# 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 purpose of this project is to participate in the growth of a small local business that desires to create a strong application for the development of student drivers. The client is DriverPass which is a business that wants to provide driving lessons for the surrounding DMV’s that would prevent the many first test fails in the area. They want their system to be able to provide a range of packages that can be edited as needed based on customer needs. They would like the ability to edit and modify data online while being able to download data for offline analysis. They want to use Least Privilege as their cybersecurity principle and easily be able to see who logs in to their application and makes/modifies reservations. Finally, the clients need to be able to create accounts that are easily retrievable in case of forgotten passwords.

### 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?*

* I mentioned the options in the above paragraph but I will provide a list here:
  + Modifiable website by the development team, only done Online
  + Downloadable data for analysts to work offline, not modifiable
  + Least access, to prevent low level employees stealing information
  + Tracking for employees to hold accountability for mistakes
  + Reservation trackers for clients and dashboard to maintain their profile
  + Ability to modify training packages in future/ cancel unavailable packages
  + Connect to DMV to keep terms updated with current laws
  + Run on Cloud network rather than web to mitigate backup needs

### 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 will be considered a success if it able top provide clients with a stable platform to be able to learn to drive and improve first test pass percentages.*

* List of finished product features to be considered acceptable:
  + Online access to data from any device, with the ability to download reports for offline viewing.
  + User role-based security, including full access for IT officers to manage accounts and least privilege for other employees.
  + Tracking and logging of all reservations, modifications, cancellations, and changes to identify responsible users.
  + Customer self-service for creating, modifying, or canceling driving lesson reservations online.
  + Support for three customizable training packages, with the ability to disable packages as needed.
  + Automated password reset for customer accounts and secure storage of personal information.
  + Integration with DMV systems for real-time updates on rules, policies, and sample questions.
  + Cloud-based web interface with features like online class access, practice tests, progress tracking, and driver notes tables.

## 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?*

* System needs to operate in a web based environment with no necessary installation requirements
* The system should run in under 2 seconds per screen under normal server load
* System should be updated in real time to guarantee accurate information for reservations

#### 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?*

* System should be compatible with all major manufacturers (Windows, Linux, MacOS) and support all modern web browsers
* Backend should be written in SQL to support user accounts with primary and secondary keys
* Should use cloud-based hosting to handle scalability issues and 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 users will be distinguished by unique Usernames and roles
* The passwords will be case sensitive to maintain accurate authentication
* All logins will be timestamped, allowing tracking of users and administrators
* System should notify when multiple failed logins are logged and data is transferred off of authenticated hardware

#### 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 IT admins can make changes to the users without requiring any changes in coding
* The cloud hosting should provide any updates needed for platform updates
* The IT Administrator requires full access to manage all users and the system apart from some access to the source code which should only be given access to the CTO(Chief Technology Officer) and all changes made by the IT admin should be logged and able to be reviewed

#### 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 log in using a unique username and password, with role-based access controls
* All data exchanges between client and server must be secured using encrypted connections
* In case of a brute force hacking attempt, the account should be locked, and the IT admin notified
* If a user forgets their password, the system must provide an automated reset process, such as email verification, without requiring manual intervention

### 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 authorized users to access and modify data online from any device
* The system shall enable downloading of reports and information for offline analysis without allowing edits
* The system shall track and log all user actions, with details on who performed the action for accountability
* The system shall permit customers to create, modify, or cancel driving lesson reservations online
* The system shall support three training packages, with the ability to disable packages administratively.
* The system shall store customer information securely, including name, address, phone, state, credit card details
* The system shall integrate with DMV systems to receive updates on rules, policies, and sample questions
* The system shall provide online classes, practice tests, progress tracking, and driver notes on a digital dashboard
* The system shall allow secretaries to schedule appointments via phone or in-office, syncing with online reservations

### 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 System will be web based and mobile phone accessible
* The different users for the system will be categorized as Customers, IT Admins, Secretaires and Owners/CTO, they will each have different abilities based on their access roles
* Customers will be able to create accounts, schedule/cancel reservations, access online classes/tests, view progress and driver notes
* IT Admins will be able to manage accounts, reset passwords, and configure packages
* Secretaries will have access to handle phone/in-office scheduling and basic data entry
* Owners will be able to do all of the above and view reports, track activities, and oversee operations

### 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?*

* All users have reliable internet access for online operations, as offline sign in and editing is unstable
* Customers and employees are familiar with basic web browsing and have access to compatible devices
* DMV integration will provide feed for updates, and the client will handle any necessary agreements with the DMV
* Credit card processing complies with standard security protocols
* The initial implementation assumes 10 cars and multiple drivers, with scalability available, but no high traffic scenarios

### 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?*

* System does not support Offline modifications to mitigate data tearing
* Package options can only be disabled, not modified
* Small project timeline negates our ability to provide advanced options like video integration
* Small timescale negates time needed for edge case testing such as high traffic

### Gantt Chart

