# 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 DriverPass system aims to significantly improve the driving test pass rates by addressing the lack of effective preparation tools. It seeks to offer a comprehensive solution through online practice exams and practical on-the-road training, moving beyond simple memorization of past questions to equip students with necessary theoretical knowledge and practical skills.

### 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 is designed to tackle the high failure rates among driving test candidates, primarily caused by inadequate preparation focused only on past test questions. The system will blend theoretical learning and practical training to fill the gap in existing test preparation methods.

### 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 systems completion will see it providing a robust preparation tool that enhances test pass rates through:
  + Comprehensive training tools covering theoretical and practical aspects
  + Quality preparation that includes situational awareness and decision-making.
  + Accessibility to high-quality training for a broad audience via technology.
  + A feedback and performance tracking system to adapt materials and methodologies to evolving student needs.

## 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 must ensure high responsiveness and reliability to provide a seamless user experience. It should load within seconds and handle multiple simultaneous users without degradation in performance. The system is expected to be available 24/7, with scheduled maintenance performed during off-peak hours to minimize disruption.

#### 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?*

* DriverPass should be accessible on various platforms, including desktops (Windows, macOS) and mobile devices (iOS, Android), through web browsers like Chrome, Firefox, Safari and Edge. The design must be responsive to adapt to different screen sizes and resolutions, ensuring functionality and user experience remain consistent across devices. Backend support includes a relational database for data management.

#### 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 differentiation is handled through secure login mechanisms, with attention to case sensitivity in inputs where applicable. System admins are alerted to issues based on predefined criteria to maintain system integrity and accuracy.

#### 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?*

* The system architecture allows for user modifications and adapts to platform updates without needing code changes. IT admins have comprehensive access for system management and updates, facilitating scalability and the integration of new features as required.

#### 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?*

* To log in, users must provide a secure username and password. The connection between the client and server will be secured using SSL/TLS encryption, ensuring data exchange is protected. In response to brute force hacking attempts, the system will lock the account after a predetermined number of failed login attempts, requiring user or administrator intervention to unlock. For users who forget their password, a secure password recovery mechanism will be implemented, involving email verifications or answering security questions to authenticate the user’s identity before allowing password reset or recovery.

### 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 validate user’s credentials when logging in.
* The system shall provide a personalized dashboard for each user type (student, instructor, admin).
* The system shall offer a range of online practice exams for students.
* The system shall allow students to schedule on-the-road training sessions with certified instructors.
* The system shall track and display student progress and exam results.
* The system shall enable instructors to update the content of practice exams and training materials.
* The system shall allow admin users to manage user accounts and access levels.
* The system shall send notifications and reminders to users regarding their scheduled training sessions and exam dates.
* The system shall collect and analyze feedback from users to improve the system.

### 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 be intuitive, accessible, and responsive, catering to various users such as students, instructors, and admin staff. Students need to access and take practice exams, view their progress, and schedule training sessions. Instructors require functionalities to create and update exam content, manage training schedules, and monitor student progress. Admins should manage user accounts and system settings. Interaction with the interface will be through web browsers and mobile devices, ensuring a seamless experience across different platforms for all user types.

### 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?*

* **User Technology Access:** It is assumed that users, including students, instructors, and admin staff, have access to internet-connected devices such as smartphones, tablets, or computers.
* **Digital Literacy:** Users are presumed to have basic digital literacy skills, enabling them to navigate web platforms and mobile applications without significant difficulty.
* **Stable Internet Connections:** The design assumes that users will have a stable internet connection to access the system’s features, such as taking practice exams and scheduling sessions.
* **Compliance with Regulations:** It is assumed that the system’s content, including driving laws and regulations covered in practice exams, will be regularly updated to comply with current standards.
* **Availability of Instructors:** There is an assumption that there will be a sufficient number of certified instructors available to meet the demand for on-the-road training sessions scheduled through the system.

### 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?*

* **Resource Availability:** Limited by the number of qualified instructors and their geographical distribution, potentially restricting the reach of on-the-road training.
* **Budget Constraints:** Financial limitations may impact the extent of features and updates that can be implemented, particularly in the early phases.
* **Time to Market:** The timeline for development and deployment may be constrained by project deadlines, impacting the depth of initial system offerings.
* **Technology Adoption:** Variability in users’ acceptance and adaptation to new technologies could affect the system’s overall effectiveness and usage rates.
* **Scalability Challenges:** Initial technology choices may limit the system’s ability to scale efficiently with growing user demand.

### 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.*

