Project One: Business Requirement Documentation

Brandon Petersen

CS255: System Analysis & Design

Southern New Hampshire University

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# CS 255 Business Requirements Document

## System Components and Design

### Purpose

*What is the purpose of this project? Who is the client, and what do they want their system to do?*

* DriverPass has noticed that multiple tools are missing in the student's training process to give them the ability the pass their driving test. In addition, DriverPass conducted research that found more than 65% of students who take their driving exam fail when the only tools used were previous exams. As a result, DriverPass is looking to create a system to fill this void in the market through a website. This website will provide students with the opportunity to take practice exams, online classes, and the ability to book on the road training with a professional.

### 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 wants its system to help students pass their driving test. They wish to do this by providing practice exams online that can be downloaded and taken anywhere, online classes, and the ability to book an on the road training session.
* The system needs to allow the students to access the information from anywhere. In addition, the system needs to have proper security features in place. These security features should keep the student's information private and allow different users to access additional information.
* The system needs to track information such as reservations, changes to reservations, cancellations, and which package the students have selected.

### 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?*

* Once the system is created, it should be a fully functional website that will allow potential students to purchase practice tests, book in-person driving appointments, modify any bookings, and cancel any booking. In addition, any practice test that has been purchased should have the ability to be downloaded, so the students can practice from anywhere even if they have no internet connection.
* The system needs to distinguish between different user types and provide them with the correct information accordingly.
* An operating platform and the programming language must be selected for the system to be created. Once this has been chosen, the system can be made using objects, process modes, and UML diagrams. These diagrams will provide the team with a better understanding of the website.

## Requirements

### Nonfunctional Requirements

*This section will detail the different nonfunctional requirements for the DriverPass system. Then, you will need to think about the other things that the system requires to function correctly.*

#### 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 wants its system to be a website that can work on any device anywhere as long as the people accessing the website have an internet connection. In addition, the material should be allowed to be downloaded, allowing the students access to the material offline.
* The system needs to be fast enough to be updated automatically if changes to the local DMV website.
* The website should be flexible enough to change when the client wants to add additional information or features.

#### 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?*

* Since Linux allows for the most widespread features for creating the system, since the system will be a website, it needs to run on any operating system with any browser. In addition, the system will be storing all its data in a database in the cloud. This will allow for extra security of both the website and the data.

#### 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 student that has purchased a package will be required at checkout to create an account with a unique username and password. Both the username and the password are case sensitive to add extra security. In addition, if the user wants, they can enable two-factor authentication via a second email or cellphone number. This will make it more difficult for anyone attempting to harm to access their data.
* The system will need to distinguish between different types of users. For instance, admins will need the ability to access information to fix or work on any problems that may arise. In addition, the admin will need access to certain information of users to make modifications if necessary.

#### Adaptability

*Can you change the user (add/remove/modify) without changing the code? How will the system adapt to platform updates? What type of access does the IT admin need?*

* The admin will require access to the system to modify user information and bookings. In addition, the admin needs to give specific access to employees based on their job profiles.
* As the system grows and becomes more popular, DriverPass will need to add new features and updates to the system.

#### 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 users will need to create a unique username and password during checkout if they're a new customer. In addition, they will have the option to enable two-factor authentication with their cellphone number or a secondary email.
* If the user forgets their password, they will be prompt with an email to reset it that'll contain a link.
* Since the cloud will store the data, it will also be responsible for ensuring a secure connection between the clients and the server.
* If individual attempts to access "brute force" hack a client's account via multiple attempts at their username and password, the account will be locked out after five attempts. In addition, after the third attempt, it will display a notification saying you have two shots left before your account is locked.

### 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 the client's username and password when logging in.
* The system shall provide the client with the various practice test.
* The system shall provide the client with various classes.
* The system shall book the reservation when the client makes it after selecting the three packages.
* The system shall be cross-platform.

### 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 easy to use and intuitive to anyone using it.
* The user interface must allow clients to make reservations for class and the in-person driving packages and modify or cancel any reservation that has been previously made.
* The interface must allow for employees with admin access that make modifications to the system as needed.
* The user interface needs to be cross-platform and work the same across every device.

### Assumptions

*What were things not explicitly addressed in your design above? What assumptions are you making in your plan about the users or their technology?*

* We're assuming that the students signing up for DriverPass have a reliable connection to the internet to access the online classes and practice exams.
* For this project, we were not provided a budget by DriverPass. Therefore, we will be keeping the budget as low as possible while still providing them with the system they want.

### Limitations

*Any system you build will naturally have limitations. What limitations do you see in your system design? What limitations do you have regarding resources, time, budget, or technology?*

* Our team has been given a deadline of five months to get the project done.
* Our team has not been given a budget to follow.

### 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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