# 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 students with better tools to prepare such as online practice exams and on-the-road training to better prepare them for driving tests

### 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 DriverPass system enables its students to study for exams using previous exams. They want to fix the problem of many students failing the real driving exam. Some components needed for the system would be a tracking system to monitor progress. Another one is a feedback system for the teacher or quiz to give feedback about the students progress. A database of previous driving exam questions and answers. And a user interface for students to access and study.

### 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 completed system should be able to help students study for their driving exams effectively and efficiently. Some measurable tasks that need to be included to achieve this track students progress and offer feedback on performance, provide practice exams that simulate the real driving exam with time limits, offer study materials such as articles or videos, allow students to create study plans based on their strengths and weaknesses, enable students to communicate with instructors or tutors

## 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 driverpass system would ideally run on a web-based platform accessible to its students. The speed of the system should be reasonable enough for students to access and interact with the content without experiencing long load times or delays. The system should be updated regularly to ensure that it is up-to-date with the latest exams and regulations

#### 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?*

* If the Driverpass system is a web application then it should be able to run on any platform with access to a browser. The back end would likely need a database to store and retrieve data for all the exams, articles, and videos.

#### 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?*

* To distinguish between different users, the system can require users to create unique usernames and passwords. The input can be made case-sensitive to ensure that each username and password is distinct. The system should inform the admin of a problem immediately so the issue can be corrected.

#### 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?*

* There should be a feature to add/remove/modify users without changing the code. This would be done using a database, the IT admin should have full access to 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?*

* The users username or email and their password should be needed to log in. The system can use encryption technologies such as SSL/TLS to ensure a secure connection. If there is a failed password attempt more than five times the user should be locked out for a short period of time, if there is another five times the user fails then the time increases. Another way to prevent brute forcing is by using salt so that if the database gets leaked its nearly impossible to crack all the users passwords at once but its still possible to crack one at a time. If a user forgets their password a reset link should be sent to their email and they should be asked to answer security questions.

### 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 allow students to register for an account with a valid email address and password.
* The system shall provide a way for students to retrieve their forgotten password via email.
* The system shall allow registered students to log in to their account with their email and password.
* The system shall allow students to view previous driving exam questions and answers.
* The system shall allow students to take practice exams consisting of previous exam questions.
* The system shall allow students to receive feedback on their practice exam results.
* The system shall track the student's progress and provide recommendations for further studying.
* The system shall allow an admin to add, remove, or modify user accounts.
* The system shall encrypt all user data and use secure protocols to ensure secure data exchange between the client and the server.
* The system shall detect and block any brute force login attempts and notify the admin of such attempts.
* The system shall be platform-independent and able to run on different operating systems and devices.
* The system shall be updated regularly to fix bugs, add new features, and improve performance.

### 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 needs to allow the system to be accessed as intended by each user. So for a student they will need to be able to access past exams, take practice exams, view results, and request support. For the teachers they will need to be able to leave comments and feedback for the students. And the system administrator will need access to everything so they can ensure that the system is operating as expected.

### 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?*

* The specific database system to be used
* The specific programming languages and frameworks for frontend/backend
* Encryption methods
* Users have access to computer/mobile device with internet access
* Users can read
* Users know how to use the device they have

### 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?*

* One limitation is how available the data is for previous exams. This could result in bad practice exams without knowledge of what’s being tested for.
* How many people use this system
* Security

### 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.*

[Insert chart]

Chart

Description automatically generated