# 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 client company, DriverPass, is hoping to take advantage of those which are not available in the market when asked for and add them to the system they want built. The client company wants to create a system that can help people pass their driving test more easily and efficiently. They wanted our consulting company to build a system which should make customers available to take online classes, practice tests, and provide the customers with on-road training if they want better training. This platform would provide all the resources that a customer would need to crack the driving test. They want the system to be built in a way that makes the process of learning to drive more effective and convenient for users as well as reducing their failure rates.

### 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 the transcript of the interview, DriverPass addressed the issue of failed driving exams by providing a platform that gives students individualized learning tools and advice to assist them pass the test. The customers are the people who seek driving training. Mainly focusing on those people who fail their driving tests at the DMV. To assist drivers and achieve the knowledge and confidence they need to pass their exams, the app contains a thorough learning program with interactive lessons, practice tests, on-road driving instruction, and access to a variety of resources or modules. The solution that DriverPass wants to offer to the issue is by creating an online platform. They believed that this would allow people to practice driving in safe and controlled environment. They also plan to use data and analytics to track learners’ progress and provide personalized feedback. The customer should be able to book a reservation (from packages: six hours or eight hour or twelve hours with trainer) by selecting a date and time. The system should track every activity of both drivers and car that was reserved along with the customer. Overall, the goal of DriverPass is to make it easier for learners to practice for their driving tests and improve their chances of passing them.

### 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 best way to keep track of objectives and goals is by organizing the schedule in a meaningful way. Start by defining and listing every assignment, then breaking it down into smaller sub-tasks, in order to organize the schedule meeting in a relevant way for the project. This schedule is measurable, which means one should be able to tell whether you have completed each one.

The system should allow the customers to be able to take classes and practice tests. The system should be accessible from any device. Should store the details of the customer, driver, others. Customers can choose their willing packages. The online test progress should display name, time taken, score, status. Includes notes and feedback. Should have a few pages for contacting the client company, student information such as first name, address, et cetera.

This Project has many requirements requested by the client company, DriverPass. Some requirements include the system to be able to access data when either online or offline from any device, able to get the report of all changes and details of who made reservation, cancellation, and modification, connected to the DMV so that everyone can get notified by updates of rules, policies, should be in a way that the company wouldn’t deal with back-up and security, should keep track of comments and driver notes in the given format. It should probably run over the cloud. Everyone in the company with different accessibility. Owner with full access to change or reset passwords if requested.

The objective and goal are to reduce the number of failed driving tests by providing more personalized and effective training to learners. Improving and continuously updating platform based on feedback and data analysis. Creating a platform for driver education and training that registers users over the phone and by supplying their information is one of the aims and goals that DriverPass may have. Online scheduling should allow users to book, reschedule, and amend their appointments as needed. Offer lessons and field trips. Assist learners in developing their skills by providing comments and measuring their progress. forming a collaboration with the DMV to modernize existing rules.

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 DriverPass system must be able to be accessed using web browsers on a variety of gadgets, including desktops, laptops, tablets, and smartphones. To create a smooth user experience, the system should strive to offer quick reaction times and loading speeds. To avoid customer annoyance, critical tasks like booking reservations or accessing user data should have quick response times. Additionally, the system must be able to handle several concurrent users without noticeably degrading its performance. System upgrades should be carried out often to provide new features, enhance existing ones, and correct bugs. Updates should normally be released at a fair interval to maintain the system functioning properly, however the frequency may vary depending on the needs and priorities of the system. updates should be rolled out at a reasonable interval to keep the system up-to-date and address any emerging issues promptly.

#### 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 system needs to run in multiple environments such as Windows, Linux, Unix, Mac to accommodate a wide range of users. To support its functionality, the system does require a back-end database for storing and managing data, ensuring data integrity, and supporting efficient data retrieval and manipulation in the DriverPass system. Database must be chosen considering the requirements, scalability, performance. It can be either relational or NoSQL databases.

