# 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?*

* Client – DriverPass (Consists of Owner & CIO – Liam & Ian respectively)
* The client would like to create an online (Learning Management System) “LMS” that gives end users the capability to train for their driver’s exam. The system should allow users to create profiles, build a learning plan from various pre-built packages & follow their progress. Additionally, the owners should be able to view progress & interact with the end users while allowing direct feedback to questions or updating lesson plan learning if the criteria changes.

### 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?*

* The online learning system is being made in mind of a gap that is left behind between driving school & and those struggling to pass the DMV. By providing a better understanding of what is required to pass the test, reference materials online that can be downloaded for offline access, & updated changes from the DMV.

### 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?*

* Upon completion of the system, the user should be able to study & learn at their own pace, proficiently enough to pass their driving exam and gain a license. Drivepass will be able to gain insight to different users learning styles & market the data.

Measurable Task –

1. System DriverPass – Entitlement service used for administrator. Report manager is used to deliver data, feedback, for online & offline system analysis. We can roll in asset management to assign users to an instructor and instructors to different tiers. Lesson management to plan out rolls, tiers of learning, subscription services, options to cancel those as well. Proxy accounts, to set up additional users with admin privileges.
2. Dashboard used as a homepage for users, including an option for feedback on per lesson, instructor reviews, lesson select. Include a separate dashboard for admins with additional information input.
3. Users should have access to review information, account management, training test options. Reservations timing, schedule management clock to look and see available testing times at the DMV, testing services, and pre-tests access. Finally a overview web to see remaining lessons, retake lessons, and how one links to another.

## 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?*

* Our system should be web based. Developed to run on Google chrome as the primary platform, as many other web-browsers operate based on a Chrome style shell (Brave, Chromium). PWA should also be implemented.
* The underlying system for DriverPass should be able to scale with the user-base.
* All KPIs should be generated in less than 24 hours.
* Scheduling of the sub-systems should be as close to real-time as possible in order to prevent duplication.

#### 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?*

* Acceptable as Windows primary compatibility. Chrome can be ran as the main program.
* Chrome is acceptable on mobile platforms like Android as it’s primary, then AppleOS as a secondary. The PWA should be enabled.
* System to be based on a Linux-kernal style backend.
* System will employ REST for all microservices.

#### 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 system will enforce the use of case sensitive passwords, but not usernames. This should enable exact passwords only without accounting force hacks. The usernames should be valid email address, which forces that portion to be unique.
* System should allow for a system monitoring system, to check if the user is still active, otherwise alerting admins that the system is going offline due to inactivity.

#### 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?*

* DriverPass’s system needs to be based on an extensible platform.
* Their system needs to be able to allow users & assigned roles to be curated within the platform.
* DriverPass’s system needs to also allow for periodic updates that allows only minimal downtime.

#### 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?*

* The system needs to employ account control to various roles of user via RBAC.
* Users will be required to register a valid email as their as their login username.
* Users will need an option to recover their account if the username or password is forgotten.
* The system will need to be distributed through HTTPS.
* System will require a “time out” period for account creation, sign-on attempts from the same IP address. This will also force a lock out of an account after too many failed attempts, requiring Admin review & override to remove the lock.

### 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.”*

* DriverPass’s system will require user validation upon sign-in.
* This entails the system enforcing different levels of the security policy-based level of user logging in. Changes occur based on failed or successful login.
* Users will be able to review current courses & reserve available driving slots for testers.
* Editing of previously scheduled driver reservations, view additional driver slots, & the trained to review work schedules.
* The system needs to have a reporting function, options to maintain & receive updates from the DMV.
* The system will collect data from users to build & manage Key Performance Indicators from the data generated.
* These generated Key Performance Indicators will be viewable online to certain roles. These allow some profiles to be used in place of proxies for other accounts.

### 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.)?*

* Users shall be greeted with a home layout in the assigned dashboard area. In this area, users will be able to review current subscriptions, course work, reserve a test exam, edit & modify their own accounts. Additionally, practice test, and results review of previous work to compare. Higher up Admin-roles will have access to see all students’ & drivers’ schedules. This excludes personal identification information.

### 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?*

* Users will all be English speakers. Assuming that the platform is based in the USA. Some secondary accommodations will need to be made for Spanish speakers.
* All users will be registered with a working email address.
* Program engineers will be able to access the program foundational designs & communicate with the business owners.

### 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 only be capable of processing & installing updates while connected to the internet.
* The DMV test reservation system will only work within the United States.
* Early versions of the DriverPass system will not be ADA compliant.

### 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.*

A red line on a white sheet

Description automatically generated