# 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?*

* Client name: DriverPass
* DriverPass wants to help customers prepare for their driving test by providing online classes and practice tests.
* The owner needs access to the data from anywhere, online or offline.

### 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 aims to address the lack of comprehensive training resources for driving tests.
* DriverPass wants to create a system that better prepares users for their first driving test.
* This system would need to include all necessary online learning content for users, track user progress to show completed and remaining tasks, and offer scheduling functionality for behind-the-wheel training sessions.
* Administrators will have the ability to modify and manage system content, access detailed reports and analytics, and control user permissions and access levels.

### 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 should enable all users to contribute effectively to DriverPass’s smooth operation.
* For Liam, he would need to be able to download reports for offline use, access detailed reservation data (creator, last modification, cancellations, assigned driver, etc.), and disable specific packages when they are no longer offered.
* Ian, the ID Officer, would need to manage user permissions (change roles, block access, reset passwords) and modify the system as needed, including updates from the DMV or other sources
* The secretary needs to be able to schedule appointments via phone, with secure entry of customer information, and integrate the phone system with DriverPass for streamlined operations, if required.
* For the customer, they would need to be able to schedule, modify, and cancel appointments, view online learning content, track their progress through the training, and reset their password when necessary.

## 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.*

* The system shall operate dependably, with resilience to failures and the capability to track student progress accurately.
* The system should deliver strong performance, including fast response times such as quick page loads.
* The system should incorporate effective security protocols to protect personally identifiable information (PII).
* The system shall support growth, handling an increasing user base, and adding new or revised educational content.
* The system should be compatible with mobile platforms, utilizing an adaptive design for various screen sizes.
* The system interface shall be transparent and user-centric, ensuring ease of use.
* The system’s instructional content shall remain up-to-date, reliable, and in full accordance with DMV standards.
* The system’s driving instructors should undergo rigorous background checks and hold appropriate licensing and certifications.

#### 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?*

* This is a browser-accessible distributed application. The backend infrastructure will consist of Linux-based servers supporting multiple client browsers.
* The system must maintain high performance, as the application involves bandwidth-heavy operations such as retrieving up-to-date DMV-approved test content and transmitting form data for reservations or user account modifications.
* The system must synchronize with the database layer whenever users progress on practice tests, submit feedback from driving sessions, manage reservation actions (creation, completion, updates, cancellations), or when the DMV publishes updated regulatory information.

#### 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?*

* As a web-based solution, the system is platform-independent and compatible with major operating systems, including Mac, Linux, and Windows. Development will target the latest supported versions of widely used browsers:  
   o Chrome  
   o Edge  
   o Firefox  
   o Safari
* The backend will utilize a database system. The choice between a SQL and NoSQL approach will depend on specific application requirements and data handling needs.

#### 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?*

* System users will access the platform through accounts secured by passwords.
* User credentials, including usernames and passwords, will be required for identity verification.
* Each user will be assigned a role determining their permissions and access to specific system functions.
* User input will be treated as case-sensitive to enhance security measures.
* A maximum number of failed login attempts will be enforced, after which an alert will be sent to the system administrator.

#### 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 users shall have the ability to create and register new accounts. This capability applies to both customers and DriverPass personnel.
* System users shall be able to update their personal account details (e.g., contact information) through editable forms using POST requests. The backend logic should be designed to support this functionality.
* System users shall be permitted to deactivate or delete their accounts.
* In most cases, automatic browser updates on the user’s end will not interfere with backend operations. However, if client-side changes impact core functionality, system adjustments or patches will be applied.
* Application updates—including frontend, backend, and database components—will be deployed upon completion of new features or bug fixes, in alignment with agile scrum workflows, and scheduled during low-traffic periods to minimize disruption.
* Agile development practices will support more frequent, minor updates that reduce the risk of regressions compared to large-scale system changes.
* The IT administrator shall be granted complete administrative control over user accounts, including resetting passwords or revoking access for former staff members.

