# CS 255 Business Requirements Document Burdick

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 assist DriverPass in addressing the existing gap in driver training by developing a comprehensive system. The client envisions a platform that revolutionizes driver education, offering online classes, practice tests, and on-the-road training. The system should be accessible both online and offline, allowing users to manage reservations, access relevant data, and ensure efficient training processes.

### 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 to solve the prevalent issue of inadequate driver training, leading to a high failure rate in driving tests at the Department of Motor Vehicles (DMV). The company perceives an opportunity to enhance driver education by providing a multifaceted solution. The envisioned system will offer online classes, practice tests, and on-the-road training. By catering to diverse learning needs, DriverPass seeks to improve the overall success rates of individuals attempting their driving tests.

### 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?*

* Comprehensive Driver Training:
  + Enable users to access online classes and practice tests.
  + Facilitate on-the-road training sessions for those opting for practical learning.
* Flexible Reservation System:
  + Allow users to make, modify, or cancel driving lesson reservations online.
  + Implement a tracking mechanism to identify the assigned driver, time, and car for each reservation.
* User Roles and Permissions:
  + Define different user roles, including the company owner, IT officer, secretary, and end-users.
  + Establish role-based access controls to ensure appropriate data access and system management.
* Data Accessibility and Security:
  + Enable data access from any device, online, and offline.
  + Implement robust security measures, including user authentication, role-based permissions, and secure data transmission.
* Tracking and Reporting:
  + Incorporate a comprehensive tracking system to monitor user activities and changes in records.
  + Generate activity reports, detailing reservations, modifications, and cancellations, with clear user attribution.
* Customizable Training Packages:
  + Allow customization of training packages, considering different durations and inclusions.
  + Ensure flexibility for future modifications to training packages, although with developer or system analyst intervention.
* User Registration and Information Collection:
  + Enable users to register through a phone call, providing necessary information.
  + Collect user details, including first name, last name, address, phone number, and payment information.
* Compliance with DMV Updates:
  + Establish a connection with the DMV to receive timely updates on rules, policies, and sample questions.
  + Implement notifications to alert the system about any DMV updates.
* Cloud-Based System:
  + Develop a web-based system, preferably on the cloud, to ensure accessibility and minimize technical concerns for the client.
  + Address concerns related to data backup and security to allow the client to focus on core business operations.
* Intuitive Interface Design:
  + Design a user interface based on the client's provided sketch, incorporating features like progress tracking and driver notes.
  + Ensure a visually appealing and user-friendly interface, meeting the client's expectations.

## 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?*

* First and foremost, the system should run in a web-based environment to ensure that access is available in a broad spectrum of devices. This would allow access from any device that can access the internet.
* The system should run at a relatively fast rate so that no users experience any number of delays.
* The system should be updated on a regular basis in ode to address and issues or bugs, increase security, and add any new features that would enhance the user experience. This could be done on a monthly basis for example.

#### 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 should run on many different platforms including Windows, Mac, and Linux. This adds to the above running the platform in a web-based environment. It aids in allowing broad access from a wide range of users.
* The back end of the system would require a database that supports the large storage needs of a system of the likes of DriverPass.

#### 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?*

* User identification will indeed be unique. Distinguishing between different users can be based on case-sensitive usernames or a unique identifier such as an email address or phone number.
* The back end should support the administration to access and be notified of any issues that are encountered so that they can be addressed efficiently.

#### 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 system should allow for adding, removing, and modifying users and their accounts without any changes required to the code.
* The system should indeed adapt to platform updates in an efficient manner to ensure that the system “keeps up with the times” so to speak.
* IT Administration primarily needs access to user accounts as well as security of the system.

#### 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 login should require authentication of credentials such as the username, email, phone number, and password as mentioned above. Improving the authentication process into multi-factor would only strengthen security as well.
* Securing the data exchange between client and server means encrypting using a secure protocol such as HTTPS to avoid unauthorized access.
* Should the system face a “brute force” hacking attempt, the system should support security features such as account lockouts, CAPATCHA challenges, strong password policies, and any new technologies that fight back against this style of attacks.
* If a user forgets his or her password, the system should support a method of password or account recovery and password resetting. This could be done through email or even security questions dictated on account registration.

### 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 track user activity such as reservations, modifications of reservations, and cancellations.
* The system shall provide notifications for important events such as cancellations and confirmations.
* The system shall offer the different necessary roles including IT Administration, Admin, and Users. Each role will possess only the necessary permissions for their level of use.
* The system shall allow users to make, modify, and cancel their driving appointments.

### 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 interface must be able to support varying levels of access including admin, IT, and users. Each access supports the necessary permissions for their role. Admins and IT would access through web browsers to efficiently access all their necessary permissions.
* Users would be able to access through any device that connects to the internet to use the DriverPass Training materials and schedule any appointments, 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?*

* In the above design, I assume that each user will have access to the internet one way or another. I also assume that they can access web browsers.
* Alongside that, I assume that the users will have a basic or intermediate level of competency using web browsers and the internet as well.

### 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 will have technical limitations including being compatible with certain browsers and emerging technologies, even if resolved over time, there will still be limitations temporarily.
* The system will have limitations regarding time and budget like any system. This could restrict implementing certain features, reduction in quality, and larger problems down the line where corners may have been cut along the way.
* Finally, the system will have limitations regarding how scalable it may be. If DriverPass sees a larger success than expected, there may be more users than expected, therefore facing a limitation of how quickly DriverPass could 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.*

