# 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

* The client is DriverPass, a driving school that helps people earn their driver’s license. They want to create a platform to help students connect to driving instructors, take supplementary coursework, and pass their driving exam.

### System Background

* The client wants a web platform that handles:
  + Platform enrollment
  + Class & package sign-ups
  + Teacher/ vehicle matchmaking to students
  + Practice tests
  + Online courses
  + Payment handling
  + Administrative data reporting tools
  + Contact information (both school and student)
  + Connecting to the DMV (policies, rules, practice questions)
  + Database management (see changes in appointments, see reservations, who modified, password resets and changes, admin privileges, user privileges, secretary privileges, IT privileges)
* Students can call DriverPass or connect to the website via browser to enroll, then use the browser to interact with coursework and prepare for their driving exams.
* The server will be hosted through a serverless architecture to reduce the burden of maintenance on DriverPass
* DriverPass employees can connect to the web platform to manage their students and the database.

### Objectives and Goals

* DriverPass employees can
  + Perform administrative tasks, such as enrolling students, modify appointments, delete accounts, change passwords
  + Enter notes about students
  + Disable, modify, and create class packages
  + Download reports from the database
  + Contact students
* Students can
  + Contact DriverPass through an input form and/ or contact page
  + Enroll in the program
  + Enter their personal information (first name, last name, address, phone #, state, credit card number, credit card expiration date, credit card security code, and the pickup/ drop off location)
  + Choose and pay for a program
  + Choose the time and date of their instruction from the available instructor sessions for on-the-road training
  + Take and view the status of their online practice tests
  + Read their driving instructors’ notes
  + Reset their password
* Backend objectives
  + Online and offline access
    - Data primarily stored on server
    - Data should be downloadable in .csv format
  + Connected to the DMV to keep the policies, rules, and practice questions up to date
  + Logs modifications to the database for security purposes

## Requirements

### Nonfunctional Requirements

#### Performance Requirements

* The service should be able to be run from any desktop or smartphone by using a major browser, like Firefox, Google Chrome, or Internet Explorer.
* Any browser with a strong internet connection should be able to load a web page in less than a second
* Updates and downtime should be planned for times of low traffic. Maintenance downtime should be once a month for an hour.

#### Platform Constraints

* The front end of the platform should run in any major browser (internet explorer, google chrome, firefox), agnostic of the operating system
* The back end of the service should run using a serverless architecture like AWS
* Data should be stored in a SQL database

#### Accuracy and Precision

* Users will be distinguished by their email address
  + Users are not allowed to change their email address after registration
* User inputs for secure information (username & password) should be case sensitive
* User inputs for other content in the LMS (searching for practice tests, searching for instructors, answering test questions) does not require as much accuracy and precision, so should not check for case sensitivity.
* All input fields and actions should provide user feedback if they make an error.
* Admin should be notified of any process that is throwing errors above a threshold in any given day – 10 errors/ day as an initial threshold.

#### Adaptability

* CRUD operations for users are supported through the website interface
  + Modifying user accounts & account information
  + Modifying appointments
  + Modifying instructor availability
* New “driving packages” are created by changing code
* The system will be maintained by their IT department to address platform updates
* IT admin will have read/ write privileges in all database tables
  + IT admin will have rollback and database backup privileges
  + IT admin will have access to the source code to manage platform updates

#### Security

* The website stores personal and financial data, so the website should be secure from attackers
* The user should access the LMS with an email address and password
  + The users account should be locked after three failed password attempts to prevent brute force hacking attempts.
    - Locked accounts must change their password through a unique link sent to their email account
  + Users should be able to regain access to their account if they forget their password by having a unique link to a password reset sent to their email account
* Data should be secured with SSL/TLS encryption to secure communication between the client and server
* User inputs should be validated against SQL injection and buffer overflow attacks

### Functional Requirements

* The system shall validate user credentials when logging in
* The system shall allow users to change their preferred name, address, city, state, zip code, phone number, payment information, photo, or special needs
* The system shall offer students different driving packages to select from
  + The system shall accept and validate student payment for a package
* The system shall allow students to sign up for driving instruction based on the instructors’ available hours
* The system shall proctor practice exams (multiple choice)
* The system shall pull practice tests and information straight from the DMV website
* The system shall allow instructors to create custom online lessons using static HTML elements
* The system shall allow driving instructors to add driver notes to student’s accounts
* The system shall allow admin to modify driving instructors’ availability.
* The system shall generate a report of its database in a .csv format for management
* The system shall allow faculty to create a new student account
* The system shall allow faculty process student payments or sign students up for instructor hours

### User Interface

* The user interface should support students, driving instructors, administrative staff, and IT staff.
* Users will interact with the interface in a browser on either a desktop or a smart phone
* Students should
  + See the progress of their exams and coursework (not taken, in progress, failed, passed)
  + Have access to their upcoming coursework and tests
  + Take online practice exams
  + See notes made by their driving instructors
  + See/ enroll for available slots for in-person driving instruction
  + See/ Change their account information
  + Input payment information
* Driving instructors should
  + See their upcoming appointments
  + Input lesson notes for their students
  + See their student’s information, like their name, online test progress, special needs, or pickup point
* Administrative staff should
  + Create an account for a new student by intaking their name, phone number, address, and credit card information
  + See student contact information, like name, address, and phone number
  + See driving package students have signed up for
  + See if students have paid
  + Process student payment
  + See driving instructor availability
  + Sign students up for driving classes
* IT staff should
  + Create, modify, or delete user accounts and their information
  + Unlock a locked user account
  + See the status of the server
  + See system errors
  + Backup/ rollback the database

### Assumptions

* Trained IT staff will be present to maintain the servers and manage upgrades
  + IT staff will have knowledge of coding and database management
* The school will have staff that manage content for the LMS, including course creation
* The backend infrastructure will have high uptime and a stable cost

### Limitations

* Users will lose access to the platform in the case of a server outage
* Users will lose access to the platform if their internet connection is slow
* Disgruntled IT admin can do irreparable harm to the databases
* The system does not allow streaming of live video classroom environments

### Gantt Chart

A screenshot of a project

AI-generated content may be incorrect.See the attached document for a higher resolution version of this chart