# CS 255 Business Requirements Document Template

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Complete this template by replacing the bracketed text with the relevant information.

This template lays out all the different sections that you need to complete for Project One. Each section has guiding questions to prompt your thinking. These questions are meant to guide your initial responses to each area. You are encouraged to go beyond these questions using what you have learned in your readings. You will need to continually reference the interview transcript as you work to make sure that you are addressing your client’s needs. There is no required length for the final document. Instead, the goal is to complete each section based on your client’s needs.

**Tip:** You should respond in a bulleted list for each section. This will make your thoughts easier to reference when you move into the design phase for Project Two. One starter bullet has been provided for you in each section, but you will need to add more.

## 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?*

* Develop a detailed web and cloud-based driving instruction system for DriverPass.
* Develop a system that provides practice tests and on-the-road training for drivers.
* Manages scheduled appointments and key details for driving lessons(typically 2 hours long)
* Provides better up to date, and richer prep resources for DMV tests.
* Provides safe and secure training and scheduling for all users.

### 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 fill the market gap that exists for comprehensive driving training solutions
* Too many students fail driver tests because of ineffective training measures.
* Maintain current and accurate DMV updates
* Needs to have training materials, reservation management, and user management.
* Manage a training package system(Currently 3 are in use)
* Needs to have practice test and lesson scheduling management systems.
* Be convenient for all users, capable of being accessed from anywhere.

### 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?*

* Needs to be an online but cloud-based system capable of being accessed on any device.
* Needs to have a security system that operates on role-based access(RBAC)
* Able to report and track any changes in data
* It has a package-based training system that can add, modify, or delete any future additions
* Able to keep sensitive customer information as well as payment details secure.
* Maintains a reservation-based appointment system(2hr increments). Customers should be able to make, modify, or cancel any appointments.
* Capable of tracking customer progress(test progress, pass, fail, completed, etc.).
* Manages automatic password resets for customers.
* Needs to be able to receive updates from the DMV systems.
* has to have a minimal amount of technical problems.
* provides full access and reporting capabilities for admin roles.
* data needs to be accessible and downloadable even when offline.
* Identifies and reports the driver that is assigned to a customer.

## 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?*

* Needs to be a Web-based system that will run on the cloud.
* Accessible from any device at any time.
* Should be relatively fast, capable of keeping vast amounts of data updated in real-time.
* Updated consistently to keep up with DMV requirements.
* Offline capabilities and supports data downloads for Excel work.
* Capable of handling large numbers of users at a given time.

#### 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?*

*Platform constraints:*

* Must run on all platforms and browsers as a web-based system.
* Must be cloud-structured to ensure cross-compatibility

Backend requirements:

* Needs databases to store various types of data, user information, student information, driving schedules, test results, authentication, and types of packages.
* Needs to have cloud-based security and backups.
* Integration capability with DMV systems and servers for updates.

#### 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?*

Distinguishment:

* Real-time monitoring of user activities (certain people can change things, others cannot)
* Unique usernames for employees vs. users
* Access levels
* Case sensitivity helps distinguish users better and adds security.

Admin notifications:

* When the DMV makes changes to policies
* When a user needs to reset their accounts
* Changes to accounts(somebody leaves or gets hired on)
* Changes to schedules
* Suspicious activity (privileges that aren’t typically given to a certain user)

#### 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?*

* Only administrative roles, like an IT officer or HR, will have full access to accounts with the ability to change, modify, or cancel accounts, along with blocking access and resetting passwords.
* Changes to accounts should not affect code since changes are made through the admin interface system
* The system should also be well designed, incorporating abstraction and modularity to keep the code from being unnecessarily changed, and flexible and adaptable to changing requirements and structure.
* The system will receive automatic updates from the cloud service providers and will also receive updates from the DMV regarding changes to rules and policies.

#### 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 will be required to have their own username and password at login for verification.
* If a password is forgotten, the IT officer (Ian) has the authority to reset them manually.
* The system will also support automatic password reset abilities for forgotten passwords.
* A secure connection can be ensured through data encryption in the browser connection(HTTPS).
* Consistent system monitoring will ensure effective and rapid reaction to hacking attempts or suspicious activity in the client-server connection.
* Cloud-based architecture will support data backups for any stolen, lost, or misplaced data of importance.
* Automatic account lockouts after a certain number of failed login attempts will help counteract brute force.

### 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 access through proper credentials authorization
* The system shall grant certain additional privileges to specific user roles (HR, CEO, IT, etc.)
* The system shall allow customers to schedule, change, or cancel driving lessons online
* The system shall allow data downloads or access for administrator roles.
* The system shall allow automatic password resets for users
* The system shall allow passwords to be manually reset by the IT officer as needed
* The system shall receive and incorporate new rules and policies from the DMV
* The system shall track and monitor all user activities(Tests passed, Test failed, schedule, driver, etc.)
* The system shall have and support various types of training packages that can be added, changed, or disabled by the administration
* The system shall track and monitor any changes or modifications made by users.
* The system shall allow staff(secretaries) to make appointments on customer behalf

### 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.)?*

*Access and needs:*

* *Needs to have a page for driver notes and communication.*
* *Needs to have progress tracking and results for tests.*
* *Needs forms for customer information and class registration.*
* *Needs to be accessible from any browser(Chrome, Safari, Firefox, etc.)*
* The interface will be web-based, cloud-based, and accessible from any device, including mobile.
* The interface will need to be accessible by administration, staff, customers, drivers, as well as third-party personnel like cloud services.

User abilities:

* Customers need to be able to make, modify, or cancel appointments.
* Customers need to be able to access resources or tests, and progress.
* Customers need to be able to reset their passwords automatically.
* Customers need to be able to communicate with their drivers.
* The CEO needs full system access, including downloading data and tracking activity information.
* IT officer needs complete access, including access to all user accounts, security systems, monitoring, and password resets.
* Staff(secretaries) need to make appointments for customers, manage customer information, and handle customer registration.

### 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 will have internet access and compatible devices.
* Users will know how to use browsers.
* Users will have basic computer use and navigation knowledge.
* DMV will provide regular updates and changes.
* Will be accessible across all browsers.
* Backups and security will be handled by the cloud.
* 10 cars and drivers will be enough to accommodate many customers.
* The system will be able to handle many users concurrently.
* The system will have minimal technical problems.
* Two-hour courses will be enough for students

### 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?*

* *Has to be accessed with an online connection and browser*
* *Cloud security and backup, limited.*
* *10 cars and drivers are available.*
* *Updates are not available while offline.*
* *Courses are limited to two hours.*
* *Pickup and drop-off locations are the same.*
* *Limited development phase (4-5 months)*
* *Policy and rule updates are limited to the DMV.*
* *Three customer packages are currently defined.*
* *Maintenance and modification limited to one person (Ian)*

### 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.*

A screenshot of a computer

AI-generated content may be incorrect.