#### 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 enter a username and password to access the system.
* All network communications will occur over HTTPS to ensure secure data transmission between client browsers and server-side applications.
* Login credentials will be submitted using HTTPS POST methods to prevent sensitive information from being exposed in the URL.
* Encryption techniques will be applied to protect confidential data during transmission across the network.
* After five consecutive failed login attempts, the user’s account will be locked to guard against brute-force attacks. This action will notify the IT administrator, who will then inform the user about the process for resetting their password and regaining access.
* Users will be able to initiate password recovery by providing identifiable account information (e.g., email address), after which a reset link will be sent to the associated email.

### 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 should implement authentication and access control, verifying user credentials during login and assigning permissions based on the user’s role or account type.
* The system should function as a web-based platform. Instructional content may be downloaded for offline viewing, but updates or changes (e.g., booking appointments, password changes) must occur online.
* The system should monitor and record user actions, identifying which user created, modified, or canceled a reservation.
* The system shall generate reports, including detailed logs of user activities.
* At launch, the system shall feature three DriverPass course package options, which can deactivate individual packages. Additional packages can be introduced in future development phases.
* The system shall collect the following customer information during account creation:  
   1. First name  
   2. Last name  
   3. Mailing address  
   4. Phone number  
   5. State of residence  
   6. Credit card number, expiration date, and CVV/security code
* The system enables users to perform password resets.
* The system should offer educational content that aligns with the latest DMV standards.
* The system shall display each user's exam results and overall progress.
* The system shall allow instructors to share performance feedback with students.
* The system shall support creating, editing, and removing exams and learning materials.
* The system should enable communication between users and instructors, secretaries, or administrators.

### 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 user interface will contain the following pages:

1. Welcome/Landing page

2. User account creation page

3. Page for accessing learning materials

4. Page to book driving lessons

5. Student profile page

a. Includes sections such as test tracking, communication form, and instructor notes  
 b. The test tracking section displays exam title, duration, score, and completion status

1. Status options include: not started, in progress, failed, or passed

c. The instructor’s notes section presents a table with lesson date, start/end times, and comments from the instructor

6. DriverPass support/contact page

* The interface user roles and corresponding system permissions are listed below:

1. DriverPass owner – unrestricted access to all accounts, including password updates

2. DriverPass IT administrator – complete control over accounts and credential management

3. DriverPass administrative assistant – authorized to manage, edit, and cancel appointments

4. Customers/students – able to register an account, use course content, and manage lesson appointments (create, change, or cancel)

* As the platform is web-based, all user interaction will occur through web browsers across devices such as smartphones, tablets, and desktops. There are currently no plans to develop native mobile applications for Android or iOS.

### 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 internet is accessible 24/7, allowing continuous system connectivity for tracking student progress, updating assessments, booking driving sessions, and more.
* It is assumed that DMV regulations remain current and readily accessible to the public at no cost.
* Given the widespread use of mobile applications, developing native DriverPass apps for iOS and Android may soon become a strategic focus.
* DriverPass users are expected to have functioning devices capable of internet access, running supported operating systems, and browsers compatible with system requirements.
* It is reasonable to expect that most users will be younger and digitally proficient, making the website the primary method of engagement, rather than in-person visits or phone inquiries.

### 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?*

* As an online platform, this system depends on consistent internet access. Users cannot create, modify, or remove data without a network connection. Additionally, features such as accessing study resources, taking practice exams (which may offer offline availability via download), or booking driving lessons will require being online.
* Electric power is essential to operate the DriverPass infrastructure and the users’ client devices.
* Initial hardware investment presents a constraint. Procuring and maintaining physical servers incurs significant upfront and ongoing costs. A cloud-based backend and database solution is recommended to minimize capital expenditures. This model bases costs on actual usage, conserving funds and accelerating deployment by eliminating the need to procure, set up, and manage physical hardware.
* Available budget and project deadlines will determine the staffing level, including whether external contractors or new hires are required.
* The technical proficiency of existing team members may influence both budget and timeline, as developers will be needed for the web interface and cloud infrastructure. Additional training may be necessary if unfamiliar platforms or tools are involved.
* DriverPass course content depends on up-to-date DMV standards. Therefore, limitations may arise in delays, inconsistencies, or restricted access if those guidelines change or are not immediately available.

### 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.*

A diagram with different colored squares

AI-generated content may be incorrect.

References

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