# 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?*

* Our client DriverPass is a company that focuses on training students on how to drive using online practice exams. The owner Liam, working with his information technology officer, Ian, has a somewhat specific vision of what he wants us to build.
* DriverPass wants to provide students with access to online practice exams and on-the-road training to better prepare them for driving tests.
* The purpose of this project is to take advantage of a missing piece within the market, regarding training students and driving test at their DMV (department of Motor Vehicles).

### 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’s system wants to provide the ability to take online courses/ classes and practice tests, for students to use before taking their actual driving test, essentially a study tool. Liam also wants DriverPass to be able to provide the students with on-the-road training if the students feel it is necessary, the system must be able to handle these requirements.
* The problem that DriverPass is trying to solve, is they notice that multiple people end up failing their test at the DMV, this can be a problem because they require you to wait an allotted time frame before the test is taken again and every test has a cost, this can waste peoples time and

money overall, and Liam believes that it is because most people are getting inadequate training.

* Here are some components needed for the system:
* Being able to access the data online from any computer or mobile device, and the ability to download the reports and information, so working from home or anywhere is possible.

* When it comes to security, they already have roles established, to allow only certain people to access certain information, Ian, the IT officer, needs to be able to access all accounts so he can for example reset a password if someone forgets it, or if they lay off someone, he needs to be able to block their access.
* Tracking needs to be available also, which will inform them if a user makes a change to a record in the system, for example, being able to see who made a reservation, who cancelled a reservation, and who was the last person the modify the records, this will be done an activity report can be printed off. Tracking will also be used for reservations, so the customers can request certain times and days, and the system will only allow them to book times and dates that are available when applying. They will also need to track what car, instructor, and time the user is assigned to.
* The user needs to be able to make, cancel and modify appointments online.
* Driver pass has 3 packages they are currently running, which should be able to be selected by the customers. Liam would like to be able to disable certain packages if he doesn’t want any more customers to register for that specific package. Liam wanted to be able to remove packages, and add them based on his own accord, but Sam explained he would need a developer or system analyst to do this because there is no way to streamline this process for non-developers.
* The customers / secretary, depending on if they register over the phone or online should be able to enter their information including: first name, last name, address, phone number, state and their credit/ debit card information, and a pick-up and drop-off location, which should be the same location.
* The system needs to be run off the web, over the cloud, so they do not have to deal with backup and security, this will allow them to focus mostly on the business and not problems with the system.
* The interface needs to be clean and concise, and for the customers needs to include, the online test progress, which shows test name, time taken, what test the user has taken, their scores on said test, the status of their test, which could be “not taken”, “in progress” “failed” or “passed”.

PICTURE OF INTERFACE:

A sketch of a test

Description automatically generated with medium confidence

* They will also need a place to allow the drivers to make Comments, heres a table to show what is required:

A grid of white squares with blue text

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* There will also need to be a page where the student or secretary can fill in their information, listed in the above steps, and a page to be able to contact DriverPass, or the student.

### 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 do the following things once done:
* Access data on any device, anywhere that has Internet.
* Security wise, ensuring access to data is limited for some, and accessible by others.
* Tracking reservations, cancellations and who made these certain changes.
* The customer being able to make and cancel appointments.
* The ability to disable packages if needed.
* System ran off cloud, to minimize technical work for Driver Pass
* Area for secretary and customer to enter their information for appointments/ reservations.
* Clean interface that shows the customers testing progress, and what still needs to be done, also an area with contact information and an area to enter the customers information for appointments/ reservations.
* An area for the customer to create comments.

Here is a list of tasks with the start and end dates of said tasks:

|  |  |  |
| --- | --- | --- |
| **Task** | **Start Date** | **End Date** |
| Collect Requirements | 22-Jan | 4-Feb |
| Create Use Case Diagrams | 11-Feb | 18-Feb |
| Build Activity Diagrams for Each use Case. | 15-Feb | 9-Mar |
| Research user Interface Designs | 27-Feb | 7-Mar |
| Build Class Diagram | 1-Mar | 9-Mar |
| Get Customer Approval | 10-Mar | 11-Mar |
| Build Interface | 12-Mar | 24-Mar |
| Link DB to interface. | 24-Mar | 3-Apr |
| Build Business Logic | 5-Apr | 27-Apr |
| Test System | 27-Apr | 7-May |
| Deliver System | 8-May | 9-May |
| Sign-off Meeting. | 9-May | 10-May |

## 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 we have created for Driver Pass should have relatively fast response times, with minimal lag, based on the industry's best practices. We should also have some level of system monitor that will inform us if the system is down or working slower than usual.
* The system should have the ability to consistently be updated with new information that may affect different packages that Driver Pass is offering, cancellation and appointment information, and a sub-system that is up to date to prevent things such as double bookings.
* The system should allow users, depending on the roles that they possess, to access all the information that their role allows.
* The system is going to be based with chrome as its primary platform but, the system should be able to run on all notable secondary platforms and devices, allowing the maximum number of students possible, this would include mobile devices, different operating systems, and much more, it should essentially be multi-compatible with any web browser currently being used.
* The System should have a good level of scalability, so if there are multiple concurrent users, it will not cause any level of lag or bugs for the user.

