DriverPass

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# 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 is DriverPass
* Should be able to handle Personal Identifiable Information
* Should be cloud-based on a web client
* Able to access data online and off
* Data cannot be modified while offline
* Hierarchy of access with most access granted to higher-level employee and lower access to lower-level employees

### 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 is a company focused around drivers education
* They believed their was a need for better driver training
* They want to provide that better driver training with their web client
* It should provide online, and on-the-road training as well as practice tests
* Should show the progress made by the students to the students to motivate then to keep going

### 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?*

* Needs to identify driver that customer is scheduled to go out with
* Needs to have 3 distinct packages for the customer to choose from
* Ability to disable package if full
* Offer pickup and drop off location for driver
* Ability to handle customer password resets
* Connect to DMV systems to inform if an update is available to DriverPass
  + To stay complaint with any DMV changes
* Ability for students and Drivers to leave comments
* Input form for customers and secretary to input information
* Ways to contact DriverPass
* Ways to contact the student

## 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?*

* Needs to be web-based
* Updated every 5 minutes to ensure up to date status
* No more than 3 seconds to refresh or move to another page
* 99.5% uptime allowing 0.4% for maintenance and scheduled down time

#### 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?*

* Unix-based OS
* Linux
* DMV regulations for driving lessons
* Database to hold customer information and appointments

#### 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?*

* System to create roles in the system
  + Admin
  + Users
  + Drivers
* Systems should be scalable to accompany larger data sizes as needed.
* System should be easy to use and modify to change data as needed
* System should alarm admin 5 minutes after problem if not solved by system

#### 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?*

* System must be able to adapt to data being moved, added, and removed from the database
* Admin has ability to add, remove, modify users as needed
* Users have ability to modify their own data as needed
* System should wait till midnight to update system
  + Ensures almost no users on the site at time of update
  + System should be inaccessible to customers during update
  + Quick up time after update
    - Alarm the Admin if problem after update

#### 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?*

* Server side security to protect data
* Multi-Factor Authentication active on system for customer safety
* Alarm to Admin if unauthorized access to system
* Lock system after 5 attempts at passwords
  + Needs to reset password
  + MFA to protect customers upon password reset

### 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 cache data to help with load times when a user frequents the site
* The system shall have the ability to make and confirm appointments with drivers
* The system shall validate user credentials server side when a user logs in
* The system shall sync with calendar applications so users can easily be reminded and keep track of when the appointment is
* The system shall allow communication between drivers and users in the event of needing to reschedule or accommodations.
  + Should be end-to-end encrypted

### 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 system shall show last time page was updated to keep customer informed
* The system shall have UI elements should be cohesive throughout the entire system
* The system should be clear feedback when actions are taken within the UI
* The system shall have scalable UI elements for multiple platforms
  + Web
  + Phone
  + Tablet
* The system shall have clear navigational buttons to let users know how to move about the 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?*

* The users have a device to where they can access DriverPass
* The servers have electricity and are operational to allow access to DriverPass
* The browser used by the users are compatible with DriverPass
* The user has an account with DriverPass which they can use to interact with the features of the web-application

### 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?*

* Overall budget costs may restrict everything that we want to do
* Optimization may also limit scope as the more complex it gets, the slower it’ll be
* Only a couple months to build the platform
* Team size could limit the scope

### 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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Project 1 Module Application

I would show the process model with DriverPass by showing how all of the tasks relate to each other and how the data flows between all of the processes. I would have a single process model overall that would show all of the website tasks, background tasks, and server-side tasks all connected to each other showing the relation between them all. This would be an overall high view of the entire process which would be able to allow investors or anyone to be able to quickly look at the process model and know exactly how it operates. This process would show the systems behind, account creation, scheduling, how alarms would work for the admin, the process of alerting the driver of the appointment, and keeping the servers running and available all the time.

If I was doing the object model for DriverPass, that one would show a much more detailed approach to how the data works within the system. This one would show classes, variables, and the functions that help to make the system work perfectly. They would show exactly how the data moves through the system at a much more detailed level. Besides that though, this would also show how the data’s relationship with the other processes work as well as showing how the data also changes and morphs into different other data types. This model together with the process model would help to give an overall view of the entire process and show the entire process of how the system works and the functions and relationships that allow customers to create accounts, how they schedule appointments and how the data gets stored and converted to a usable format. This model would also show the processes of how customers are able to change their data and how the system is constantly updated to reflect up to date statuses. While each of these show a different overview of the same system together, these systems help to show the whole picture of how the system works. They work together to ensure that the whole system works the way that it is supposed to as well as ensuring that any issues that arise can easily be traced to the source of the issue and fixed relatively quickly as they can refer to either of these two models to see where the issue arises and get ideas on how they could go about fixing it.