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CS-255

# CS 255 Business Requirements Document Template

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?*

* In order to help its customers pass their DMV driving exams, DriverPass is committed to improving driver education. In order to accomplish this, users will have access to interactive modules, practice tests, and flexible online courses through the system, which will provide convenient mobile training. DriverPass makes sure customers always have access to the tools they need, no matter where they are or when they need to review anything on driving. Also, the client's request for offline and online access to system data will be fulfilled, enabling them to stay informed and make decisions based on data. Additionally, the capability to obtain reports guarantees that both administrators and users may monitor advancement and pinpoint places that require improvement.

### 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 believes it can help drivers pass the DMV exam by providing improved practice exams and driver education. By offering a simple interface to clients, staff, and administrators who oversee and maintain the training, the service hopes to ensure user success. DriverPass seeks to equip users with the skills and knowledge necessary to pass the test through individualized training, educational resources, and interactive practice examinations. The different components needed for the system include On the go training, Practice exams, Progress tracking, downloading reports and online courses.

### 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?*

* After completion, customers should be able to use a fully working website to plan, modify, and cancel on-road driver education. After the system is finished, users should also have access to online courses and practice exams. Only authorized staff members should have restricted access to certain parts in order to make system modifications or improvements. When developing a website, choosing the right operating system and programming language is essential. Anyone should be able to access the system, and administrators should be able to easily transfer data to create reports.

## 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?*

* DriverPass is in the process of developing a new software application that will be accessible online. This application will be responsible for quickly retrieving information from databases and storing various types of data, including images uploaded by users. The primary focus is on ensuring the system can efficiently handle a large number of users, including both learners and instructors, accessing it simultaneously. To achieve this, the team is implementing measures to enable the system to process numerous web requests without experiencing any slowdowns or performance issues. The DriverPass system needs regular updates to work its best. These updates keep it running smoothly, secure, and up-to-date with new features and improvements. How often it's updated depends on things like how fast technology changes, feedback from users, security issues, and rules it needs to follow.

#### 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?*

* Web browsers, Android, and iPhone devices are just a few of the platforms that the DriverPass system is meant to work with. There will be specific mobile applications accessible for both Android and iPhone users to guarantee ideal usage. My suggestion for hosting the web application is to use Linux or Windows servers. Although Windows servers come with built-in web application management features, there are other servers that can serve the same purpose. In order for the application to properly handle user data, it has to connect to a database. There are many different programming languages and frameworks available for developing websites, giving developers choice in selecting the best tools for the job.

#### 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?*

* In the DriverPass system, users have the option to log in using their unique username or email address, along with a personal 8-character password containing at least one case-sensitive letter. In case of forgetting their password, users can request a new one via email. Additionally, if an account is locked due to repeated login attempts or suspicious activity, administrators may receive notifications. Also, administrators are also notified about any lost connections or server errors to ensure smooth operation and prompt resolution of any 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?*

* Users should be able to simply update and change their account information using the DriverPass system. Also as long as they have documentation proving who made the request, employees with the proper authorization should be able to modify customer information on the web application. The system will need to be modified in order to make room for these functionalities. If the system depends on cloud services, updates to the cloud can also be required. IT managers need to be able to assign tasks, deactivate employees as necessary, access customer data, and create employee accounts. Regular backups of the web application and database are necessary to guarantee data integrity and consistency, and platform modifications must be carefully managed to prevent interruptions.

#### 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?*

* To enhance security, accessing a user account in the DriverPass system should require a password. To prevent fake accounts or unauthorized access, authentication via email could be implemented. It's recommended that developers utilize HTTPS as the protocol for sending and receiving data to ensure secure communication. Users should have the option to reset their passwords via email if forgotten, while the system should also impose limits on login attempts to deter brute force attacks. In case of forgotten passwords or usernames, users should be able to retrieve their accounts through a password reset process initiated via their email address.

### 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 register users once the required information is provided and the password satisfies the requirements.
* The system shall verify the login credentials of the user.
* The system shall Have a connection to the DMV and show the most recent regulations, guidelines, and practice questions for users.
* The system shall Permit clients to complete online practice exams and let them see the results.
* The system shall provide pictures.
* The system shall allow User role modifications only be made by system administrators.

### 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.)?*

* Both inexperienced and experienced users should find the DriverPass system's user interface to be simple to use and straightforward. It should be simple for any user to sign up, log in, and change their passwords. The technology should make it easier for users to do things like choose and buy DriverPass plans, fill out personal information forms, take online exams, and make appointments for driving lessons. However, staff members want features for setting up customer accounts, entering personal information, choosing package kinds, and controlling driver and customer schedules. Users can engage with the system through a specific mobile application, and they can access the system's server either through the application or a web browser to guarantee easy access from mobile devices.

### 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?*

* Every user has a computer or other device that has a web browser installed on it, which allows them to access the internet. Every user furthermore has a profile or a car registered with the (DMV). Also, each user has an email address and can read and write English. All users will be able to interact with the DriverPass system and its services in an efficient manner thanks to these combined requirements.

### 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?*

* These could include not having enough people, time, or money for development and maintenance. There might also be issues with technology, like some devices not working well with the system. We'll need to be ready to adjust and find solutions as we go along.

### 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.*

