# 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?*

* This project is to aid the client, DriverPass, in helping students improve their driving ability and to increase driving test passing rates.

### 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 needs a system for managing student/customer information, appointments, and practice test progression.
* The client desires a could based system to ensure it will be as reliable as possible requiring no on-site maintenance.
* The system needs to be accessible by both customers and employees.
* The system needs to be able to maintain user roles, with different privileges granted to different users. One such role should include the right to alter the information and or privileges of other users.
* User activity must be tracked for security purposes.
* The system must also allow the viewing of records remotely through a computer or mobile device, as well as the ability to download records for use offline.
* Students/customers should have the option of making reservations/appointments online, over the phone, and in person.
* Client should have the ability to disable/enable available product/service packages as needed.
* The system should connect with the DMV for updates, policy changes, and sample questions, providing notifications in any such event.

### 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?*

* User activities are tracked
  + Who made, canceled, and/or modified reservations
  + User activity can be compiled into a printable report
* Student Accounts:
  + Account is accessible over the internet
  + Create new accounts with:
    - First name
    - Last name
    - Address
    - Phone number
    - E-mail address
    - State and zip code
    - Credit card number
      * Expiration date
      * Security code
    - Pickup location
    - Drop off location
      * Default to the pickup location
  + Reset forgotten passwords
  + Track practice test progression
    - Test name
    - Time taken
    - Score
    - Status (not taken, in progress, failed, or passed)
  + Track lessons/appointments
    - Lesson time
    - Start hour
    - End hour
    - Driver Comments
  + Manage student’s special needs
  + Add a profile photo
  + Make, cancel, and modify reservations/appointments
    - Choose product packages
    - Select time, date, location for reservations
    - Assign a driver to the student
* Employee Accounts:
  + Tiered privileges based on account role
    - Tier 3 Account (Limited Access):
      * Access to customer accounts
      * Can make, cancel, and modify reservations/appointments on the customer’s behalf
      * View a report of which students are matched to which drivers including what time and which car
    - Tier 2 Account (+ Tier 3):
      * Can perform maintenance and modifications
      * Has access to user accounts
    - Tier 1 Account (Full Access over all accounts + Tier 2):
      * Can alter roles and restrict access for other accounts
      * Can alter other account’s information including passwords
      * Can download spreadsheet reports for offline reference
      * Can view/print activities of all users
* Software:
  + Cloud based operation
  + Presentation matches provided example layout
  + Compile reports for viewing, printing, and offline reference
    - Student information
    - Driver information
    - Reservation information
    - User activity
  + Connect to DMV for
    - Updates
    - Policy changes
    - Sample questions
  + Sends notifications for DMV updates
  + Allows for future expandability

## 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?*

* Web based environment to allow remote access
* Fast operation for rapid response times and minimal latency
* Minimal packet sizes to reduce bandwidth and computational costs
* Weekly or Daily updates to reflect changes to policy, packages, and DMV updates

#### 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?*

* Cloud based/serverless operation
* Off-site/cloud based database
* Compatibility with a range of web browsers (Chrome, Firefox, Edge, Safari)
* Support for various devices (e.g. desktop and mobile friendly design)

#### 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 use email as username with a confirmation email for verification
* Daily system logs

#### 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?*

* Different roles for granting permissions and access privileges to users
* Admin role granting full access to all code and all user account data
* Employees have limited access to customer accounts for making appointments

#### 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?*

* User’s passwords will be a minimum of 8 character long, case sensitive and require letters numbers and symbols.
* Multiple failed attempts will result in account lock-down requiring email verification to unlock
* Password recovery through email verification or in person
* Encrypted packets to prevent reading by 3rd parties

### 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 credentials when logging in.
* The system shall enable users to schedule, modify and cancel appointments.
* The system shall offer available product packages to customers.
* The system shall track user credentials, data, and activity.
* The system shall restrict user privileges based on associated account roles.
* The system shall check periodically for updates from the DMV
* The system shall compile daily reports accessible by administrators
* The system shall notify relevant parties in the event of errors or down-time

### 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.)?*

* Global UI features:
  + Provide a form for user registration
  + Display a form for modifying personal information
* Administrator UI features:
  + Display a selection form for downloading logs and reports
  + Display a form to edit customer account information
* Employee UI features:
  + Provide a means to create/modify/cancel appointments for customers
  + Display a read-only snapshot of necessary user account information
* Customer UI features:
  + Display company logo
  + Display personal information
  + Display online test progress
  + Display appointments for lessons and the associated drivers
  + Display comments from the drivers regarding the customer
  + Display any special needs required by the customer
  + Display photos of the student driver and the assigned driver
  + Display option to purchase/upgrade product packages
  + Provide a means to create/modify/cancel appointments

### 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?*

* Cloud/serverless systems will be maintained by their respective companies/owners.
* Browser updates will maintain backwards compatibility such that the website won’t break
* Users will have a valid email for account creation
* Users will have regular access to high-speed internet
* Users will have basic computer skills sufficient to access/use the website and their accounts

### 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?*

* Requires internet access for all users as well as communication between systems
* Functionality limited to the what is supported by the selected cloud/serverless system
* Support for all browsers cannot be guaranteed

### 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.*

