# CS 255 Business Requirements Document Template

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## 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 help Liam create the vision he has for driver pass. This system will help students receive training for their driving test at the DMV. The system will provide online classes and practice tests as well as in person on the road training. The system needs to be accessible from anywhere and needs to be able to export data for later viewing offline. The system needs to allow users to make, modify, and cancel reservations for driving lessons. It also needs to allow various levels of access control to various members of the organization that controls driver pass. Also, for security reasons any changes made need to be logged with a modification log that shows when and who modified reservations and what changes were made.

### 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?*

* Driver pass wants the system to help customers book packages that include online driving lessons and quizzes as well as in person driving lessons through a number of packages that can be updated as time goes on. The system needs to have multiple levels of access from full admin access at the top to limited access at the customer level so that every level has the appropriate amount of access to the entire system. The system needs to keep track of any changes made to any account and who made them and at what time. The user also needs to be able to reset their password on their own fully online. To create the system various components will be needed the system will need to be able to create a user account, Offer various packages, schedule in person driving lessons, cancel and or modify them, keep track of the users progress, be modifiable so that packages can be disabled or changed. The system also needs to be able to match students to drivers and cars and allow the instructor to leave notes on the student.

### 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?*

* When the system is completed, it should be able to intake new customers, offer various packages, and make modify or cancel reservations for driving lessons. The system must also keep track of an individual customer's progress and keep track of what instructor and what car are used for any given student along with any notes. Contained within the interview was a wonderful timeline of deliverables to stay on track. Given that we have just collected the requirements our next step is to create use case diagrams and build activity diagrams for each use case. Those activities will be done in tandem with another team researching user interface designs and building the class diagrams. Those activities will all be done in parallel and presented to the customer on March 10th for approval. After receiving approval, the interface will be built, and the database will be linked to it by the 3rd of April. Finally, the business logic will be built, and the system will be tested. Assuming the testing finds no major errors and there are no other delays the system should be delivered by May the 8th and signed off on the following day.

## 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 needs to be web-based to allow access from anywhere. It should operate efficiently with minimal load times, ideally under 2 seconds. Updates to the system should be rolled out regularly, with critical patches applied when needed to fix any security issues or major bugs.

#### 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 be compatible with major operating systems including Windows, macOS, and Unix-based systems. The backend will also need a robust database such as MySQL to manage user data, reservations, and other functions. The system should also be designed to integrate with cloud services for scalability.

#### 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?*

* Users will be distinguished by unique identifiers like email addresses or usernames. The system will use case-sensitive input for passwords and usernames to ensure security. The admin should be informed immediately via email of any login attempts that fail 3 times, errors in processing transactions, or any other major issues that could impact the system or user experience.

#### 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?*

* Yes, user management like adding, removing, or modifying users should be possible through an admin interface without requiring any code changes. The system should be made to be modular to easily adapt to platform updates. The IT admin will need full access to the system, including the ability to manage user roles, monitor logs, and roll out security updates.

#### 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 will be required to log in using a secure username and password combination. All data exchange between the client and server will be secured using encryption. If a brute force attack is detected, the account should be temporarily locked, and the user notified via email with steps to unlock it. If the user forgets their password, they should be able to reset it through a secure email link after answering 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 validate user credentials when logging in.
* The system shall allow users to create, modify, and cancel reservations for driving lessons.
* The system shall track and record user progress in online courses and driving lessons.
* The system shall provide different levels of access control based on user roles.
* The system shall allow instructors to add notes to student records.
* The system shall log all changes made to reservations and user accounts.

### 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 and user-friendly; it needs to support both mobile and desktop browsers. Users will include students, instructors, and admins. Students need to book and manage lessons, access course materials, and view progress. Instructors need to view student schedules, record notes, and update progress. Admins need to manage users, monitor the system, and handle any necessary system updates. The interface will need to support interaction through web browsers and a mobile devices.

### 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?*

* It is assumed that users will have a stable internet connection and a web browser. It is also assumed that users will have a basic level of computer literacy and experience working with similar online booking systems.

### 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 the dependency on internet connection; without internet, users won't be able to access the system. Budget constraints may limit the scope of the project, especially in areas like security measures which can be costly. Time constraints may also impact the amount of testing that can be performed before roll out.

### 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 screenshot of a computer screen

Description automatically generated