**5-2 Project One: Business Requirements Document**

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CS 255: System Analysis and Design

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# CS 255 Business Requirements Document Template

## System Components and Design

### Purpose

* The company, DriverPass, was established to address the issue of many people failing their driving tests due to a lack of proper training. The company will provide its customers (student drivers) with driving education via a combination of online classes, practice tests, and on-the-road training to prepare them for their driving test at their local Department of Motor Vehicles.
* The purpose of the system is to facilitate DriverPass’s educational products over the internet securely.

### System Background

* DriverPass envisions a system where customers have an online account where they can purchase training packages, schedule and view upcoming driving lessons, take online practice tests, track their progress, see notes from their driving instructor, and find ways to contact DriverPass.
* Employees will have varying access rights to the system depending on their role, and actions performed should be tracked by user name on the system.
* Administrators need remote access to the system and to be able to download activity reports.
* The system should be connected with the DMV to stay up to date with current rules, policies, etc.
* Components for the system include:
  + A front-end user interface.
  + A database to store account details.
  + A payment processor.
  + A backend server to manage logic.
  + A student interface (dashboard) that shows test progress, driver notes, personal information, and driver and student photos.
  + A component for administration to generate and download reports.
  + An interface to connect to the DMV.

### Objectives and Goals

The DriverPass system will have the following functions:

**Employees:**

* Administrative remote access (role based access privileges).
* Action logging (track activities by username).
* Disable training packages.
* Reset employee password
* Delete/block employee account.
* Manually create a customer account (customer phones-in for registration).

**Customers:**

* Create account.
* Reset password.
* Purchase training package.
* Schedule, cancel, or modify appointment for driving lesson.
* Take online practice test.
* View dashboard (test progress, driver notes, personal information, driver and student photos.
* View company contact information.

## Requirements

### Nonfunctional Requirements

#### 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 needs to be web-based, preferably hosted on the cloud, and allow administrative remote access.
* The system should respond to user actions within 3 seconds and not lag when 40 users are logged in simultaneously.
* The system should be scanned for available updates on a monthly basis. Additionally, updates from the DMV shall be applied immediately after release.

#### 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 should run on a platform that allows access from standard web browsers running on common operating systems, such as Windows, Linux, and macOS, as well as mobile devices like iOS and Android. Therefore, Amazon Web Services (AWS) is recommended.
* A database is required to store user profile information, reservations, etc. (Included with AWS)

#### Accuracy and Precision

* Each user will be distinguished by their email address (not case-sensitive). However, passwords need to be case-sensitive for robust security.
* The admin will be notified of any errors or problems immediately via email.

#### Adaptability

* The system will enable administrators to modify user account details, reservations, and profile information, as well as passwords, without requiring any code changes.
* Monthly system maintenance will keep the system up to date with no downtime.
* The IT Admin will have back-end access that allows printing of reports, making changes to the website, disabling or adding driving packages, blocking users, and resetting passwords.

#### Security

* For a user to log in, they must provide their email address and case-sensitive password.
* Data in transit between the client and server will be encrypted using the HTTPS protocol.
* If an incorrect password is entered four times consecutively (indicating a brute force attack), the account will be locked, and an alert will be sent to the administrator. To unlock the account, the user will need to verify their identity (email or text).
* In the event a user forgets their password, a password reset link can be sent to their email address on file. Additionally, admin can manually reset a user's password if needed.

### Functional Requirements

* The system shall allow customers to create a personal profile (name, address, etc.).
* The system shall validate email and password when logging in.
* The system shall enable customers to select their preferred training package for purchase.
* The system shall allow customers to schedule driving lessons.
* The system shall enable customers to take practice tests and track their progress.
* The system shall provide customers with instructions on how to contact the company.
* The system shall allow customers to reset passwords.
* The system shall enable administration to print reports.
* The system shall allow administration to reset passwords and block users.
* The system shall enable administration to disable or add training packages.
* The system shall integrate with the DMV and update rules when changes happen.

### User Interface

* The interface needs to allow students to view their personal dashboard, which displays driving reservations, driver information, practice exam progress, and personal details.
* The interface should enable the owner to download activity reports, modify the website (such as training packages), reset passwords, and block users.
* The interface needs to allow the secretary to create customer accounts and schedule driving lessons manually.
* The interface needs to allow driving teachers to add notes from driving lessons to the students' accounts.
* All users of the interface will be able to access it through standard web browsers, including those on mobile devices.

