# CS 255 Business Requirements Document Template

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## 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 is DriverPass Liam the Owner and IT officer Ian.
* The client is Driver Pass and wants to create a system to help with DMV driving test with online classes and practice test. Drive Pass will also include on-road training if student wants as well. Also allowed to access online and offline as needed updates will require online and offline version can be downloaded.
* The system needs to allow access to online practice exams.
* Sign up for on road driving lessons.
* Choice between three different training packages
* Support staff with account management, scheduling, and reporting.
* System has compliance with DMV requirements by receiving updates to rules, policies, and test content directly from DMV and notify staff when updates happen.
* Staff need role-based access control secretary for managing appointments, IT for managing and resetting accounts, and owner to review reports and logs.

### 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 has noticed a lot of students are failing their DMV driving test from not being prepared.
* Some proposed solutions are having online learning and on the road training to prepare students for their test, allowing students to book driving lessons online or by phone, providing practice exams, study material, and three different packages they can choose from.
* Package 1 has 6 hours in the car with a trainer, Package 2 has 8 hours with a trainer, and Package 3 has 12 hours with a trainer.
* The site will need access to tracking and logging for future changes. The app will be mobile and web based. This will include a login requirement so users can create and login to their account and change passwords.
* Different user roles like owner, administrator, and user/secretary allow changes within reservations if students need to change their schedule time and password resets.
* Built as a cloud-based platform making accessible from anywhere, making it secure and backed up in the case of data loss.
* Security and server maintenance will be provided through cloud services. This also reduces work flow on DriverPass Staff.

### 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?*

* Allowed to register online and create secure accounts in just seconds.
* Schedule driving lessons from one of the three package options
* Take practice exams and access to study materials
* Reset passwords

Some things that DriverPass employees can do are:

* Manage student accounts and packages
* Tracks the instructor’s schedules to ensure openings and no overlaps.
* Activity reports to update schedules when students book, cancel, or change reservations in under 5 seconds.
* Web based secured and mobile accessible.
* Provide a secure cloud-based platform accessible the web and mobile with 99 percent uptime.

## 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 will be cloud-based and hosted, which ensures availability across desktops and mobile devices.
* Pages loading, account Loggins, and schedule updates should complete within seconds under normal operations.
* Integration of DMV updates will be performed within 24 hours. This ensures practice test and study material are current.
* Allow reports to be downloadable to have access from anywhere.

#### 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 will run with modern browsers on windows, mac, iOS and android devices.
* System size should support scalability
* Cloud host provides automatic backups and recovery to protect data loss and corruption
* Cloud services provide security patches and maintenance, reducing workflow of in-house IT.
* The system must be updated with external DMV services to allow updates to policies, rules, and testing criteria.
* A backend cloud hosted database for securing user accounts, reservations, and exams scores.

#### 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?*

* User having A unique username and password with passwords being case sensitive
* System validation of data inputs for personal information and payment information for the site.
* Admin and IT users will be notified immediately of failed login attempts, scheduling, and system down or errors.
* Activity tracker for logging for example modification, reschedules, and account management.

#### 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 remains compatible with operating system after updates
* Allow IT admin administrator rights to reset accounts, delete users, and recover data if needed.
* Allowing updates when needed with very minimal downtime
* Allow IT admin to add, modify, and remove accounts without changes to source code.

#### 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?*

* Logins require HTTPS connections
* Data between client and server needs to be encrypted for protection of data
* Use Role Based access control to give different users different privileges.
* Allow users to recover account through username
* Limit to three failed sign-in attempts before locking account.
* 60 minutes of inactive movement on site times out session and makes user re-sign in.

### 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 create and register accounts.
* The system shall allow students to schedule, cancel, or modify reservations
* The system shall validate user credentials upon logging in.
* The system shall allow booking for the three driving training packages
* The system shall allow access to online courses and practice exams.
* The system shall create activity reports showing what was created, changed, and cancel or modified reservations.
* The system shall allow updates from DMV for rules, policies, and practice test questions.
* The system shall be web-based and accessible from computer and phone devices

### 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.)?*

* Students will be able to create and manage own accounts, reset passwords, book and modify their reservations, access the learning material, and take practice tests.
* Secretary/scheduler able to input student info, manage reservations, and assist with scheduling and availability.
* Driving instructor can view assigned students and appointments and give student feedback.
* IT Admin has access to full system management and able to reset accounts, and website troubleshooting.
* Owners can view reports, view whole operations, and activity logs.

### 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?*

* Students will have reliable internet access
* DMV providing timely updates to curriculum
* Payment processing will be secure
* Staff will be trained specifically on DMV requirements.
* Users must have a valid working email address for signup.

### 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?*

* DMV Dependent on resources and updates
* Internet requirements for access
* The use of username and password is a good start but incorporating multi factor authentication would improve security.
* Limited to US students
* Scalability as more students join, for example they only have 10 cars.

### 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 gantt chart with colorful boxes

AI-generated content may be incorrect.