# DriverPass Business Requirements Document by Charles Campbell

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?*

* DriverPass has realized that there’s a lacking resource for driver training in their area, they are looking for assistance to develop such a resource for people to take online classes & take practice tests to better practice road safety & following the rules of the road.

### 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?*

* The client wishes to have a cloud based system where users can have a resource to study for DMV tests. This includes taking online practice tests, take online classes, or set up in-person driving lessons.
* DriverPass wants a system with different roles for company employees with the abilities to modify all accounts, and a tracking system for a log of those changes to monitor security.
* Customers should have the ability to make reservations for 2 hour driving lessons, from 3 different package options (that can be disabled if necessary).
* The system should notify the employees when the DMV updates their requirements, such as new driving rules, policies, and potential test questions so that they provide a continuous up-to-date resource for their customers.
* System should be run off the web, over the cloud so that DriverPass employees can focus on the customers and not have to deal with backup and security issues. Additionally, the design interface should match the blueprint provided by Liam from DriverPass.

### 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?*

* System should be cloud based, and run off the web.
* Keep up-to-date with DMV requirements such as rules, policies, possible sample test questions. Notification to employees whenever the DMV has an update.
* The system should provide these features to a DriverPass customer:
  + Ability to create a profile and hold this information: full name, address, profile picture, phone number, state, and their credit card number, expiration date, and security code.
  + Customers should be able to see their test progress, their personal information, a photo of their instructional driver as well as a list (in table format) of their upcoming and previous lesson times, when the lesson started and ended, along with the instructors comments on each lesson.
  + A page to contact the driver/company, along with user contact info for employee use.
  + Ability to choose driving lesson appointments at users preferred times, with a pickup and drop off point option, from a variety of 10 different cars & instructors, which will be 2 hours lessons into multiple segments depending on the packages which are:
    - One: 6 hours in a car w/ a trainer.
    - Two: 8 hours in a car w/ a trainer & 1 in-person lesson on DMV rules & policies.
    - Three: 12 hours in a car w/ a trainer & 1 in-person lesson on DMV rules & policies + access to online class with all content & material which includes practice tests.
* The system should provide these features to DriverPass employees:
  + Ability to access data from online with the capability to download reports and info for offline use; information should be in spreadsheet format (Excel use for example).
  + Different security rights & roles for different roles of the system. For example, Ian (DriverPass’ I.T. officer) should have capabilities like read and write for accounts in case someone forgets their password.
  + Tracking capabilities to have a log on who makes reservations, who canceled them, any modifications made & ability to print out the report to see full list of reservation details.
  + Can see who the choices made by the customer on what car, driver, time, pickup-location, and drop-off location for the lesson reservation that they made.
  + Function to Enable/Disable packages (possible adding/removing packages in the future)
  + Ability to add comments to specific customers driving lessons for learning feedback
  + View all details on requested appointments, such as car, driver, time, drop-off & pick-up locations for each customer
  + Give secretary ability to make accounts and modify user appointments

## Requirements

### Nonfunctional Requirements

*This section will detail the different nonfunctional requirements for the DriverPass system. It describes 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?*

* DriverPass should be a web-based system, with a preferability to be on the cloud for easy backup & security. The owners wish to focus entirely on running the business and deal with little to no technical issues.
* DriverPass system should be very responsive and allow for quick response to specific functions like customers getting access to driver learning materials upon getting a package, or either customers or the DriverPass employees setting up a driving lesson appointment.
* System should update within the same day when local DMV gets new material published or if their requirements change; which will help students stay up-to-date and current on all necessary material to successfully pass their tests & get their licenses.

#### 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?*

* For a web-based and even cloud-based system, any computer platform with internet access can access DriverPass. If published without the cloud, any computer (Windows, Linux, Apple) can easily host and contain the necessary files/objects needed to run the system.
* Cloud-based platforms (Amazon Web Services, Google Cloud Platform, Microsoft Azure, etc.) include virtual databases, and can be accessed from any computer with internet access.

#### 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?*

* Customers will fall under one role, where they can access driving course material and see comments on their lessons from the instructors. DriverPass owners wish to have different rights and roles for their employees, this could possibly be broken down into 3: instructors, secretary, administrative each with different levels of authority and only admin’s having full authority privileges.
* Typical system informing the admins would include: full reports when any changes are made to driving lesson appointments, updates on when important data is changed like driving lesson packages, and possibly when updates from local DMV are made so they can verify the data in the system matches.

#### 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?*

* DriverPass owners wish to be able to modify who gets certain roles in the system (if an employee leaves the company they wish to block higher level access); simple role removal or addition can easily give this adaptability to users.
* I.T Admin must also have the ability to assist with password resets and full control over accounts to assist with customer service related issues that might arise.
* For a cloud-based system, updates would come naturally through the 3rd party service; either with or without the cloud the computers to access the system will get updated, ensuring the website stays up to date with modern versions will be essential. Backups and continuous deployment (automatic changes) would be recommended to have the system maintain high adaptability.
* System should be easily adaptable when the DMV updates their policies/guidelines about driving; proper system notifications about outdated data to owners/admins so they can provide current and factual resources to their customers.

