Southern New Hampshire University

CS 255 Business Requirements Document

System Components and Design

Purpose

- Provide a web-based system that helps students prepare for their driving tests through **online practice exams** and **behind-the-wheel training**.
- Allow customers to **register**, select a **training package**, and manage their account online.
- Allow customers to **schedule, reschedule, and cancel** behind-the-wheel lessons online.
- Support staff scheduling by allowing the **secretary** to create and manage appointments for customers who call or visit the office.
- Provide internal management and administration tools for the **owner** and **IT officer** (account management, access control, reporting).
- Track customer progress including **practice test results** (score, time taken, status) and **lesson notes/comments** from instructors.
- Maintain security and accountability using **role-based access** and **tracking of reservation changes** (create/modify/cancel).
- Keep training content current by supporting **DMV updates/notifications** to reflect policy or question changes.

System Background

- DriverPass identified a need for better driver test preparation because many students fail the DMV exam after studying only previous tests.
- The business model combines:
    - **Online learning and practice tests**, and
    - **On-the-road training lessons** (scheduled driving sessions).
- The system must support multiple stakeholders and user types, including:
    - **Customers** (students)
    - **Secretary** (scheduling support)
    - **IT Officer** (system administration, security, account resets)
    - **Owner/Management** (oversight and reporting)
- DriverPass plans to offer multiple training packages (three initial packages) and needs flexibility to **disable packages** if offerings change.
- Scheduling must coordinate **customers, instructors/drivers, cars, and time slots**, with accurate records and the ability to change/cancel appointments.
- The company prefers a **cloud-based** solution to reduce in-house burden for security, backups, and maintenance while still supporting reporting/export needs.
- The system should support the business need to keep content aligned with the DMV by receiving **updates/notifications** when rules, policies, or sample questions change.

Objectives and Goals

- Provide customers with **online classes** and **practice tests** to improve exam readiness.
- Allow customers to **schedule, cancel, and modify** driving lessons online.
- Support staff scheduling (secretary) and full administrative access (IT officer, owner).

- Ensure accurate scheduling by matching **customer + driver + car + time**.
- Maintain security via **roles/rights**, password reset, and account administration.
- Track and report user activity (who created/changed/canceled reservations).
- Support a cloud/web system to reduce internal burden for security and backups.
- Keep training content current with DMV changes via connected updates and notifications.

Requirements

Nonfunctional Requirements

Performance Requirements

- The system shall support simultaneous access by customers and staff without noticeable delays during common tasks (login, scheduling, viewing test results).
- The system shall display customer test progress (status/score/time taken) and lesson history without excessive load times.
- The system shall generate downloadable reports (e.g., activity reports) in a reasonable amount of time for business use.
- The system shall load common pages (dashboard, schedule view, practice test list, and reports) within *3 seconds* under normal operating conditions.

Platform Constraints

- The system shall be **web-based** and hosted in the **cloud** to reduce DriverPass's internal responsibility for backups and security management.
- The system shall be accessible from **computer and mobile devices**.
- The system shall allow users to **download/export** reports and information for offline review (e.g., Excel), but system data shall not be modified offline to prevent duplicate or conflicting data.
- The system shall use automated daily backups, store backups securely in the cloud, and support restoration of service and data after a system failure.

Accuracy and Precision

- The system shall prevent data redundancy by ensuring records are updated only when online.
- The system shall accurately store and display reservation details including: customer, date/time, assigned driver, and assigned car.
- The system shall record test results precisely (test name, time taken, score, status).

Adaptability

- The system shall allow administrators to **disable a package** so new customers cannot register for it.
- The system shall be designed so new packages/features can be added in future releases (by developers/analysts as needed).

Security

- The system shall use **role-based access control** so different users have different permissions (customer, secretary, IT officer, owner).
- The system shall allow customers to **reset forgotten passwords automatically**.
- The system shall allow the IT officer to **reset accounts** and **block access** when needed (e.g., terminated employees).
- The system shall provide **audit tracking** for reservations (who created, canceled, or last modified a reservation).
- The system shall allow printing/downloading of **activity reports** to determine responsibility when issues occur.
- The system shall encrypt sensitive data in transit (HTTPS/TLS) and protect stored credentials using hashing.

Functional Requirements

- **User Accounts / Roles**
    - The system shall support user roles including Customer, Secretary, IT Officer, and Owner.
    - The system shall allow the IT Officer to reset user accounts and disable user access.
    - The system shall allow customers to automatically reset forgotten passwords.
- **Packages / Registration**
    - The system shall support three training packages: Package 1 (6 hours), Package 2 (8 hours + in-person DMV rules lesson), and Package 3 (12 hours + in-person DMV rules lesson + online class + practice tests).
    - The system shall allow an administrator to disable a package so customers cannot register for it.
    - The system shall collect customer registration information including name, address, phone number, state, and payment card details.
    - The system shall collect pickup and drop-off location for driving lessons (drop-off defaults to pickup).
- **Scheduling / Reservations**
    - The system shall allow customers to schedule driving lessons online using their accounts.
    - The system shall allow the secretary to schedule driving lessons for customers who call or visit the office.

