# 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?*

* Our goal – To design and build systems for various clients.
* Client – DriverPass
* For this specific project, we will design and build a system for the client, DriverPass, that they will use to manage all of their clients, staff, and business operations.

### 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?*

* Problem – The owner of DriverPass noticed a high rate of student drivers failing their DMV driving tests. DriverPass wants to provide online study material and practice tests, as well as on-the-road training to their customers.

What DriverPass should be able to do:

* New customers should be able to call DriverPass and have a receptionist sign them up over the phone or sign up with a receptionist in person.
* Offer on-the-road training from instructors
* Offer access to online classes
* Offer online practice tests
* Have a website where customers can view their information and their purchased materials

### 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?*

DriverPass Users & Staff – Boss/Owner, drivers, secretary, IT department, customers, each with different rights and roles:

Customers should be able to:

* Create an online account to reserve on-the-road training sessions
* View their learning material
* Take practice tests
* View test progress and status
* Reserve a driving session online or in person at the office
* View a schedule of their reserved driving sessions
* View driver comments about their driving sessions
* Change their password on their own if needed

Boss should be able to:

* Access data from anywhere online from his computer or mobile device.
* Have access to tracking information and reports to show who made, cancelled, or modified reservations. This info should be available in an activity report for them to download and print. Downloaded reports should be able to be used in Excel.
* Enable and disable any of the packages that customers can purchase.

I.T. Dept. Should be able to:

* Have full access all accounts
* Reset staff passwords
* Modify staff system access

Drivers should be able to:

* View their schedules: Assigned customer name, information, date, and time of sessions.
* Have access to “Driver’s Notes” to put comments on learning sessions with customers.

Secretary should be able to:

* Create new online accounts for walk-in customers
* Input and modify customer personal and payment information
* Reserve on-the-road driving sessions for customers

General functionalities

* There should be a page for a secretary to input customer personal info, such as their first and last name, address, and phone number, etc. Customers should be able to edit this online.
* There should be a page that customers can use to contact DriverPass, and for DriverPass to contact their customers.
* DriverPass has 10 cars, each with one driver, that together can be reserved for on-the-road sessions by a receptionist or the customer. Each session is 2 hours.
* When a customer/secretary reserves an on-the-road session, the system should show what dates and times for pick up are available to choose from. The system should automatically assign an available driver and car for the session.
* The system needs to formulate activity reports that can be viewed, downloaded, and printed from any computer.
* There should be 3 different packages available for customers to purchase, with the ability to be deactivated/reactivated.
* DriverPass should be connected to the local DMV to ensure that the system is always up to date with the latest rules, policies, and sample questions. DriverPass should be notified if and when there are any updates.

## 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 environment(s) (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 preferably should run over the cloud to minimize technical issues and allow DriverPass to not worry about security or backup.
* The system should be connected to the local DMV and be updated any time the DMV has any updates to their rules, policies, or test sample questions.
* The system should run fast to make it convenient for customers to use and driving sessions can be scheduled right away.

#### 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 available on all of the common platforms, Windows, Mac, and Linux. It should also be available on mobile devices like Apple and Android. This will ensure that every customer will have access.
* A database is needed to create activity reports and store user information.

#### 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?*

* Each employee and customer will have their own accounts that they need to login to so they can access the website. Each user account has a specific role, and they will have access to certain parts of the system depending on their role. Roles are fully manageable by IT.
* Input should be case-sensitive to ensure the best security.
* There should be a limit of login attempts. Customers should be able to reset their password after the number of allowed attempts. Employees will need to contact IT to have their password reset.
* If a user exceeds the number of allowed login attempts, the account should be locked, and the admin and IT department should be notified immediately.

#### 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?*

* IT should be able to make changes to user accounts without changing code.
* IT all needs full access to user accounts to add, modify, or restrict user access whenever needed.
* The system will only be usable online so that updates can be made when they’re available.

#### 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 system will run on the cloud, therefore data exchanges between server and client will be overseen by the cloud.
* Each user will need to login using their username and password.
* Multi-factor authentication and can add an extra layer of security.
* If a user forgets their password, they should be able to reset their password by using multi-factor authentication using a phone number or email address and/or answering security questions.
* If a user cannot verify their identity after trying to login or if there is a “brute force” hacking attempt, the account will be locked and IT notified immediately of the potential security threat. An employee of DriverPass will need to contact IT to regain access to their account after resetting their password. A DriverPass customer, or an employee that is not present at the office and contacts IT via phone or internet, will need to contact IT and verify personal information to verify their identity before being allowed to reset their password.