#### 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?*

* All users will require making a username and password in order to access the features they have access to in the web-based system. This will help ensure security is maintained and restricts unnecessary access that only high level admins (like the I.T manager) will have. A limit should be placed for incorrect passwords/usernames for those trying to ‘brute force’ hacking into an account, recommend 3-5 tries until an account is locked and needs admin privileges to gain access.
* DriverPass owners wish to allow high level authority users (admins and I.T. professionals) to be able to assist with users who either forgot or need assistance resetting passwords. The full-access admin roles should also be able to modify accounts to either make them have additional access (higher level roles for certain employees) or block access to features.
* As the system will be web-based, the HTTPS would be recommended as a Secure Socket Layer/Transport Layer Security (SSL/TLS) is recommended for great data encryption between different clients and the server. For a more secure transfer of data, other features like additional encryption (one-time passwords) or file security measures (file passwords on spreadsheets or important documents) would be recommended.

### 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.”*

* DriverPass system shall be web & cloud platform based for clients/customers and owners.
* DriverPass system shall provide users with driving resource material to prepare them for tests at the DMV.
* DriverPass system shall require validation from all users to login via username and password to access the system features.
* DriverPass system shall have lesson package options for users to choose from, either: Package 1, students can drive six hours with instructor; Package 2, eight hours of driving lessons with an in-person lesson on DMV rules/policies; Package 3, twelve hours of car instruction, in-person lesson on DMV rules/policies, and online classes with practice tests.
* DriverPass system shall have multiple different roles for certain levels of access, some basic roles include: “customer” who can choose package options, see instructor comments, take practice tests; “instructor/secretary” that can make edits to comments on customers driving lessons and make modifications to lesson appointments; and “admin” role that can assist with editing passwords/usernames, review reports on all appointment modifications, and edit accounts to gain or demote roles (account privileges modification).
* DriverPass system shall allow customers to update their information which includes name, address, phone number, and payment card information.
* DriverPass system shall allow employees to download data into spreadsheets for offline use.
* DriverPass system shall provide a notification about it’s learning resources to match the policies/rules/sample questions provided by the DMV.
* DriverPass system shall provide users with correct information on their test progress, who their driving instructor is, lesson information such as time (start and end hours) as well as comments from the instructor, and contact information for both the customer & company.
* DriverPass system shall have a detailed & printable tracking log on appointments/reservations to see who made/changed/canceled it last.
* DriverPass system should allow students to make reservations for driving lessons, and they (along with employees) should be able to see the available cars and instructors (10 each) and times to schedule a lesson, with the option to input a drop off point after the lesson.

### 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.)?*

* Users will interact with the system through internet capable devices, as it is web-based.
* Interface needs to show the customers information (name, address, email etc.) and an option to contact the company, like a customer support number.
* An easy informative way for the system to show the user’s test progress (complete/incomplete/pass/fail) and a table of their driving lessons times and instructor comments.
* Customers need an option to update their personal information, and also be able to schedule/modify their appointments/lessons and see specific details such as who their instructor is and the car they will be driving in.
* Employees (like the secretary) should have buttons on the UI to help creating accounts for users, and scheduling appointments with new users.
* Higher employees (admins) should have administrative features easily accessible to help edit accounts, view full reports on lessons, and either activate/deactivate specific lesson packages available for new users.
* All users should receive feedback via the user interface, to help achieve successful operation of tasks and completion of goals; for example, an admin getting a notification pop-up that a reset of another users password was successful.
* User interface should appear clean, have easily readable text, and follow consistent colors/design for effective customer/employee use of the web-based system.

### 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 customers and employees (like the secretary who can assist in making new user accounts) are assumed to have computer literacy, where they can operate the system without guidance or teaching.
* That everyone accessing the system has reliable internet access to view resources and see upcoming lesson schedules.
* Assuming the network will be reliable and consistent in it’s performance either at low or high traffic times, or assuming that the server will always be up and ready for use.
* Relying on the DMV to properly update their material for students to have the most up-to-date and correct resources for learning is a big assumption. Additionally, assuming the system will always notify when a DMV update is published.
* Assuming employees wont need training on the new unfamiliar system to execute business tasks and best help customers in accordance with the company vision through the online product.

### 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?*

* Access to the system through the internet can be limited if outages occur, or if connection is weak and system performance is reduced when a user/employee executes a function and the response time will be lengthy or unresponsive.
* Possible security vulnerabilities and limitations on security measures when utilizing a fully web-based or cloud-based system.
* Compatibility of the system with different browsers (Chrome vs Safari, or even computer vs mobile device) might cause certain limitations of system features.
* Possible data storage capacity and memory responsiveness limitations with user data and business operations (like a schedule for each individual customer user).
* Hosting of system on the web and/or in the cloud and cost can change; and if monetary resources to keep system up become too great, it can be a large limitation of the product.

### Gantt Chart

*Below is a GANTT chart created with Lucidchart that meets the plan described in the interview.*