#### 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?*

To distinguish between different users, the DriverPass system can utilize unique user identifiers, such as usernames or email addresses, along with corresponding passwords for authentication. The system can handle the input case-sensitively or implement case-insensitive validation based on specific requirements. The system should promptly notify the admin of any problem or error that occurs, ensuring real-time alerts for immediate attention and resolution.

#### 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 DriverPass system has a user management administration interface that enables flexible changes to user accounts without changing the code. It is designed with adaptability in mind, ensuring compatibility with platform updates through modular and scalable architectures. Elevated rights, including user management, system configuration, database administration, and other requirements for effective operation, are provided to the IT administrator. This makes it possible for the system to be seamlessly maintained and administered to suit changing demands.

#### 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?*

* Users can log in by providing their username and password combination. To ensure a secure connection and protect data exchange between the client and server, the system can employ encryption protocols like SSL/TLS which help prevent unauthorized access. Security measures like account lockouts or interim suspensions can be put in place to protect the user's account in the case of a "brute force" hacking attempt, in which an attacker repeatedly attempts different passwords. A password recovery technique can also be used if a user forgets their password. Examples include emailing a password reset link or asking the user security questions to confirm their identity. These steps are taken to safeguard the connection, safeguard user information, and help users recover access to their accounts.

### 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 credentials when logging in.
  + The system shall evaluate and provide immediate feedback on the user’s driving test performance.
  + The system shall maintain a database of user profiles and driving test records.
  + The system shall support multiple languages for user interface and test content.
  + The system shall provide users with access to online courses, tests, and book on- road training classes.
  + The system shall allow users to review their driving test history and performance statistics.
  + The system shall generate printable certificates or documentation upon successful completion of driving tests.
  + The system shall send notifications to users regarding upcoming driving tests and test results.
  + The system shall facilitate secure and reliable payment processing for driving test fees.

### 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 DriverPass system's interface must be flexible enough to meet the demands of the many users participating in the driving test procedure. To accommodate different user preferences, the interface should be simple to use, straightforward, and available on a variety of platforms.

Administrators, driving instructors, and students are among the interface's various users. Access to complete system administration tools including user account management, performance tracking, financial management, reporting, and system configuration is necessary for administrators. To manage their students, plan lessons and tests, view learner profiles, and give comments, driving instructors require an interface. To maintain their profiles, access study materials, plan classes and examinations, monitor their progress, and connect with instructors, learners need an interface. Depending on their comfort, users can use a variety of platforms to interact with the UI. Users should be able to use the interface from desktops, laptops, and any other device with internet connectivity using web browsers. Additionally, a mobile application may be created to provide users who want to engage through their smartphones or tablets with a more practical and mobile experience. All users will have flexibility and accessibility because of the availability of both mobile and browser-based interfaces.

### 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?*

* In the design above, some specific aspects were not addressed, including the specific features that will be utilized for the development of the system. These details would require further analysis, planning, and collaboration with stakeholders and development teams.

Assumptions made in the design include:

* + 1. Users possess basic computer literacy skills to navigate and interact with the interface effectively.
    2. Users are willing to adopt and utilize the technology for their driving test needs.
    3. Users will provide accurate and up-to-date information during the registration and profile creation process.
    4. Users are likely to take packages that are on discount.
    5. All users are likely to pass their online test.
    6. Users attend the classes regularly without fail and attempt all the tests and quizzes.
    7. Users must belong to the same province.

It is important to note these assumptions should be validated during the development process to ensure the system meets the actual needs and expectations of the users.

### 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?*

* Some limitations that can be anticipated include:
  + 1. Users should require internet access to log in and access materials.
    2. For online transactions, users must have a bank account from which they can pay for packages.
    3. Users must have their documents to register which meets the government requirements.
    4. Development timelines may be limited, requiring efficient project management. The project is required to be finished before the due date and the sign off is scheduled by 10- May.
    5. The project budget may impose constraints on the scope, scalability, and additional features that can be implemented.
    6. The choice of technology stack may have certain limitations, such as compatibility issues, learning curves, or dependency on third-party services.

### 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 picture containing text, screenshot, number, diagram

Description automatically generated*