# 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 project is for our client, DriverPass. The purpose is to make a system they can use to train potential drivers in both the written and practical portions of the DMV driver examination. The system will provide users with training material, appointment scheduling, and practice tests, while also tracking their progress through the various sections of material.

### 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 has recognized a need for enhanced training and instruction for those attempting to take the DMV driving test.
* They have noticed that a large number of potential drivers are failing their driving tests.
* To solve this problem, they wish to provide better online training for written exams, as well as personalized driving instruction for the practical portion of the DMV test.
* DriverPass wants a system to manage their online course material as well as their reservations for driving instruction sessions.
* The components needed for the system include the following (can be cloud-based):
  + A fully functional website that users can interact with
  + A database for storing user account information
  + Authentication services
  + A database for storing relevant driving reference information (e.g., DMV Regulations)

### 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 we build must be able to do the following:
  + Be accessible via a web interface
  + Display various web pages (main web page, user account page, contact us page, etc.)
  + Offer user dashboard for displaying relevant information
  + Allow for different user access levels (user, secretary, administrator, IT)
  + Provide user authentication
  + Create and maintain user accounts and user information
    - Name (first and last)
    - Address
    - State
    - Phone number
    - Credit Card info
  + Allow users to reset their password and update account information
  + Provide users with a list of services available
  + Allow users to make purchases for different services
  + Charge a user’s credit card for purchases
  + Track user purchases
  + Allow users to create reservations for driving time (once purchase is made)
  + Store/track reservation information
  + Allow users with the proper access level to access online lessons and practice exams
  + Interface with the DMV service to receive information updates
  + Track status and progress of users’ practice exams
  + Allow secretary user type to make reservations for other users
  + Allow administrator to disable options from list of services
  + Allow IT to disable accounts and reset passwords

## 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?*

* The system will be cloud-based per the client’s request. This will allow for greater scalability, reliability, and security.
* The system will be web-based, allowing users to access their content and schedule appointments from anywhere they have web access.
* The system must provide for minimal load times of content, expected page loads of less than 3 seconds (for modest internet connection speeds), and less than 10 seconds for training material, such as videos.
* Any video content should allow for buffering to reduce the wait time for users.
* The system should be updated whenever the DMV releases new updates to their material. There should be a notification of new updates within the system. This will require a connection with the DMV system.

#### 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 system will run on a web browser, so the most popular web browsers should be supported (Chrome, Edge, Safari, etc.).
* The system should also allow for a wide variety of screen resolutions, allowing content to be viewed on mobile devices as well as more traditional screens.
* A database will be needed to house the DMV information, which can be loaded into course content.
* A database will also be needed to manage user accounts.

#### 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?*

* Users will have different roles assigned to their accounts. Initially, the following roles must be available: User, Administrator, Admin Assistant, IT Administrator
* Input for fields will not be case-sensitive. Input should be auto formatted for display purposes (for example mailing/billing addresses).
* Problems with the system (system failure, loss of content, etc.) should be sent as an alert to the IT admin as soon as the issue is identified.
* Alerts for issues should be displayed in the system log, as well as being able to be sent as an email to the IT admin.

#### 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 admin will have the ability to add, remove, and modify user accounts.
* The IT admin will need the ability to access the system remotely.
* Users will have the ability to modify their personal account information.
* Admin assistant accounts will allow for scheduling user appointments.
* Administrator account will allow for the removal of purchasing options for users.
* Scheduled updates to the platform will be clearly communicated to all system users ahead of time. This should be accomplished via in-system notifications and email.

#### 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 creating a new account will be required to register their email address.
* Users’ email addresses will be confirmed prior to granting user access to the system.
* Users will be required to create a username and password when registering a new account.
* Users will be required to login to the system with a username and password.
* Users will have the ability to request a password reset.
* Password resets will be accomplished via the user’s email address.
* The IT admin will have the ability to reset passwords.
* User accounts will lock after 6 failed login attempts, at which point the password must be reset.
* The website for DriverPass will use secure transmission methods (https).

### 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 verify user credentials and assign an appropriate role when logging in.
* The system shall display a user dashboard when a user logs in, which is appropriate for the user’s role
* The system shall have the functionality for the following features for users:
  + Accessing/updating user information
  + Making purchases of instruction packages
  + Viewing past purchases made by the user
  + Scheduling appointments for driving instruction
  + Viewing online materials for studying
  + Taking practice exams
* The system shall be usable on both mobile and desktop web browsers. A mobile app is outside the scope of this project.
* The system shall offer the following functions to the admin role:
  + Disabling specified packages, preventing them from being purchased
* The system shall offer the following functions to the IT admin role:
  + Reset user passwords
* The system shall offer the following functions to the admin assistant role:
  + Schedule appointments for users

### 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 will consist of a main page, with a collapsible menu.
* The menu will offer links to the various pages available:
  + Schedule a driving lesson
  + View online course material/take a practice exam
  + View/update user account information
  + Purchase an instruction package
  + Contact DriverPass
  + About DriverPass
  + Other pages for admin, IT admin, and admin assistant roles
* The interface will support mouse and keyboard input, as applicable
* The mobile version of the site will support tap functionality
* The mobile version of the site will offer quick links on the contact page that direct the user to their phone or email app, as appropriate
* The interface will maintain a cohesive design across each page (same color scheme, menu is in same location, etc.)

### 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?*

* It is assumed that the DMV will have an interface available for accessing the most recent driver’s manual information
* It is assumed that users of the system will have access to a computer with a web browser
* It is assumed that users of the system can read and understand English
* It is assumed that users scheduling driving appointments live within a reasonable distance of the DriverPass building

### 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?*

* The system may be limited in features by the timeline and budget outlined in the contract
* The size of the system, including number of user accounts and data stored, will be limited initially based on the contract
* The size of the system may be limited further based on the willingness of DriverPass to pay for expanded services (increasing cloud storage, for example)
* The UI/UX of the system may be limited due to budget and time constraints (functionality will come first)

### 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.*

