# 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 make an all-in-one web-based training system for our client, DriverPass.
* Student drivers will use this platform to prepare for their DMV tests; They can utilize online resources and scheduling driving lessons.
* The system will also help administrative users facilitate account management, scheduling, and tracking.

### 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 to fix the problem of students not having enough tools to get ready for their DMV test. Their goal is to offer one place where students can study, take practice tests, and book lessons – all from a mobile device or website.
* The system needs to include:
* Online scheduling, rescheduling, and cancellation of driving lessons.
* On-demand access to updated DMV rules and regulations.
* Practice exams that simulate the actual DMV test.
* Student profiles with saved progress, test scores, and lesson history.
* Training package options that can be added or removed as needed.
* Role-based access for administrators, instructors, and IT support.
* Tracking logs for all changes to reservations or user accounts.
* Mobile and desktop accessibility so staff can work from any location.

### 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 shall:**

* Permit create their account and manage it, reset their password, and purchase driving packages.
* Allow students to schedule, reschedule, and cancel their driving lessons.
* Permit students to register online by themselves, or through a secretary for DriverPass (on the phone).
* Show and store reservation details, like lesson times, pickup and drop-off locations, and instructor names.
* Permit instructors to see who their assigned students are, what their schedules are, and their training history.
* Permit employees to manage customer data.
* Store student profile details, like names, contact information, and addresses.
* Allow admin users to create reports on who scheduled, canceled, and changed appointments.
* Keep track of which instructor uses which vehicle, and which student is assigned the lesson.
* Permit admin users to remove/add driving packages.
* Let DriverPass employees receive notifications if the DMV has any rule changes.

## 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 shall support quicker loading times, preferably under two seconds per page per view.
* Any updates to the DMV rules or its course content shall be synced as needed with little system downtime.
* Scheduled maintenance shall be announced in advance and shall not occur during peak hours.

#### 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?*

* Most importantly, the system shall be compatible with all frequently used operating systems, such as macOS, Linux, Android, iOS, and Windows.
* Because of this, the system shall run on all frequently used web browsers, like Safari, Edge, Firefox, and Chrome.
* The app will be supported on a secure, cloud platform. This could be Google Cloud, AWS or Azure.
* The back end does require tools, like MySQL, for example, in order to store lesson history, scheduling information, and user data.

#### 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 shall distinguish between different users by using distinctive usernames or email addresses.
* Input fields like usernames and emails will not be case-sensitive, however, passwords will be.
* Admins shall be informed of any system issues through an alert on the dashboard or through their emails. This could include scheduling conflicts or too many failed login attempts.

#### 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?*

* You can make changes to the user without changing code. The system shall have an admin space that enables some users to add/remove/modify the package information/student information/instructor information, without the need to change code.
* The system shall adapt to platform updates by
* System configuration settings (e.g., lesson durations, pickup/drop-off zones) shall be adjustable via an admin dashboard.
* The application shall be built with a modular design to support easy updates when new browser versions, operating systems, or mobile platforms are released.
* IT admins like Ian shall have full role-based access to manage system users, permissions, disable accounts, and oversee software updates.

#### 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 must log in with a username/email and password.
* Mult-Factor Authentication (MFA) will be required for admin and instructor roles.
* Data will be encrypted with HTTPS (TLS 1.3).
* Accounts will lock after 5 failed logins, and users will get an email to reset their password.
* Users can request a secure password reset link if needed.

### 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.”*

#### *Admin Functions*

The system shall:

* Let admins manage the user accounts
* Let admins manage driving packages
* Let admins view reports and logs of user actions

#### *Instructor Functions*

**The system shall:**

* Let instructors log in securely.
* Permit instructors access to student progress.
* The system shall let instructors see their scheduled lessons.

#### *Student Functions*

#### The system shall:

#### Let students register an account.

#### Let students log in securely.

* Let students view/update their profiles.
* Let students purchase a driving package.
* Let students schedule, reschedule, or cancel lessons.
* Show lesson details, including instructor and location.
* Let students view test scores and progress.

#### *IT/Admin Support:*

The system shall:

* The system shall let IT reset passwords and disable accounts
* The system shall provide role-based access
* The system shall include audit trails for changes

### 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.)?*

* Students can register, log in, schedule lessons, access test scores, and view lesson details.
* Instructors can log in and view schedules and student progress.
* Admins will use a dashboard to manage users, packages, and reports.
* The system will work on both mobile and desktop devices.
* IT support will have access to reset passwords and manage user roles.
* The interface will be simple to navigate, with form validation and clear menus.
* The design will be responsive and work on all screen sizes.

### 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?*

* All users have internet access and a modern browser.
* Most students will use the system on mobile – staff will use desktops.
* Instructors will receive training on the system.
* Admins will keep system data current.
* DriverPass has access to cloud hosting.
* DMV rule updates will be entered manually or semi-automatically by staff.

### 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?*

* System will launch in only English.
* Budget may not allow for high-end features like GPS tracking at launch.
* Reliance on cloud hosting could introduce cost or availability limits.
* Some advanced features may be delayed due to time constraints
* User adoption might take time and require support.
* DMV rules may differ by region, limiting some features.

### Gantt Chart

*Please include a screenshot of the GANTT chart that you created with Lucid chart. Be sure to check that it meets the plan described by the characters in the interview.*

The Gantt chart below outlines the DriverPass project timeline based on the interview transcript. Tasks are scheduled by priority and show realistic time estimates and dependencies.



**Resources**

Southern New Hampshire University. (n.d.). *CS 255: System Analysis and Design – DriverPass interview transcript*. Southern New Hampshire University.