# CS 255 Business Requirements Document Template

## 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 project is focused on developing a comprehensive software system that aims to enhance the training experience for students preparing for their driving tests. The initiative arises from the high failure rates among individuals attempting to obtain their driving licenses. Driven by this challenge, Liam, the owner of DriverPass, envisions a platform that facilitates online access to practice exams and training materials, allowing students to study from any location using computers or mobile devices.
* A critical aspect of the system is its robust data management capabilities, which enable staff to efficiently access, manage, and modify data while minimizing redundancy. Additionally, the system should allow for the generation of downloadable reports for offline use. To ensure security and proper user interaction, the platform will feature varying levels of access for different user roles, including administrators, IT personnel, secretarial staff, and students. For instance, IT staff will have the authority to reset passwords and block accounts, while students will have the ability to create, modify, or cancel their reservations for driving lessons.
* The reservation system is another key element, allowing customers to book driving lessons online by selecting their preferred days and times. This functionality will include tracking details such as student-driver pairings and the specific vehicles used during lessons. Furthermore, DriverPass intends to offer customizable training packages that encompass classroom instruction and on-the-road training, with the flexibility to disable certain packages and adapt future offerings as needed.
* The system will also prioritize the secure management of customer information during the registration process, capturing essential personal and payment details while ensuring data privacy. Compliance tracking is crucial, and the system should provide notifications when updates arise from DMV regulations, helping the DriverPass team stay informed and compliant. Finally, an interactive user interface will be designed to be user-friendly and visually appealing, promoting easy navigation and interaction. Overall, the DriverPass platform aims to create a modern, flexible solution that improves the driving training process while effectively managing user data, reservations, and compliance.

### 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 intends for the system to provide an integrated platform that enhances the training experience for individuals preparing for their driving tests. The key problem they aim to address is the high failure rate among students attempting to pass their driving tests. By offering a comprehensive suite of online practice exams, training materials, and an efficient reservation system for driving lessons, DriverPass seeks to improve student preparedness and ultimately increase their chances of success. The system requires various components, including user accounts with role-based access, a reservation system for driving lessons, data management features, reporting capabilities, and compliance tracking mechanisms with regulatory authorities such as 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?*

* Upon completion, the DriverPass system should enable users to access training materials and practice tests online, manage lesson reservations, and generate reports. Measurable tasks that need to be included in the system design to achieve these goals comprise the development of an intuitive interface for user interaction, the implementation of a reliable database for data management, a secure login process, and responsive customer support functionality.

## 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 operate in a web-based environment, making it accessible on various browsers and devices, including mobile. The system should load within three seconds to ensure a smooth user experience and be updated regularly, at least once a month, to address any identified bugs or to accommodate changes in DMV requirements.

#### 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?*

* The system should operate on widely used platforms, including Windows and Unix. Furthermore, it will require a robust backend database, such as MySQL or PostgreSQL, to support data management operations efficiently and securely.

#### 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 will implement user role identifiers, with specific permissions assigned to each role. User input will be case-sensitive for usernames and passwords to enhance security. Should an issue arise, such as failed login attempts or reservation conflicts, the system will generate alerts for the admin.

#### 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 must allow for user modifications—such as adding, removing, or modifying user accounts—without necessitating any changes to the underlying code. It should be designed to adapt easily to platform updates, and the IT admin will need comprehensive access to user management and system configuration features.

#### 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?*

* User login will require a secure combination of credentials, including a username and a strong password. To protect data exchange between client and server, the system will utilize SSL encryption. In the event of a brute force hacking attempt, the system will temporarily lock the account after three failed login attempts. Users who forget their passwords will be able to reset them through a secure recovery 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.”*

* Validate user credentials when logging in.
* Allow students to create, modify, or cancel their lesson reservations.
* Provide a secure registration process for users to input their personal and payment information.
* Enable staff to generate and download reports related to user activity and system performance.
* Track compliance updates from the DMV and notify administrators accordingly.
* Allow for customizable training package management by administrative staff.

