# CS 255 Business Requirements Document Template

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Project One

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CS-255-H2982 System Analysis and Design

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- DriverPass
* Purpose - Better driver training so more drivers pass their driving test at the DMV
* Vision – A company that offers online driver training and practice tests as well as on the road training if needed.

### 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?*

* Problem to fix – Increase the pass rate of the driving test at the DMV
* To do - DriverPass wants the system to allow the costumer access and freedom to register and reserve their own appointments if they choose and be able monitor their own progress

### 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?*

* Allow the secretary to register/ make a user account and schedule, modify, or cancel
* Allow costumers and the costumer to resister/make an account and schedule, modify, or cancel
* Allow the user to make and reset passwords
* Allow the user to monitor their own progress in DriverPass
* Be accessible on all mobile and desktop devices
* Be in compliance with the DMV
* Interface on the Cloud, out source backup and security
* Different privileges and access for different employees
* Track employee and user access
* Logged schedule of Drivers, cars, and appointment times
* Allow the client to disable any package DriverPass no longer want or can offer

## 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's primary environment should be web-based and accessible through standard web browsers like Chrome and Safari. This will promote an easy-to-use environment that supports modern software development practices and user expectations.
* The system’s load time should be within 3 seconds ((1)2023). This is important for the user and the user experience.
* The frequency of updates should coincide with the frequency of the updates at the DMV as well as the systems needs. Good practice would be to update the system approximately once a month (Henson, 2023).

#### 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?*

* A Cloud-based platform such as Google Cloud Platform for scalability.
* Cloud SQL would be the best option because it also allows for a cloud-based, scalable, and manageable system (Vergadia & Weiss, 2023).

#### 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?*

* Distinguish users with unique identifiers such as usernames and passwords.
* Case sensitive input for unique identifiers.
* The system informs the admin of problems (failed logins, payments, DMV compliance, upgrades).

#### 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?*

* Changes to the users without changing code using role-based access control ((2)2023).
* An automated update tool would allow the desired low maintenance approach.
* The IT admin requires various types of special access, clearly defined, and monitored.

#### 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?*

* User logins require unique username and secure password.
* Secure connection and data exchange using a cryptosystem like RSA.
* If a brute force hacking attempt results in the account being locked and IT being notified.
* Password recovery mechanism such as a verification code for users who forget their password.

### 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 facilitate user registration.
* The system shall allow users to login by using valid credentials.
* The system shall ensure a secure connection by encrypting data exchange.
* The system shall provide a secure way for the user to recover their password.
* The system shall implement an account locking mechanism if there are too many login attempts.
* The system shall provide a secure payment method through PayPal.
* The system shall send all notifications through email and text message.
* The system shall have a help center for customer support.

### 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.)?*

* User registration, login, password recovery, a user-friendly design, dashboard, appointment scheduling, progress tracking, payment integration.
* Users: Liam the owner, Ian the IT officer, the secretary, the customer(students).
* Liam
  + View company performance on dashboard.
  + Manage the system settings and configurations.
  + Enable/disable specific features.
* Ian
  + Manage security settings and user tools.
  + Receive alerts on system health.
  + Troubleshoot and resolve technical issues.
* Secretary
  + Register users and manage appointments.
  + View and update customer information.
  + Receive notification on changes.
* Customers
  + Register securely and login.
  + Schedule and modify appointments.
  + Monitor progress and receive notifications.
  + Recover password securely.
  + Access user-friendly dashboard.
* Mobile devices, web browsers, password recovery, help center and IT support.

### 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?*

* Budget constraints both time and money, and legal compliance.
* Users can navigate the system without training.
* Customers have internet access and an internet accessible device.

### 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?*

* Relies on internet accessibility, potentially excluding target customers.
* Google cloud dependency, downtime will impact the systems availability.
* No specified time or budget constraints from DriverPass; potential limitations in implementation.

*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 screenshot of a computer

Description automatically generated

Works Cited

(1)Software Advice Inc (2023, November 21). Find the best Online Learning Management Systems. Software Advice. Retrieved November 26, 2023, from <https://www.softwareadvice.com/lms/cloud-comparison/>

Henson, M. (2018, March 16). 17 Essential Steps In The Software Upgrade Process. ELearning Industry. Retrieved November 26, 2023, from <https://elearningindustry.com/software-upgrade-process-essential-steps>

Vergadia, P., & Weiss, G. (2021, September 7). What is Cloud SQL? Retrieved November 26, 2023, from <https://cloud.google.com/blog/topics/developers-practitioners/what-cloud-sql>

(2) RedHat Inc (2023, November 3). What is role-based access control (RBAC)? RedHat. Retrieved November 26, 2023, from <https://www.redhat.com/en/topics/security/what-is-role-based-access-control>