CS-255 DriverPass Business Requirements

Phillip Cabaniss

[Phillip.cabaniss@snhu.edu](mailto:Phillip.cabaniss@snhu.edu)

Southern New Hampshire University

# Business Requirements

## System Components and Design

### Purpose

* The Owner of DriverPass has come to us seeking a system for his application. The purpose is to give learning drivers extra help provided by the application. The system should track their individual progress and display it on the main profile. Should be able to track reservations made by the users and when they are with a driver. The owner would like access to activity reports and the ability to print/download them. Lastly, the system should be linked to the actual DMV site and notify the owner/users of any changes.

### System Background

* DriverPass says that there is an issue with many driving students failing their driving tests at the DMV. The solution proposed would be to provide those students with access to extra practice for a fee. Multiple packages will be offered with a range of hours. They will have a fleet of drivers available for users to use and schedule times with to improve on driving skills for the test. Scheduling functionality and push notifications need to be implemented.

### Objectives and Goals

* The system should allow users to create an account and manage their reservations on their profile. Add, modify, and canceling driving appointments is a must. The system should track the users progress and allow feedback from the instructor to be displayed. Admin access needs to be allowed to view and print activity reports and disable any packages. Functionality to support password management should also be available. The back end needs to run on the cloud, and notifications of any changes to curriculum from the DMV should be pushed to both user and employees.

## Requirements

### Nonfunctional Requirements

#### Performance Requirements

* Performance relates to how well the system performs under specific conditions. For example, the system’s response time on DriverPass when someone makes an appointment (Gorman).
* In the interview, the client expressed that he would like the data to be accessed by mobile device or computer. This leads me to believe that an application would be preferable. To gain up-to-date information and log in to your account, we need to have internet access. For this reason, I think a web-based application would be the best option. The system should be updated daily to reflect any driving schedules or changes to the testing criteria. The system should also run quickly, given that the users will be awaiting confirmation of driving times and vice versa for the drivers.

#### Platform Constraints

* A constraint is something that can limit progress or development like a project budget or deadline. A platform constraint is related specifically to the platform the system will run on (Dennis, et al).
* With web-based applications, the platform is not usually an issue. You would need to ensure browser and mobile support for the system instead. This way, we can essentially run on most systems without issue. The application will need a back end to hold and validate data for user accounts, appointment times, and keep track of any data reports. The client has told us that they do not want to manage a custom back end, they would rather purchase and manage a cloud-based one through a third party. While using a third party is easier, it can become increasingly expensive the more data you have.

#### Accuracy and Precision

* This is how well is proficient your system is at communicating with developers and admins when it has issues. For instance, when is it good for the system to alert an admin, or is there anything that is case-sensitive.
* The application will require a login with a username and password that will be case-sensitive. There will be 2 main classes of users. First, you have your regular customer looking for lessons and information on driving tests. Then, you have admins with the ability to update or delete appointments as well as offer password help. Admins should be notified when needed for these issues, as well as when any other support inquiry is generated. They should also be able to access any reports needed.

#### Adaptability

* Adaptability is how malleable is the system when change is required or requested. Will a simple update crash the system or require reworking something? Things like this are important to consider when building a new product (Dennis, Et al).
* The system should run smoothly and not require any major code changes while operating. The admins should be able to successfully make changes to the user’s appointments and the application should reflect that accordingly. The IT admin should be able to access any code when issues arise or updates for performance need to be made. When the application needs to be updated, it may require downtime to perform any major updates. The application should also reflect real-time information relating to drivers test criteria.

#### Security

* System security is how well your system stands up to outside threats and how well it protects users as well. This means anything having to do with data integrity, database protection, user validation, and what happens when these things are compromised (Pham).
* The user will need to have their credentials for logging in. They will also need to provide personal information to register including their address, payment information, and address. This means we should properly encapsulate data while in transit to the server. The client has mentioned the back-end security should be managed by a third party. So, the focus will be proper input validation, and securing the data in the application. All data should be properly backed up so that in the event of a data breach we can minimize the damage by shutting servers down. If a user forgets any login credentials, they will be able to contact admins and be helped.

### Functional Requirements

* The system shall validate user credentials when logging in.
* The system shall allow users to access information about driver tests.
* The system shall allow admins to manage appointment information.
* The system shall allow admins to manage login credentials when requested.
* The system shall allow admins to access and print/download data reports.
* The system shall allow users to contact support (admins) when needed.
* The system shall run on cloud-based servers.
* The system shall be accessible from anywhere with the internet.
* The system shall allow users to schedule appointments.

### User Interface

* Both types of users need to be able to securely log in.
* Customer: They will be using the application for the purpose of helping with driving tests. The interface should allow them to view/add driving appointments and display the current rates and packages available. The user should be able to contact support through the interface for any account help. They should also be able to access any documents for the purposes of studying. Access to any receipts or past appointments should also be added. The user should be able to have all of the information on the driver that they are scheduled with as well.
* Admin: The purpose of the admin is to help manage appointments and assist customers with any difficulties. The interface should allow them to access any help requests from a customer or driver. It should allow them to be able to search for a customer be given a list of past and current appointments and be able to modify them accordingly. They should also have access to data on the application and be allowed to update any data that might need it. Lastly, they need to be able to access activity reports for the application and download them if needed.

### Assumptions

* I’m assuming that they will have a device with internet access. While the data can be accessed offline, you will need the internet to access that data. I am also assuming that the user will need customer support. It was not specifically mentioned, but I believe it will be a necessary feature.

### Limitations

* I see a few limitations with this system. Budget may be an issue with having a third party manage your back end. The prices can become increasingly high, and it would be difficult to change providers once implemented. Another issue will be the drivers and getting their information. The drivers are supposed to be certified and the liability of this seems like it may cause issues. Think about Uber, we need to make sure the legality is solid, and that will cost more money. Lastly, we must ensure the security of the data being given.

### Gantt Chart



### Sources

Gorman, M. (2021, January 5). *How to elicit performance requirements: TechTarget*. Software Quality. https://www.techtarget.com/searchsoftwarequality/answer/How-to-elicit-performance-requirements#:~:text=Performance%20requirements%20define%20how%20well,on%20supporting%20end%2Duser%20tasks.

Dennis, A., Tegarden, D. P., & Wixom, B. H. (2012). *Systems analysis and design with UML, 4th Edition*. John Wiley & Sons.

Pham, A. (2023, September 1). *What are the best practices for ensuring data privacy and security in system design?*. How to Ensure Data Privacy and Security in System Design. https://www.linkedin.com/advice/3/what-best-practices-ensuring-data-privacy-security