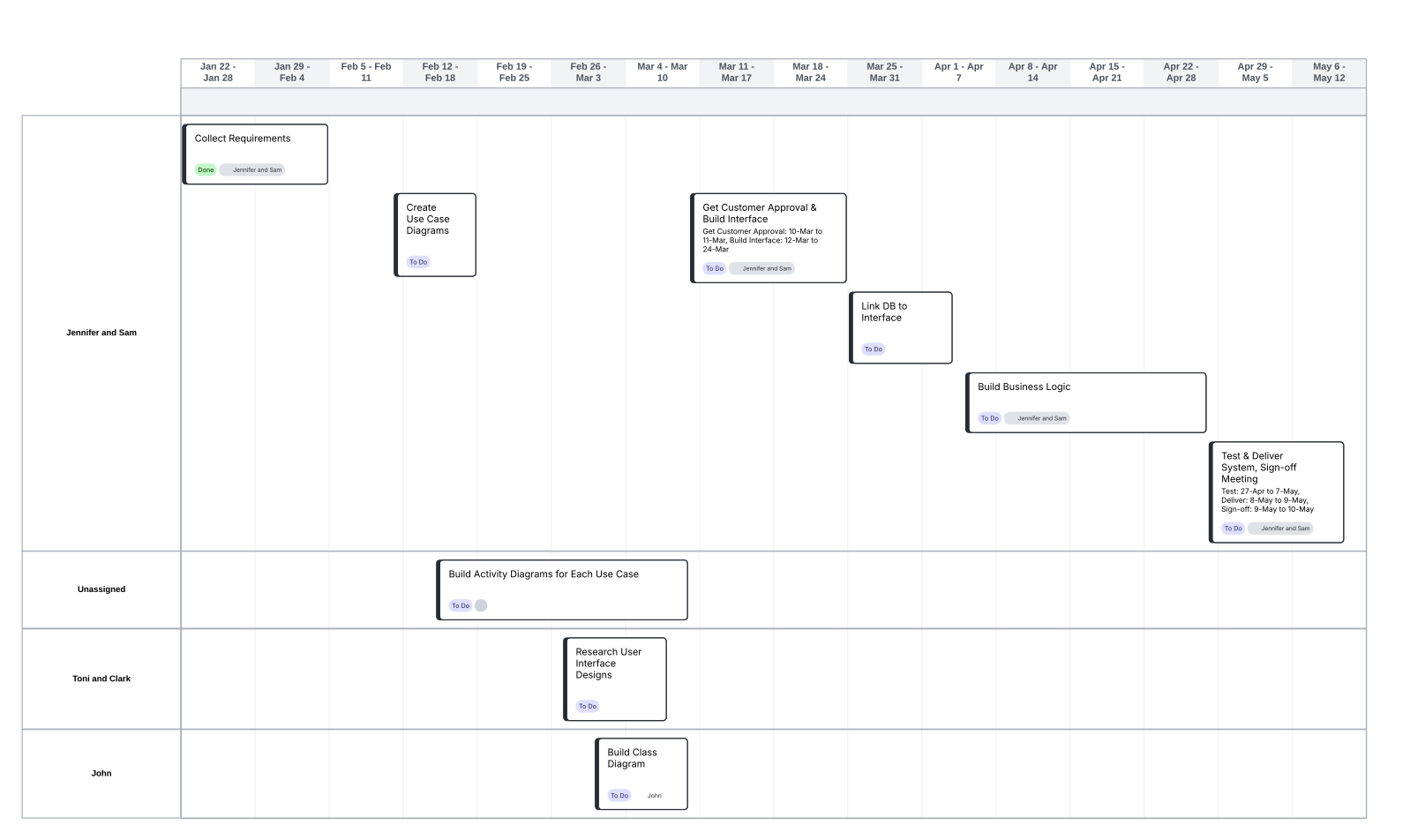
### Assumptions

* Users have basic knowledge of using web browsers and email.
* Users have a reliable internet connection.
* The DMV has an API available.
* The cloud service handles payment processing.
* The cloud service handles backup and recovery of the system.

### Limitations

* Practice tests can only be taken while connected to the internet.
* The interface is written in English and therefore lacks multilingual support.
* The relatively small development team may delay the project's completion in only 4 months.
* Budget constraints may lead to a lackluster user interface.

### Gantt Chart

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