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# CS 255 Business Requirements Document Template

## 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 a system that allows DriverPass to offer online and in-person driver education services.
* The client, DriverPass, aims to reduce DMV test failure rates by providing effective driver training.
* DriverPass wants a system that enables:
  + Students to register for driving packages and schedule lessons.
  + Online access to classes, practice tests, and progress tracking.
  + Employees (admin, secretary, IT) to manage appointments and student data securely.
  + Access to data from any device, with offline access to exported reports.
  + Role-based access control for different employees.

### 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 wants to solve the problem of poor driver training and high failure rates on DMV tests.
* The company wants to provide a comprehensive training solution combining:
  + Online classes and practice exams.
  + In-person lessons with professional drivers.
  + Flexible scheduling and package selection for students.
* The system must:
  + Support online reservations and appointment management.
  + Match students with drivers, cars, and time slots.
  + Include a progress tracking system for tests and driving lessons.
  + Enable role-based system access (admin, IT, secretary, student).
  + Be cloud-based for availability and security.
  + Provide audit logs and tracking of user actions (e.g., who canceled or modified reservations).
  + Include automated notifications from DMV updates.

### 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 shall allow students to:
  + Register and manage their profiles online.
  + Select and purchase training packages.
  + Schedule, cancel, and modify driving appointments.
  + Access and take online practice exams.
  + Track test scores and progress.
* The system shall allow secretaries to:
  + Enter student data from phone or walk-in registrations.
  + Schedule appointments manually.
  + View student profiles and lesson history.
* The system shall allow IT/Admin users to:
  + Manage user roles and access rights.
  + Reset passwords and block/disable accounts.
  + Track system usage and generate activity reports.
* The system shall notify administrators of changes and provide audit trails.
* The system shall allow downloading of reports (e.g., in Excel format) for offline access.
* The system shall be secure, cloud-based, and accessible from desktops and mobile devices.

## 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 shall run in a **web-based cloud environment**, accessible from desktop and mobile browsers.
* It shall load pages within **3 seconds under normal load**.
* Updates to DMV test materials must sync within **24 hours of release**.

#### 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 shall support **Windows, macOS, iOS, and Android** via browsers.
* Backend shall run on a **relational database (e.g., MySQL or PostgreSQL)** with secure storage.

#### 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 shall validate input for accuracy (e.g., unique usernames, valid credit card formats).
* The system shall log user actions with timestamps and usernames for auditing.
* Admins shall receive error notifications for failed transactions or system 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?*

* IT admins shall be able to **add, remove, or suspend users** without code changes.
* The system shall remain functional through browser and OS updates.
* Training packages can be **enabled/disabled** through the admin console.

#### 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?*

* Users must authenticate with **unique credentials**.
* Sensitive data (credit cards, passwords) shall be encrypted during storage and transfer.
* Accounts shall be temporarily locked after **five failed login attempts** to prevent brute-force attacks.
* Password reset functionality shall be available via secure email validation.

### 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 validate user credentials when logging in.
* The system shall allow students to **register, schedule, cancel, and modify driving lessons**.
* The system shall allow secretaries to manually input and manage appointments.
* The system shall track each driving lesson with **student, driver, car, date, time, and notes**.
* The system shall provide students with **online practice exams** showing results and progress status.
* The system shall generate **reports** on student activity, driver notes, and appointment history.
* The system shall notify admins when the DMV updates rules, policies, or test content.
* The system shall allow IT staff to manage user accounts (reset, disable, grant access).
* The system shall allow administrators to **enable/disable training packages** as needed.

### 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.)?*

* **Students**: Access practice exams, book/cancel lessons, view results, reset passwords.
* **Secretaries**: Schedule lessons for students, manage cancellations, update contact information.
* **Instructors/Drivers**: View assigned students, enter lesson notes, track appointments.
* **IT/Admins**: Manage accounts, reset passwords, oversee reports, manage packages.
* **Owner (Liam)**: Generate business-level reports, review student and driver performance.
* Interface shall be **browser-based**, mobile-responsive, and accessible via major platforms.

### 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?*

* Students will have **internet access and email accounts** for registration and password recovery.
* Credit card payments will use an **external payment processor** (not built into the system).
* The DMV will provide an **API or secure data feed** for policy/test updates.

### 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?*

* Non-developers cannot add new training packages without developer support (only disable/enable).
* System performance may depend on **internet connectivity and cloud hosting provider**.
* Budget and time constraints may limit advanced customization in the initial release.
* DMV integration depends on the DMV providing reliable update mechanisms.

### 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.*

