# 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 seeking the development of a system that offers an online environment for students in driver’s education, wherein students are provided access to different lesson packages for purchase as well as other educational resources. The system should allow offline access to *DriverPass* personnel, provided that changes to any data should only be made online. This system should also notify *DriverPass* personnel of any updates to DMV regulations.

### 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* aims for the system to provide an online environment for driver’s education students. This online environment seeks to aid the problem of too many students failing their driver’s tests.
* System should include a database that can store personal information of both *DriverPass* students and teachers, as well as booked sessions for in-person lessons.
* System should provide an online environment for both *DriverPass* students and personnel. Students will be given access to scheduling sessions, payment options, and online resources and practice tests. Environment should also allow for *DriverPass* receptionist(s) to intake clients and book reservations for students who call in over the phone or email.

### 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?*

* Provide online resources and tests for students
* Automatically notify *DriverPass* when the DMV makes changes to regulations
* Provide account retrieval options for students who forget their password or username
* List multiple learning packages and details of what each package entails
* Allow scheduling of sessions for both *DriverPass* students and personnel
* Allow for offline access to *DriverPass* personnel but only allow any system edits while online
* Role hierarchy should be included to give administrative privileges to non-students

## 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 should be web-based with standard web page loading time for most users, no longer than 1 – 2 seconds
* System maintenance/update should occur every two weeks in order to maintain system security and prevent cyber threats; other updates such as adding/updating lesson packages can occur on an as needed basis

#### 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 page should be accessible by all modern OS (i.e., Windows, iOS, macOS, Linux, Android) and internet browsers (i.e., Microsoft Edge, Chrome, Safari, Opera, Firefox), including adaptation for mobile counterparts of these browsers
* Database should store users’ personal information, scheduled sessions, and system logs

#### 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?*

* Different classes for user accounts should be constructed to differentiate regular users from administrators
* Passwords should be case-sensitive, but usernames and email should not require case-sensitivity
* Administrators should be alerted of any critical errors immediately, provided that they are not able to be remedied by the system itself in a timely fashion

#### 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?*

* Changes to user information should be handled on the backend without changing any code
* System should stay up to date with updates to OS and internet browsers
* IT administrators will need access to the server that is running the system, as well as access to any databases, error reports, and system logs

#### 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?*

* Username and password are required to login
* Users should have the option to provide a phone number to activate 2-factor authentication, or select security questions that respond to user-specific answers; these methods should be prompted for account retrieval whenever a user signs in from a new device that is not recognized by the system
* *“Brute force”* attempts should be mitigated by locking any account that has failed a login attempt 3 times; users should be required to reset their password and use 2FA, or contact an administrator, before the account is unlocked
* Users should be provided with a *Forgot Password?* link that will prompt the user to enter an email address; if the email address is found within the database, a password reset link will be sent to that email

### 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’s login information when accessing the system
* The system shall prompt 2FA or other security measure when logging in from a new device
* The system shall allow for *DriverPass* personnel to utilize the system offline without making any changes to the system unless online
* The system shall lock accounts after 3 failed login attempts to prevent *“brute force”* hacking
* The system shall provide account recovery for users who have forgotten their username or password
* The system shall store users’ personal information, scheduled lessons, system logs, and error reports in a database
* The system shall allow both clients and *DriverPass* personnel to make lesson reservations via the website
* The system shall send administrators a notification when the DMV makes any changes to their 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.)?*

* UI will be web-based and should display the correct adaptation of the site regarding whether it is being access via a computer or mobile device
* Regular users will be able to access their personal information, view scheduled sessions, reserve future sessions, purchase packages, access additional resources, and take online practice tests
* Administrators will have specific privileges for making changes to the system, accessing user accounts in the event that a user is unable to access their account individually, and making reservations for clients using the client’s account or a placeholder temporary account

### 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?*

* I am assuming that the majority of clients will have access to internet, an email address, and/or cell phone
* I am assuming that the majority of clients are utilizing one of the more recognized modern OS or internet browser
* I am assuming that the DMV regulation changes are able to be accessed by the system via connection to DMV network or some other interface

### 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?*

* Access to DMV updates may be contingent upon privileges allowed by DMV’s network
* Project to be completed within 14 - 15 weeks
* UI must be compatible with major OS and internet browsers

### 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.*