#### 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?*

* So the base of our OS will be Windows but can run on other platforms, to ensure low amounts of problems with this, use a progressive web app, which essentially changes how it will look depending on the OS you are using to access Driver Pass.
* Should be accessible through mobile devices through a web browser.
* We will need some level of a database to keep track of all the different information, cloud is recommended so the company can focus more on business needs instead of technical issues.

#### 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?*

* All users or students of Driver Pass should have different passwords, user IDs, or emails to ensure accuracy when logging in, also no repeatable emails or User IDs
* Input should be case sensitive, but this should mean that two users cannot be created like this, for example, “JakeThompson223” and “jakethompson223” should not be allowed. Case sensitivity provides maximum security and accuracy.
* The system should inform the admin if there is a problem with a user trying to log into an account and getting the password, user, or email wrong after a certain number of times.

#### 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 Admin on the IT side should have full access to the code and programs at all times to constantly check the code and confirm everything is running properly, and also change what may need to be changed to continue proper execution.
* The Admin on the IT side should be able to change the user’s status within Driver Pass, so this would include adding, removing, or changing the user’s level.
* The system should be regularly updated, in all different manners that are required, especially security.

#### 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?*

* The system will have a level of control of roles per account
* All users will be required to register with Driver Pass with an Email Address and user ID that is validated and not already in use.
* The System will need to be run on a secure web host, hence a HTTPS host.
* The system will lock an account that has too many attempted sign-on without success. If sorted out, the admins should be able to Unlock the said locked account.
* System should have a prompt that pops up when someone has been logged onto the Driver-Pass web browser for too long without any level of activity, the prompt should say “Are you still there?” with a grace period to prove they are still there.
* Multi-factor authentication should be required, especially if logging on from a different IP address.
* All data should be held on a cloud for maximum security.

### 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 allow students to log on securely and validate all log ons for all accounts, giving them the correct roles and permissions
* The System shall have some level of a security property that locks accounts after a certain number of failed login attempts
* The system shall allow them to review their current course, reserve available driving times, cancel any or change any reserved driving times, and review the progression on the course and reservations already created.
* The System shall allow the teachers to get into contact with their students and vice versa, and update any material within the course.
* The System shall allow different higher roles like admins, to constantly update different package information, and allow them to change the prices of certain packages, or “sell out” a package.
* The system should have a Support team for any questions that the Users have, or report issues the users are dealing with.
* The system shall have a “receipt” that shows exactly how the system is running, showing times of potential high volume or low volume, or low levels of latency and high levels of latency.
* The system running the scheduling should block off any time periods that are already booked, show canceled times, and allow users to add those times, and should be operational regardless of the time zone the user is logging in from.

### 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.)?*

* When logged in, the student, teacher, or admin should have a dashboard that shows them all the different properties their role allows. You should also be able to change the translation of the course, so language is not a high barrier.
* Students should be able to see the current course, course progress, reservations booked and current course work.
* Users should be able to access driving reservations and book or cancel from there.
* Users should be able to access and start any work available, take tests, and review prior grades on other tests or coursework completed.
* The admins should be able to see all students, teachers, and drivers' progress, but not any of their sensitive information.
* Teachers should be able to access all of their assigned student's and drivers' progress, and tests, and provide test scores.
* There should be a customer support tab for the users to contact the support team for any problems. They should also have access to contact their teachers to ask questions or confirm subjects within the course.
* The UI should be clear and concise regardless of the device or OS they are logging onto it with.

### 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 user has some level of web-browsing experience
* The user has a valid account with Driver Pass, that displays what package they have purchased and are granted permissions based on their specific role
* The System will always be accessible 24/7, 7 days a week, 365 days a year.
* It is assumed that the system will constantly be updated to ensure it stays in accordance to all guidelines for driving.

### 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?*

* One limitation will be based on the user, and that is the location and internet connection. Without a good internet connection or service, the server will naturally run slower causing lag on their end that we cannot fix.
* Different resources like time and money can be huge factors when it comes to limitations. With more money and time, the system can be designed more intuitively and kept up with over time more properly. The Efficiency of the system will somewhat rely on these two components.
* If the User is using an extremely outdated OS or device, this could cause problems when logging onto the web-browsers, since our system may no longer support these hyper-specific instances.

### Gantt Chart

*Please include a screenshot of the GANTT chart that you created with Lucid chart. Be sure to check that it meets the plan described by the characters in the interview.*

*A screenshot of a calendar

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