# 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 client, DriverPass, aims to provide an online platform for students with better training tools and practice exams for students to be able to pass their driving test.
* The system is intended to help students by offering online practice exams and able to schedule on-the-road practice with trainers. This will assist students with the problem of high failure rates by reducing inadequate preparation.

### 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 help students schedule both practice exams and on-the-road training.
* Able to facilitate scheduling with trainers, manage different user types of roles between student, trainers and system administrators.
* Problem to fix is reducing the high failure rate of driving test, while streamlining the process to prepare students for the exams at 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?*

* Allow users to register for accounts, access training schedule dates, take practice exams and view results.
* Different levels of access for students, trainers, and administrators. Trainers and administrators will have different roles in supporting the students and guiding them towards success. Administrators will have higher access above trainers for overall business management to support the student and trainer alike.

## 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?*

* Must run as a web-based and accessible from both desktop and mobile devices.
* Operate efficiently. Load times not exceeding 3 seconds under normal operating conditions.
* Updated quarterly and whenever DMV changes requirements. Continuously improvement for functionality and security.

#### 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?*

* Cross-platform: able to run on windows, macOS, iOS, android and Linux based systems.
* Database is required to store users and roles, test results, schedules.

#### 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 ID’s and case-sensitive inputs for validation.
* Alert systems should be implemented for issues- such as incorrect data input. System administrators will receive alerts in this case.

#### 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?*

* System will include user roles and permissions- object inheritance will allow the reuse of core code for all uses across the system; encapsulation will take place for higher tier access for various roles under the core “user” role.
* Compatible with multiple operating systems and web browsers
* Administrators have full access to user accounts and roles to make changes from a dashboard

#### 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?*

* Multi-factor authentication to ensure secure access.
* SSL encryption should be implemented to protect data in transit between the system, client and database. Due to the nature of this type of system, SSH-256 key should be used.
* Brute force attempts should be detected- and user accounts will be temporarily locked. Admin will be notified. Suggested 3 wrong inputs and account will auto-lock.
* Users should be able to reset passwords with an email-based verification process.

### 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.”*

* allow users to **register for an account**.
* allow students to **schedule on-road training** sessions.
* allow students to **take online practice exams**.
* provide **real-time grading** and feedback on practice exams.
* allow trainers to **manage their availability** for scheduling, view student progress
* allow administrators to **view and manage** user accounts and test results.

### 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.)?*

* Intuitive access on desktop and mobile apps.
* Students can register, schedule training and take practice exams.
* Trainers can manage schedules, ability to adjust students schedules as needed, view student progress.
* Admin needs access to user data, system logs and view all profiles to fix issues, have access to analytics over all student’s progress.

### 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?*

* Assume all users have access to internet and modern browsers.
* Assume students will complete both online and on-the-road training to prepare for the DMV tests.

### 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?*

* Time constraints- limit the number of practice tests. DMV may change requirements for these on a whim as well
* DriverPass Budget- affects future updates, add future features and add advanced training tools
* Does not include multilingual support – Could be added for future if needed. Will need a translator for this.

### 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.*

