# 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 purpose is to make an easy way for driver’s ed materials to be used.
* The client is DriverPass, they want their system to be used for driving practice for their students to pass their license tests.

### 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?*

* They want the system to allow students to access practice tests and on-road practice.
* The problem is the amount of students failing their driving tests.
* Different components needed are the reservations, online tests and study material, and the ability to buy study packages.

### 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 allow users to take online classes and reserve, modify, or cancel driving times; buy study packages; allow staff to see the changelog; and allow Liam to access data offline, and give him package customization.
* The measurable tasks are:
* Allow access to specific roles
* Track which user is matched up with a certain driver, time, and car.
* Track appointment requests and reservations.
* Allow training packages to be removed or reactivated easily.
* Connect with DMV to be updated with new information.
* Notification for schedule changes to drivers.
* Show tests customers took and their progress, test name, time taken, score, and status.
* Show drivers notes.
* Print spreadsheet for Liam.
* Show lesson time, start hour, end hour, and driver comments.

## 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 main environment for DriverPass is web-based.
* The system should run fast enough to be comfortable, using a decent speed to not be frustrating but high speed low latency isn’t a necessity.
* The system should be updated as needed. Times it would be needed are adding, updating, or removing material according to the DMV, security concerns, and the data should be updated in the database when a change is made such as appointment time.

#### 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 will run on the browser on all systems.
* The backend will require a database for managing appointments, personal data, and the materials. This will presumably be in a cloud server.

#### 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?*

* Different users will use different logins i.e. a unique username and password.
* The input should be case sensitive for security.
* The system should record all changes, sending alerts to the admin when a site bug is reported or a shutdown or crash occurs.

#### 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?*

* Changes by the user should be shown in a changelog. They should be able to add, change, or remove appointments as well as request password reset.
* The system will have a changelog visible to staff at DriverPass, sending a notification to the relevant driver and user when a time is successfully changed. Admin+ should be able to see the changelog without constant notifications from all 10 cars.
* The admin needs access to almost all areas of the site for maintenance and problems. This excludes passwords for security.

#### 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?*

* The user will need a username and password.
* Two factor authentication will make the data more secure.
* After several wrong attempts, there will be a timeout before attempting again. After 3 series of this, the account will be blocked until an admin is contacted.
* If the user forgets their password, a confirmation should be sent to the user’s contact information(email or phone). That should include a link to change the password. If they don’t have access to those, they should be referred to assistance and able to only check appointments by calling(no payment info access until the account is recovered).

### 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 distinguish the type of user: student, driver, admin, or boss.
* The system shall allow users to reset password if needed.
* The system shall allow 5 failed login attempts before a timeout.
* The system shall block the user and notify admin if 3 timeouts have occurred.
* The system shall create user account with user information.
* The system shall allow access from anywhere online.
* The system shall display types of packages for customers to choose from.
* The system shall allow customers to select a package to purchase.
* The system shall allow admin to disable packages that are full.
* The system shall track which user is matched up with a certain driver, time, and car.
* The system shall display customer information, hours left, and status.
* The system shall display drivers notes.
* The system shall display lesson time, start hour, end hour.
* The system shall display driver and student photos.
* The system shall allow valid students access to online learning tools.
* The system shall connect with DMV to be updated with new information.
* The system shall display test results.

### 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 run on a web browser.
* The users are the customers(students), drivers, admin Ian, and boss Liam.
* All users:
* Login/register page.
* Home page.
* User information and ability to update.
* Contact information page.
* Students:
* Test progress and score.
* Passed or failed tests.
* Driver notes, lesson dates, and times.
* Package information.
* Online learning tools(if applicable).
* Drivers:
* Schedule.
* Contact info of scheduled students.
* What admin and boss should see and be able to access:
* Information of customers registered.
* Which packages have been selected and by who.
* Ability to remove full packages.
* Which customers and drivers are matched up, dates, and times.
* Ability to allow users to reset their password.
* Ability to print spreadsheet for offline.
* The users will use a web browser on any device. Liam will be able to download a spreadsheet for filing offline.

### 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?*

* All users have web accessible devices.
* All users have an email or phone.
* All users will understand how to navigate the website.
* Admins have necessary skills to navigate and access all website functions.
* Students will be on time and show up for every lesson they reserved.
* Drivers will be available and make it to every driving lesson reserved.
* The cloud service used will not have issues.

