# 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?*

* The client, DriverPass, is establishing a company with the purpose of creating more opportunities for student drivers to train for tests and better prepare themselves for driving. To do this, DriverPass has commissioned us to assist with creating a system that will assist DriverPass to allow student drivers to take online classes and practice tests along with on-the-road training.

### 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?*

* As of the interview, DriverPass notes that they do not have a system in place to access or manipulate their files over the internet. As such, they would like us to implement a system that will allow DriverPass employees to access and modify files for online and offline use. The system should also allow users to create user accounts that allow them to create or modify driving lesson appointments. DriverPass has also requested that the system tracks any created or modified appointments, which user made those changes, and which user has modified the files last, storing them in a log that can be printed.

### 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 support user accounts with varying permission levels to access documents.
* The system’s filesystem should be accessible over the internet and its files should be downloadable for offline use.
* The web-based user interface for the system should allow users to create accounts. User accounts are created based on one of three packages and should be able to:
  + Schedule and modify an appointment for driving instruction.
  + Access online educational courses and practice tests.
  + Access current DMV driver’s license requirements.
* The system should track which users have created an appointment, canceled an appointment, and modified the appointment last, then format that information in an easy-to-print log.

## 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?*

* Given that the DriverPass system’s target demographic is online students, this application must primarily run in a web-based environment, but users will be able to interface with the system secondarily at the DriverPass office with personnel.
* The DriverPass system should not only be able to support multiple users, but it will provide online practice tests for users utilizing the system. As such, the DriverPass system should be able to quickly provide test results or load webpages while the system is under moderate to heavy load; web pages should not take longer than fifteen seconds to load.
* While there are no plans for future system updates at this time, regular maintenance should be performed to ensure security and stability for the system’s users.

#### 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 DriverPass system will interface with users over the internet; the system should be platform agnostic and focus primarily on supporting a wide variety of web browsers.
* On the back end, the system will require a database to be created for user accounts, reservation records, and possibly financial records. The system will also need to be run using cloud technology to account for backups and data security.

#### 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 should support administrative users with varying security permissions and customer accounts. Administrative users should be able to schedule, cancel, and modify driving appointments on behalf of customer accounts and perform various system maintenance tasks that correspond to their given security level. Customer accounts should allow the users to take online tests, study DMV literature, and schedule, cancel, and modify driving appointments.
* Usernames should be unique and ignore letter case. Users can be further identified by fields on their profile, such as their name, address, phone number and email address.
* The system should inform the administrators whenever a user changes the system’s records and whenever a customer needs their password to be reset. The system’s record logs should be stored on a database and record which user made a reservation, canceled a reservation, or modified a reservation. The system should also notify admins of updates to the DMV’s rules or policies.

#### 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?*

* User accounts should be able to update information fields such as addresses, phone numbers, emails and passwords without changing the code.
* The system should handle regular maintenance updates for the foreseeable future and be built with larger updates in mind to “future-proof” the application.
* Administrative accounts with IT permissions should be allowed to reset user passwords and modify user accounts as needed to assist with technical problems.

#### 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?*

* Customer accounts should be accessible with the user’s email address and their password. Optional two-factor authentication should also be considered given that potentially sensitive information may be stored in user accounts such as the user’s name, address, or phone number.
* Data exchanged between the client and server should be encrypted to ensure greater security.
* If an account is subjected to a brute force attack, administrators and the relevant user should be informed after five attempts. After the fifth attempt, the user’s password should be reset and the user should be sent an email prompting them to create a new password.
* If a user forgets their password, they should have the option to reset their password through the website’s automated system (prompting the user through an email) or by calling the DriverPass offices to have an administrator directly reset their password.

### 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 users to register customer accounts, providing fields for the student’s information.
* The system shall provide users with a dashboard that shows them their online test progress, personal information, notes from driving instructors, their special needs, driver instructor photo, and their student photo.
* The system shall allow users to create, schedule, and modify driving sessions with a DriverPass instructor.
* The system shall provide resources that accurately reflect up-to-date DMV rules and regulations.

### 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 should allow users to interact with the system with browsers and mobile devices. The design should be accessible for users using both computer mice or similar pointing devices and touch screens.
* The interface will be used by desktop and mobile browser users.
* Each user will need to be able to navigate the website’s pages, add text to applicable fields, and study driving literature.
* Each user will interact with the interface with web browsers, mobile and otherwise. As such, browser support should be prioritized.

### 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?*

* DriverPass customers and administrators are assumed to have an internet connection, access to a device with a web browser installed, and hardware powerful enough to interface with the system.

### 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?*

* For this system, technology is the most apparent limitation to my knowledge. The DriverPass service will be offered over the cloud, so the available hardware is limited to whatever the cloud service provider has in their servers. This could also lead to an increased cost as the databases that could be involved with the system grow.

### 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.*

