# CS 255 Business Requirements Document Template

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July 31st, 2024  
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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 purpose of the DriverPass project is to develop a comprehensive system to aid students in preparing for their driving tests. The system will facilitate online practice exams and on-the-road training to improve students chances of passing their driving exams.
* The client, DriverPass, seeks a system that supports both online and offline access, user account management, and detailed tracking of training progress.

### 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 aims to address the high failure rates in driving tests by offering enhanced training resources. The system needs to integrate online practice exams, schedule and manage on-the-road training sessions, and allow users to track their progress.
* The system needs to include:
  + Online practice exams
  + On-the-road training scheduling and management
  + User accounts for students, instructors, and admins
  + Backend systems for data tracking and management
  + Security and role-based access management

### 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?*

* The system should be able to:
  + Provide online practice exams with automatic scoring.
  + Track student performance and progress.
  + Manage scheduling for on-the-road training sessions.
  + Offer tools for instructors to assess and manage training sessions.
  + Enable administrators to manage users and oversee the system’s operation.
  + Ensure compliance with DMV regulations and timely updates.

## 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 web-based and accessible via major browsers.
* It should respond to user interactions in real-time.
* Regular updates are needed for security and feature enhancements.

#### 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?*

* Compatible with Windows and Mac operating systems.
* Requires a backend database for storing user data, practice exams, and training records.

#### 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 data must be accurately managed.
* System should differentiate between user roles and handle input with precision.
* Admins should be notified of critical issues or errors.

#### 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?*

* The system should allow modifications to user roles without code changes.
* It should adapt to platform updates and evolving web technologies.
* IT admins require full access for managing user accounts and system 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 there is a “brute force” hacking attempt? What happens if the user forgets their password?*

* Secure login with username and password.
* Data transfer should be encrypted using HTTPS.
* Implement protection against brute-force attacks with lockout mechanisms.
* Provide a password recovery process for users.

### 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 allow students to create and manage their accounts.
* The system shall provide online practice exams with automatic scoring.
* The system shall track and display students' performance and progress.
* The system shall support scheduling and management of on-the-road training sessions.
* The system shall offer tools for instructors to manage training sessions and assess student progress.
* The system shall provide admins with tools to manage users and oversee system operations.

### 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.)?*

* The interface must be user-friendly for students, instructors, and admins.
* Students will use the interface to take practice exams, schedule training, and view progress.
* Instructors will manage training sessions and track student performance.
* Admins will handle overall system management, user accounts, and content updates.
* The interface will be accessed through web browsers on computers, tablets, and phones.

### 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?*

* It is assumed users will have internet access and compatible devices.
* It is assumed users are familiar with basic web navigation.
* DriverPass will provide the content for practice exams and training schedules.

### 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?*

* Initial features may be limited due to time and budget constraints.
* The system may initially support only specific platforms or browsers.
* Resource limitations may affect the speed of updates and feature enhancements.

### Gantt Chart

A gantt chart with multiple colored boxes

Description automatically generated