failed login attempts and notify the admin.
* The system should provide a secure, automated password recovery process.

### Functional Requirements

* The system shall validate user credentials when logging in.
* The system shall manage different user roles and access levels.
* The system shall allow users to book, modify, and cancel driving lesson appointments.
* The system shall allow admins to enable and disable driving packages.
* The system shall allow admins to manage and track reservations.
* The system shall integrate with DMV for compliance updates.
* The system shall generate activity and usage reports.

### User Interface

* The admin interface should have full system access and management capabilities.
* The interface for an IT officer should allow for system maintenance and user management.
* The interface for the secretary should allow for appointment scheduling and customer management.
* The customer interface should include booking, modifying, and canceling driving lessons, accessing online courses, and practice tests.
* The interface should be accessible via web browsers on desktops and mobile devices.
* The interface should be intuitive, with clear navigation and user-friendly forms for data input.

### Assumptions

* Users have access to standard devices like laptops or smartphones.
* Users have basic internet access and can use web browsers.
* The system will be primarily used in English (as no mentioned of internationalization).

### Limitations

* Potential issues with internet connectivity can affect system performance.
* Limited budget and time may restrict the inclusion of certain features.
* User’s varying levels of technical proficiency may impact the usability of the system.
* Compatibility issues across different operating systems and devices may arise.

### Gantt Chart

A screenshot of a computer

Description automatically generated

**References**

ThinkwithGoogle. (2020, September 3). *Mobile Page Load 02*. Think With Google. https://www.thinkwithgoogle.com/marketing-strategies/app-and-mobile/page-load-time-statistics/