### 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 always be connected to the internet and periodically checking for updates with the server, the local DMV, and security.
* The system shall validate all user credentials when logging in.
* The system shall track user activity and create reports, such current customers and their purchased packages, company finances, employee driving appointment schedules, and other employee system activity history as requested by the head of the company.
* The system shall allow the boss to view, download, and print reports.
* The system shall allow the boss to enable or disable the purchase of learning packages.
* The system shall allow the boss to add or remove cars that are available for driving lessons.
* The system shall allow IT full access to user accounts for the purpose of resetting accounts when they get locked, or modifying user access.
* The system shall allow customers to take online courses that include reading material, videos, and practice tests.
* The system shall allow customers to update their personal information after verifying their identity.
* The system shall keep track of customers’ course and practice test progress and status.
* The system shall let customers schedule on-the-road driving lessons with a DriverPass driver.
* The system shall check for driver, date, and time availability when an on-the-road lesson is scheduled, or rescheduled, by either a customer or secretary. A pick-up and drop-off location will need to be entered at this time as well.
* The system shall have an option for customers, drivers, and secretaries to cancel or reschedule on-the-road driving lessons.
* The system shall provide the option for drivers to leave comments on the driving lessons for the associated customers to see.

### 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.)?*

System Users (roles):

* Boss
* IT
* Drivers
* Customers
* Secretary

Interface for all users:

* The company logo should be displayed at the top of each page of the website.
* There should be a home page, the display of which will depend on if the account is registered as a boss, customer, secretary, or driver account.
* Each user should have a page they can navigate to that allows you to contact the IT department or customer service.

Interface for customers:

* The homepage for customers will display separate sections displaying information. There will be a section for online test progress and status, the customer’s personal information, driver notes regarding previous driving lessons, the customer’s assigned driver’s photo, the customer’s own photo, and a section for special needs.
* There should be a page where the customer can register for online classes and schedule on-the-road driving sessions, depending on the learning package they purchased.
* There should be a page for each available learning course that shows all of that course’s learning material and practice tests.
* In the section for the driver’s notes, there should be a table that displays lesson dates and times, along with that lesson’s associated driver’s comments. The columns should be labeled “Lesson Time”, “Start Hour”, “End Hour”, “Driver Comments”.

Interface for drivers:

* A driver’s homepage should have “Driver Notes” section just like the customers homepage, except they should have the option to add comments to the “Driver comments” column of the table.
* The homepage should also have sections for their photo, their personal information, their assigned customer’s photo, and a special needs section.

Interface for secretaries:

* The secretary should have a page where they can input new customer information and update existing customer information.
* After inputting a new customer’s information, they should be directed to a screen where they select the learning package that the customer wants, and where they can input the customer’s payment information.
* There should be a page where they can reschedule, cancel, or set new driving lesson appointments for customers.
* They should have a page that allows them to search for a customer’s appointment information if a customer does not have internet access or their account was locked for whatever reason and needs to call or come into the office. The secretary should be able to search and view that customer’s personal information. For additional security, they can have the capability to email or text them a verification code to verify their identity before giving out any information.

Interface for IT department:

* IT should have a page that shows any IT tickets that need to be worked on.
* There should be a page that displays all company employees and their information, with options to modify that user’s access and lock or unlock their account.

Interface for company boss:

* The boss should have a page that displays any types of data reports they request, including an employee activity report, reports regarding finances, and customer information. There should be options to download and print these reports.
* There should be a page with the current learning packages with options to activate or deactivate either one.
* There should be a page to add or remove available cars for drivers to use.

### 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?*

* That customers will be able to apply to be new customers by walking into an office, rather than just calling the office as stated in the interview transcript.
* That all customers will have either a computer or mobile device with internet access.
* That all customers will have internet access through the most common operating systems, either on Windows, Linux, Mac, iOS, or Android.
* That each customer will be tech savvy enough to navigate the system website and learn effectively.
* I am assuming what certain users should be able to see and do with the system based on their job titles and common job duties.

### 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?*

* Technical knowledge of the DriverPass team and what we are able to make a system do for them within their time frame and budget.
* There is no knowledge of what any other parts of the interface should look like, other than the one page that was provided, and no actual company logo or color theme.
* The number of each type of employee is unknown, and there was no mention of any other administrators besides the boss of the company.

### Gantt Chart

A screenshot of a project schedule

AI-generated content may be incorrect.