# 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 purpose of this project is to provide additional education and practice for those that are studying to be able to pass their drivers test in order to obtain their driver’s license. The client is DriverPass, and they are hoping to create a system that can help their customers in a few major ways listed in the System Background section of this document.

### 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 wants a cloud-based system that customers can interact with through the web. It will allow customers to set up appointments for driving lessons and to access practice tests. The system will also keep track of their account information, test history, and their driving lesson appointments. The system should also allow for a customer service representative to set that type of stuff up for anyone that may call in.

### 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?*

This system needs to include user accounts of different statuses. It needs to support admin, customer service, and customer accounts with the permissions and features reflective of those roles. The typical account management needs to be built into the system such as password resetting if needed. In addition, the system needs to have a way for each of those roles to manage driving lesson appointments with the customer role only having access to their own information. The system needs to include different purchasable packages for customers when it comes to the driving lessons. It also needs to be able to receive updates from the DMV so that the information on rules, policies or sample test questions are always up to date. Practice tests that customers can take and have a record of their scores is another important feature. There also needs to be a section where users can update their personal information. The UI should be based on the drawing provided.

## 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 needs to be run as a web-based distribution with the database layer and backend hosted on servers running Linux.
* The system needs to be fast to allow for instant access to data and even video streaming for any educational materials provided in that format.
* Any time a student makes progress, appointments are made, or instructor feedback is provided, the system needs to immediately update that information in the database.

#### 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?*

* This application will require a database to record all of the student information, appointment information, and any other information that needs to be accessed at many points in time by many different users.
* The system needs to be accessible to all platforms running a web browser. This is especially important for making sure that the site is accessible to users using a mobile device.
* The application will run on Linux based servers.

#### 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?*

* Each user will be assigned a role at the time of account creation. The system will then be able to recognize each user and their assigned role with every web request that is sent through the use of web tokens or cookies distributed on log in.
* Input will not be case sensitive aside from passwords. There will need to be validation that accounts for that fact in the code.
* Admins could be informed of problems with scheduling conflicts both with vehicles and with instructors.

#### 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?*

* Users shall be able to create accounts as well as modify their personal information. Users can also delete their accounts.
* The IT admin account will need to be created during setup. However, after that, an admin account can add remove or modify any other account including changing the role that is assigned to that account.
* Updates will be made to the system whenever changes to the web browsers necessitate an update. In addition, regular updates to the system will roll out as necessary ideally at times when few users are trying to use the system to minimize the negative impact of the system being briefly offline.

#### 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?*

* Any data exchange between the client and server will be appropriately encrypted using the most up to date tools, protocols, and standards.
* Users are required to create accounts using an email address and password. If there are several failed password attempts in a row, the user will be required to reset their password and an email will be sent with a link that enables them to do so. The same for if a user forgets their password.
* There will also be a way for a user to change their password after logging in if they think that their password needs to be updated.

### 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 incorporate user authorization and authentication validating user credentials when logging on.
* The system shall provide online learning materials as well as practice exams testing students on the material covered.
* The system shall provide the ability to make appointments for driving lessons.
* The system shall track all changes to the system including user information, and appointment information along with which user made the changes.
* The system shall offer three driving lesson packages with the ability for the packages to be disabled by an admin.
* The system shall allow users to download materials to access offline. However, everything else must be done online.
* The system shall provide standard reports for admin to access and download.
* The system shall enable customer service reps to receive appointments over the phone and input the information into the system.
* The system shall record customer first name, last name, address, phone number, state, and credit card info.
* The system shall notify the admins of any DMV updates to sample questions or any other material that could be tested.

### 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 have a home page that gives information about the company and the services they offer.
* The interface will include a sign up page.
* The interface will include a sign in page
* The interface will include a page that presents the course materials and practice tests in an organized way that users can click into to see the actual materials or take the tests.
* The interface will have a page where students can view/update their own personal information along with all of their progress with the course and any scores for completed tests. Customer service reps can view this information for any of the students and will have an additional page that displays a list of students for them to click into. Admin accounts can update and even remove accounts from this page.
* The interface will have a page that allows users to see any communication from DriverPass. (The link to this page will show a notification badge if there are new messages to view along with sending an email that contains the same communication from DriverPass. This page will also allow the user to communicate with DriverPass by sending messages to them.
* The interface will also include a screen for making, updating, or cancelling an appointment. Customer service reps will see all appointments instead of just ones specific to a single user.
* Each of these pages will be developed in a way that is mobile web browser friendly to allow users to access all of the website from any device.

### 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?*

* This system assumes that the DMV will actually publish any updates.
* This system assumes that users have some experience with technology and understand the basics of using a computer and/or a phone.
* This system assumes that users have access to a device that can connect to the internet and has a web browser.

### 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?*

* Because this system is web-based, any updates to the database or the system itself will rely on an internet connection.
* Users will have to be connected to the internet to be able to see the most up to date information.
* DriverPass will have a budget for development and ongoing maintenance needed for the system.

### 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 screenshot of a calendar

Description automatically generated