# 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 aim of the project is to create and deploy a complete system for DriverPass that will help students prepare for their driving tests using both online practice tests and scheduling functionality for on-road training. The system would handle a variety of groups of users, including students, instructors, administrators, IT staff, and DriverPass management. To achieve this, the system will have several central functionalities such as student registration and login, practice exam generation and scoring functionality, scheduling functionality for behind-the-wheel lessons, instructor management functionality, reporting and analytics dashboard, and a secure database to store user information and exam scores.

### 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 strives to turn the appalling failure rate of DMV driving tests around by offering superior practice than is currently available. Research has shown that more than 65% of students fail because they only practice with questions from previous tests. To solve this problem, DriverPass requires a system that can provide practice tests simulating actual DMV tests, allow students to schedule lessons with qualified instructors, track student performance over time, and grant DriverPass management the ability to track operations through reporting and analytics.

### 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 DriverPass system's primary goal is to increase the passing rate of students who take the DMV driving tests by providing a system that combines academic review and behind-the-wheel practice. The system should always be accessible online and through web browsers and mobile devices. It should also enable students to schedule in-car lessons with instructors, give real-time feedback and scoring on practice tests, and securely handle user data and payments. The system should also allow administrators to monitor student progress and deliver reporting that enables management to review performance trends and make informed business decisions.

## 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 would be web-based and browsable as well as accessible on mobile devices so it can be accessed widely. It would be capable of operating simultaneously by many users without a decrease in performance and it would maintain a 99% uptime with weekly updates.

#### 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?*

It will have support for Windows, macOS, iOS, and Android, with a relational database such as MySQL or SQL Server providing secure data storage backup. The backend infrastructure needs to be scalable and potentially accommodate cloud deployment in the future.

#### 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 ensure accuracy and precision, the system will verify user identity using unique usernames and secure passwords, while login credentials will be case-sensitive. The system will notify administrators in the event of several login attempts failed, schedule conflicts, or technical problems.

#### 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?*

Flexibility is also a requirement. Administrators must be able to add, remove, or change users without modifying code, and the system must remain operational after platform or browser updates. IT personnel will require complete access for assigning user roles, permission levels, and system parameters.

#### 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?*

Security will be another high priority, with all users being compelled to log in using encrypted credentials and all data transfers being encrypted with SSL/TLS protocols. Accounts will be locked for a limited time after five unsuccessful login attempts, and users will have an accessible secure password recovery mechanism to regain access if necessary.

### 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 DriverPass system will provide a wide range of functionality to meet client needs. Students will be able to register, log in, take practice exams, view their scores, and book, reschedule, or cancel driving appointments. Instructors will be able to set availability, manage calendars, and monitor training progress. Administrators will add users, add exam questions, and generate reports for DriverPass administration. IT staff will monitor system health, troubleshoot, and manage technical operations. In general, the system will verify user credentials, securely store exam history, and display student progress to ensure a seamless user experience.

### 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 must be easy, mobile-friendly, and accessible. Students will primarily interact with the interface through a dashboard that will allow them to view practice tests, view results, and track training schedules. The instructors will view a portal through which they can schedule their availability and view lessons in progress. Administrators will require access to management functions that are used to track users and generate reports. IT staff will need to have a system dashboard to monitor technical performance and system health. All interfaces must have a consistent and user-friendly experience across mobile devices and browsers.

### 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?*

There are certain assumptions that have been made regarding the design of the system. All these students who are using the system are presumed to possess access to the internet and computer or smartphone literacy. Teachers will be pre-licensed and pre-certified by DriverPass to teach. DMV practice tests will be built on current state regulations and needs to make them relevant and accurate. Finally, third-party payment processing will be outsourced to a trustworthy third-party vendor to meet the financial security requirements.

### 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?*

The system will have certain resource, budget, and time constraints. Due to these constraints, some premium features such as AI-based tutoring or natively built mobile apps may not be included in the first release. Additionally, road training scheduling will mainly depend on instructors, limiting student flexibility. The system must have varied state DMV policies and laws compatibility, possibly adding complexity in terms of deploying services to multiple geographic locations. Future service expansion after the initial deployment can include integration with other DMV systems or third-party tools.

### 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.*