### 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 must be intuitive and responsive, catering to various user roles, including students, instructors, and administrative staff. Each user type should have a tailored experience: students need to access training materials and reservation features, while admins must have a dashboard for managing users and generating reports. The interface will be accessible across both mobile devices and standard web 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?*

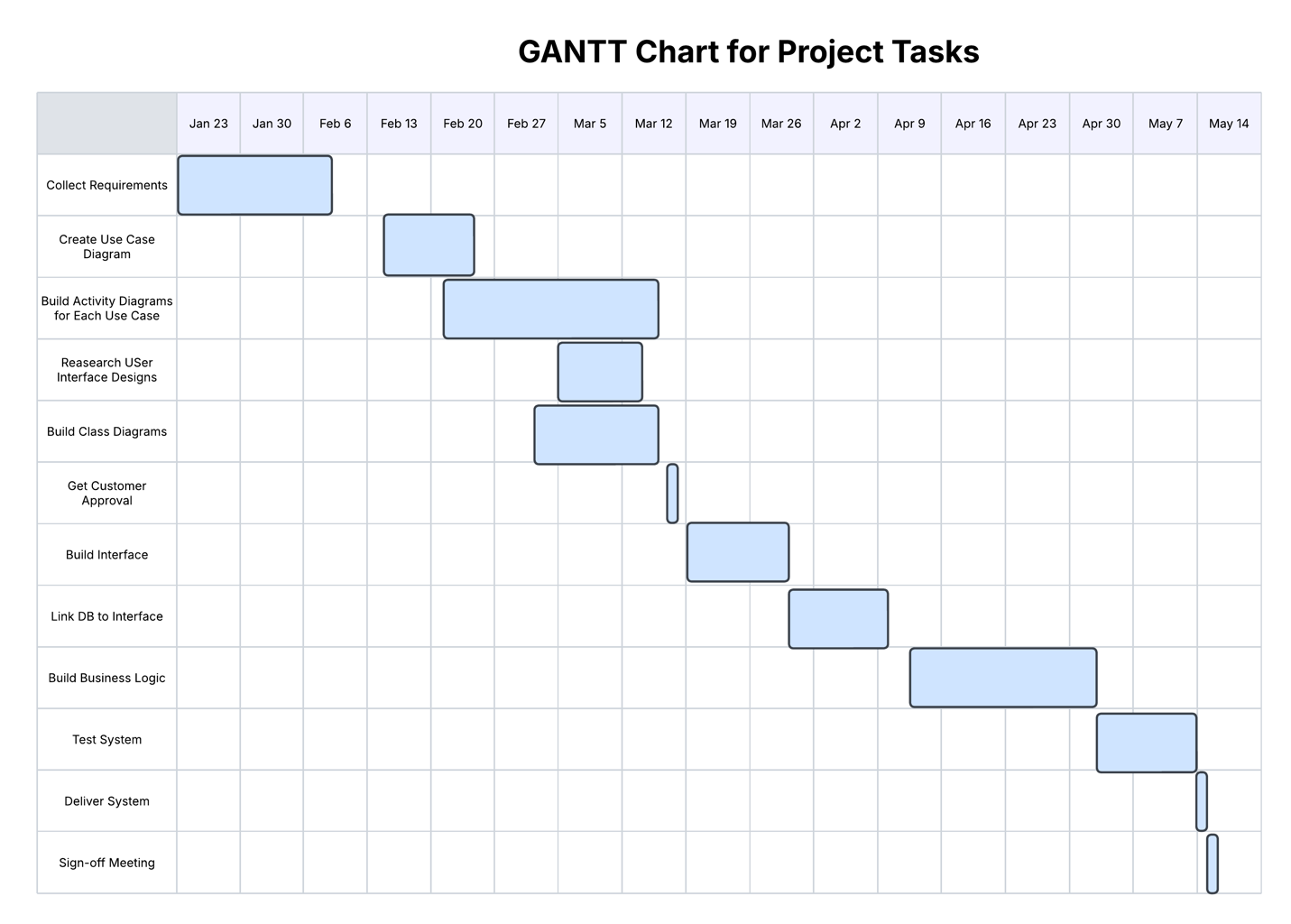
* Some assumptions made in this design include that the users have basic digital literacy, access to the internet, and a working knowledge of how to use web applications. It is also assumed that both users and admins will have varied levels of technical skill, necessitating a user-friendly interface.

### 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 design faces limitations, such as potential resource constraints during development, including time and budget limitations. Furthermore, the underlying technology may have restrictions regarding scalability, performance under heavy load, and integration with legacy systems, which could affect overall user experience and functionality.

### Gantt Chart

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