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CS-255-System Analysis and Design

Project One

April 7, 2024

# CS 255 Business Requirements Document Template

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?*

* Client: Laim who is the owner and his IT office Ian.
* The purpose of this project is to design a web-based site and mobile application for DriverPass. The design will allow people to obtain driving lessons and learn how to pass the DMV test. The site will need to have the capability for the customer to be able to schedule appointments, cancel appointments and modify reservations. The site will need to be in contact with the DMV policies, rules, and sample questions.

### 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?*

* Offer 3 packages and would like to be able to modify those packages as well.
* Have controlled access and be able to track all information updated by users in addition to password reset.
* Allow for online working and some offline data to be obtained by owner at home.
* Track drivers and cars that match with customers and allow feedback to be posted in the user profile.
* Data: first name, last name, address, city, state, zip, phone, and email.
* Test name, time taken with which one have been completed and status.
* Logged lesson time, start hour, end hour and driver comments.
* Cloud based so they do not have to worry about security and backup.

### 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 be able to run mainly on the web and allow users to login for reservations based off one of three packages.
* The modifying of packages will be an enhancement later, but still be able to close a package when they do not have the capability to fill it.
* Hold all the customer information with progress, notes, and lesson hours.
* Allow to add, cancel, or modify appointments and reservations.

## 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 system should be web-based with cloud storage.
* There should be a user-base that allows for updating of schedules and modifying appointments.
* The system will need to be closest to real-time to help prevent the doubling of appointments and/or duplications for modification, appointments, and/or schedules.
* They will need to have generated indicators that update no later than 24 hours and have no delays.

#### 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?*

* Have the system windows-compatible with cloud storage on a hybrid domain.
* Hybrid domain would have a private cloud cloud storage and public cloud storage which will allow the DMV to access policies and test but not personal data.
* Mobile friendly access on the browser usage.
* Use of Linux to help on the back end since it works the based with cloud-based programs.

#### 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?*

* Username or associate number to help track changes done in the system. Example: 002 is assigned to user a0milam with work email [April.milam@driverPass.com](mailto:April.milam@driverPass.com)
* Email address for customer’s logon with the security code the first time. This should help with different users because each email address is different for the most part.
* System monitoring in case the site crashes or if there is an outage due to updates.
* The system should also monitor when there are latency issues due to network issues to help prevent scheduling issues.

#### 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?*

* The system should have the ability to add/remove/modify employees and their access.
* The system should have the ability to for security patches, and updates.
* There should also be the option to add more storage for the cloud-based website.
* Password updated for those that have forgotten their password.

#### 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?*

* Password must be updated every six months without using the same last 6 password.
* Password must be 8-12 characters long with at least one special character and one upper case and lower caser letter.
* Users can recover username or forgotten password.
* Lock the user out if there are too many failed attempts on incorrect password that only IT Admin can unlock.
* Automatic sign out when user stay logged on for extend period greater than 4 hours.

### 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 based on security code for first time users.
* The system shall have a validation on the user credentials.
* The system shall only allow employees to sign in while on the clock.
* The system shall enforce security measures for password failed attempts.
* The system shall enforce password security measures based on the length of the password and if it’s been used as one of the last six passwords.
* The system shall allow content from the DMV to update automatically and show user when updated have occurred with a message “See DMV latest Update”.
* The system shall allow for offline excel access on reports.
* The system shall prompt the user when there is a possible duplication of appointments or double booking in the same week.
* The system shall show the test process with pass, fail or in progress.
* The system shall show the drivers and cars they are assigned to and can provide notes on each person’s dashboard.
* The system shall allow for payment for the choice of one of the three options of packages.
* The system shall allow admin to turn on or off a package when there is no more room in those set packages.
* The system shall allow for the user to modify, cancel, add, or change any appointments online.

### 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 shall be able to view the subscriptions and make changes if needed.
* Users shall be able to sign on and be greeted with the dashboard based on the client’s sketch.
* Users shall be able to view current progress and additional tasks.
* Users shall be able to create reservations or modify them as needed with which driver and car.
* Users shall be able to see their performance based off the drivers’ notes.
* Users shall be able to view test results with a pass, failed or in-progress.
* Admin should have a table with all driver and car assignments with reservation information included.
* Mobile friendly access for users when a computer is not available.
* Receptionist access to scheduling system and the ability to add new customers information.

### 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?*

* Users will need to choose between English or Spanish.
* Users will need to have a valid email address.
* Users will need to have some kind of knowledge of computers.
* Business owners/IT Officer will have access to engineering staff to update or change any design or foreseeable problems.

### 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?*

* System can only be used online.
* Only be able to use with local USA DMV.
* System will not have the ability to update packages due to IT constraints.
* Budget could be a concern with only using cloud storage as the company grows.
* Technology of mainly using a computer and not having an app for people that are on the go especially the younger generation.

### 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.*

A chart with multiple colored squares

Description automatically generated with medium confidence