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# 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 of this project is for the developing team to organized and develop a training driving website for the client which in this case is Driverpass whos owner is Liam. Liam has asked for the project team to develop a website that allows “better driver training” since he believes that “many people fail their driving test at the DMV”. The requirements that the client’s have for the system to do is :

* online classes
* practice test
* reservations
* User Access Management of the system
* Offline data access
* Should run over the cloud

### 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?*

According to Liam the DriverPass owner he will want the system to be able to “make reservations for driving lessons” and in this way the client chooses their own day and time when asking for driving lessons. The owner also wants the system to help his client be “able to take online classes and practice tests” since the issues he is trying to fix is the fact that people are not able to pass these driving test. The biggest problem they want to also fix is the fact that there is a void in regards to training people to pass the DMV test so he is offering a solution where he intents to train his clients in order for them to be able to pass these examinations. The different components needed for this system is:

* Web server
* Web page
* An API
* Database
* Security
* OS
* Domain

### 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, the client wants for the system to allow the clients to have control over their MVD training such as “make reservervation”. “take online classes and practice test”, have clients be able to choose from different training packages, have clients be able to “schedule appointments over the internet”, clients have the power to reset password if forgotten, status check of test. The measurable task that need to be included in the system design to achieve these requirements are:

* Interactive website
* Optimized web app
* User credentials
* Learning Management System
* Email
* Software
* Hardware
* Database
* Server host

## 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?*

* This system should be run in a web-based environment since Ian the DriverPass IT officer stated “the system needs to run off the web”, so it should most definitely be a web-based project. The system should be able run moderately because it does not required to be fast or slow in any particular situation. The system should indeed be updated regularly since the owner of DriverPass(Liam) wants to make sure that “the test and practice we are providing are current with what the DMV requires”, in conclusion Liam will want for its database to be regularly updated with new information based on the DMV requirements. Addtionally, Liam will also want to be able to update its training packages since he stated he wants to “be able to customized these packages-remove some of them, add new ones”, basically he wants the system to be “**flexible**” so that is why updating the system is important for DriverPass.

#### 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 particular platform that the system should run on is the cloud since the DriverPass IT officer(Ian) stated that the web be run “preferably over the cloud” since they do not want to deal with “backup and security” they are basically focus on just running with less technical issues. The back end should of course have a database since the DriverPass owner Liam explained that it is important for him to be able to “access data online from any computer or mobile device” as well as “offline” so having a database is important. Furthermore, having an API that will connect the webpage to the DMV server is also a back end requirement in order for them to be able to update “new rules, policies or sample questions” that are updated with the DMV. Finally, the owner wants a monitoring tool that can track his employees interaction with the server in which he explicates by saying “I need to make sure I know who made a reservation, who canceled it, who modified it last”.

#### 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?*

* The owner Liam will want for “different rights and roles” for his employeers so trying to understand the different users that work in the company is important such as himself which he states that he should “have full access over all accounts” and in this way he can reset forgotten password or change credentials to new or old employees. The input case-sensitive even thou not stated in the interview should be important because input validation makes the website safer since attackers might take advantage of the input errors that might occur, the only inputs states is that the student should offer “first name, last name, addressed cetera.” But only for the form input. The Owner Liam wants to “print an activity report” in order for him to be able to understand if there were issues regarding the system to see “who is responsible” of the cause so in this case the owner itself should be inform immediately of the problems.

#### 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?*

* One of features that the Owner Liam of DriverPass has asked is to be able to modify/remove/add users based on his employees such as “block their access” on the server so yes the system should be able to modify not only the employees but the users themselves since it is also necessary for users to understand their training exam status which would not required any code modification. The system will want to adapt to platform updates since they system requires constant updates on the DMV as stated before and of course if any updates on the training packages. The IT admin which should be Liam will need “full access over all account “ so usually the admins should have their own type of access compared to others.

#### 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?*

* There is no particular requirements mention in the interview of log in within the website but the users to be able to have an account Liam(DriverPass Owner) will want users to register through “a phone call” and then that’s when the user will give their information such as “first name, last name, address, phone, number, state, and their credit card number, expiration date, and security code” so other than that I will assume that they will have to log in based on their information. To secure the connection or the data exchange between the client and the server it is required for the server to have secure encryption within its database if they will want to secure its data and such example could be by using the AES-256 cipher which allows for connections to be secure and avoid hash collision. Since the Liam(Onwer) has control over all account if there is a “brute force” hacking he should be able to block access into that account. IF users forgets their password, Liam stated that “if customer forget their password, we need them to be able to automatically reset it.” meaning that user have control over resetting their passwords. In conclusion even thou there some security measures that need to be taken since it was suggested that it be “run over the cloud” it wouldn’t have to worry so much about issues regarding sercurity.

### 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 allow users to make appointments.
* The system shall updates its data frequently.
* The system shall have user credential on data handling.
* The system shall allow user scheduling
* The system shall have an interface
* The system should have customization
* The system should have customer support
* The system should have security software
* The system should be able to report data

### 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 needs of the interface are to allow the users which are the ones interested in passing their DMV examination to be able to interact with the website appointment, be able to choose what packages they will like to use when learning and what type of online classes they will want to pick. Another interface will be the ones that control the server which in this case will be the owner, employee or IT officers. The different users in this interface are the ones that either want to have some control over the website compared to other that will have less control such as I stated before Liam(owner) will have full access to the system while others such as his employees will have less access of interaction and the regular users will be able to just interact with the website itself. All users should be able to use any OS, device to be able to use the interface as long as it is on their website it should be compatible.

### 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?*

* Things that were not specifically addressed in my design above will be a full understanding of the log ins and how exactly is the interface being interacted. The assumptions of interaction is based on the technology, since we can determined that the system will be running over the cloud which should not have any issues with compatibility with any OS or device. Furthermore, an assumption about the user, is the fact that log ins are not addressed so understanding how DriverPass develops an account, allows me to assume that they use “first name, last name, address, phone, number, state, and their credit card number, expiration date, and security code” to give access to their website.

### 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?*

* The limitation that I will have in my systems design will be the constant modifications that the owner might want to have such as changing the training packages, I believe that it will required a professional for the system to modify in this manner. Another limitation that the system might have with its design will be the connection with the DMV server so we depend on the security issues that DMV might potentially come across that can also interfere with the DriverPass system itself since its been updated constantly based on changes in the DMV. The limitations based on resources will be the legal limitation that the company might have that are not address and are important to take into consideration because it can end up in somewhat of a law suit. Furthermore, the limitation on how much money the client will be willing to invest in this project and how much money is required for this project to be fully functional. Also, the limitations of what type of clouding will the system used and if it will required additional hardware/software that can cover the parts that are not taken care of in the cloud.

### Gantt Chart