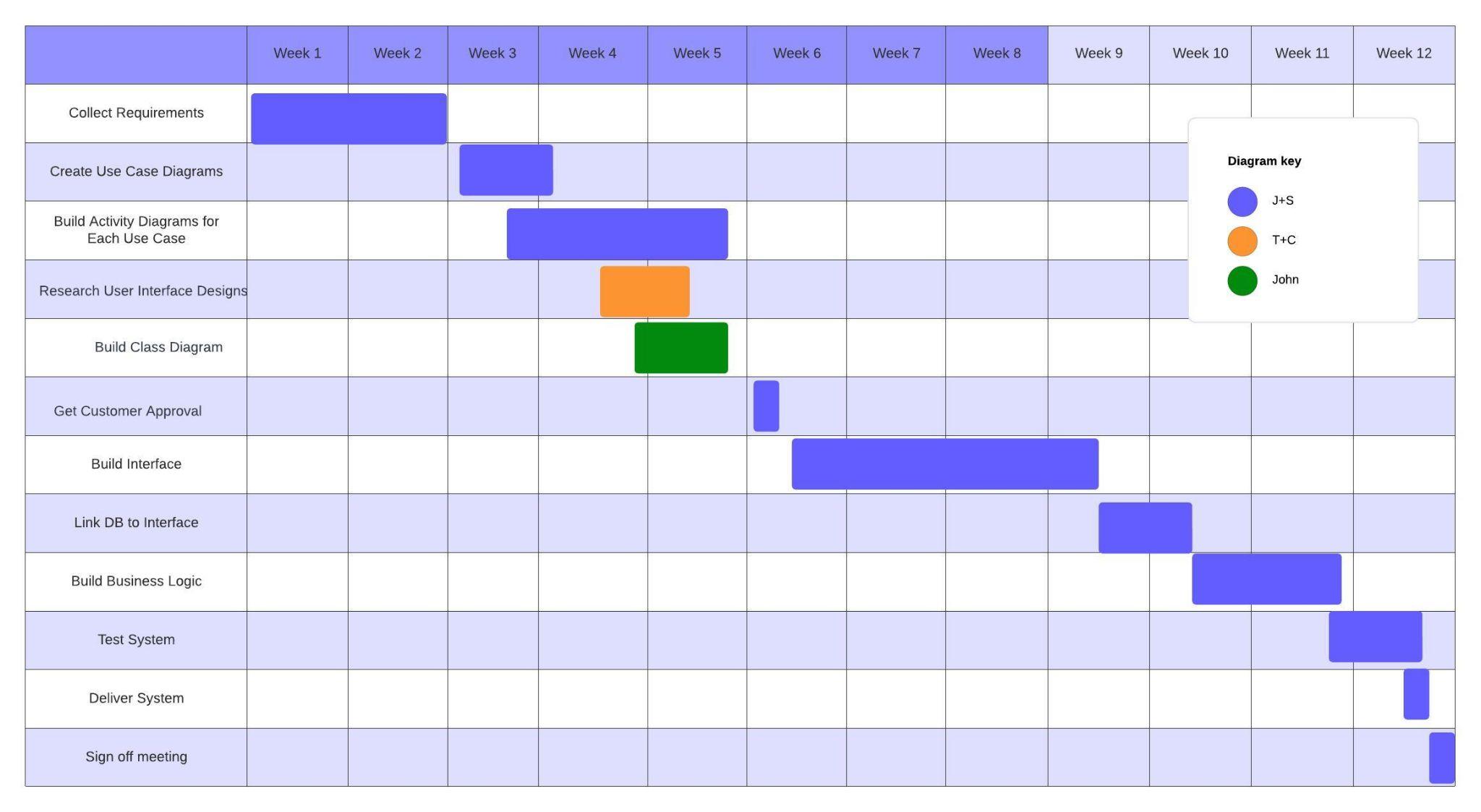
### Limitations

*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?*

* DriverPass has 10 cars, each car needs to be maintained to be functional for each lesson.
* Issues with internet connection may happen and cause delays to information needing to be updated.
* Only so many students can purchase packages with the limited number of cars.
* Users may not have updated technology on their end.
* Meeting all the requirements of DriverPass within their budget and time frame.
* Students may only have experience with certain vehicles.
* Students may prefer a certain gender of driver.

### 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.*

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