- The system shall define each driving lesson session as **two hours**.
- The system shall assign each reservation to a specific **customer**, **driver**, **car**, **date**, and **time**.
- The system shall allow customers to cancel and modify appointments online.
- The system shall prevent double-booking of drivers and cars for overlapping times.

- **Online Training / Practice Tests**
  - The system shall provide access to online course content and practice tests for customers enrolled in the package that includes online training.
  - The system shall track and display online test progress including test name, time taken, score, and status (not taken, in progress, failed, passed).

- **Notes / Reporting / Audit Trail**
  - The system shall store and display driver notes and lesson time details (start hour, end hour, comments).
  - The system shall track who created, canceled, and last modified reservations.
  - The system shall generate and allow downloading/printing of activity reports showing user actions.
  - The system shall allow staff to download reports for offline review and analysis (e.g., Excel).

- **DMV Updates**
  - The system shall connect to DMV updates so DriverPass can keep tests/questions/policies current.
  - The system shall notify DriverPass when DMV rules/policies/sample questions are updated.

- **Contact / Communication**
  - The system shall include a contact page for customers to reach DriverPass.
  - The system shall support a way for DriverPass to contact students.

User Interface

- The system shall provide a web-based interface usable from desktop and mobile devices.
- The system shall provide a customer dashboard showing:
  - practice test history and progress (status/score/time taken)

    - scheduled lessons and lesson history
    - driver notes associated with lessons
- The system shall provide staff screens for:
    - entering student information via input form
    - scheduling/editing reservations
    - viewing assigned driver/car schedules
- The system shall provide administrative screens for:
    - user/role management (IT Officer)
    - report generation and audit viewing (Owner/IT)

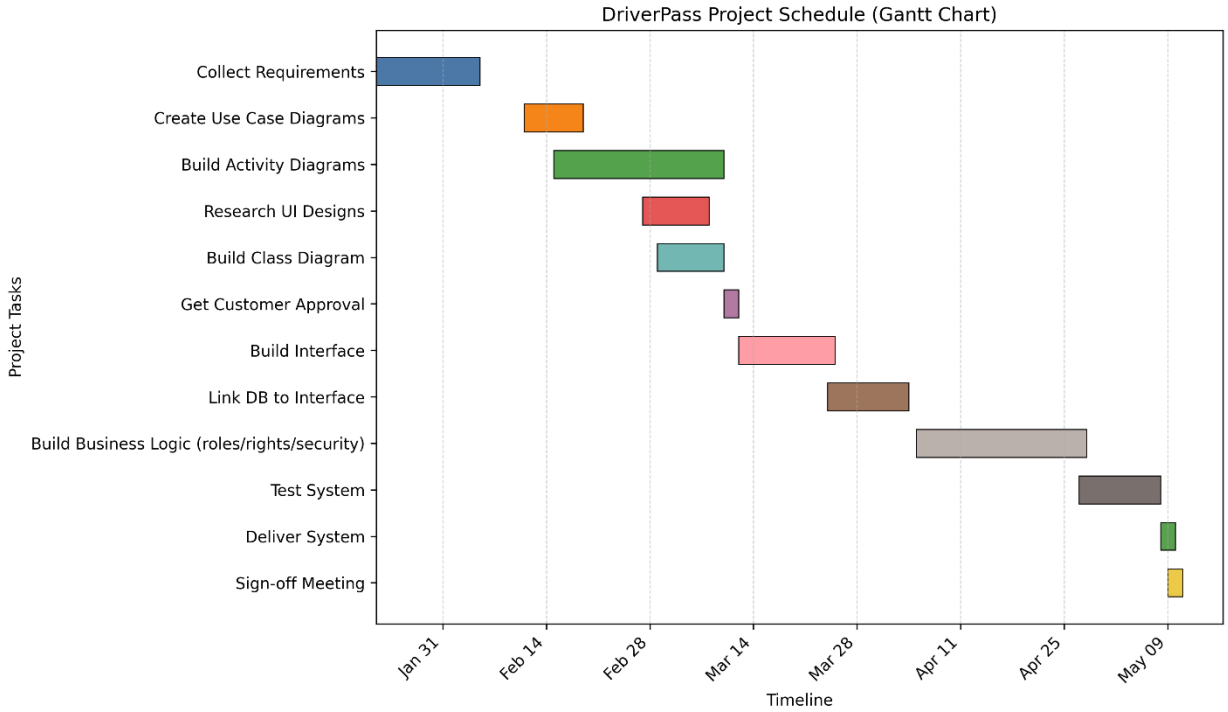
Assumptions

- Users will have internet access when making updates (offline use is limited to viewing/downloaded reports).
- Drivers are associated with specific cars (as described: 10 cars, each car has a driver).
- DMV updates are available in a format the system can receive (API/feed/integration), or an agreed method will be established to deliver notifications.
- Customers who register by phone/office will have their info entered by the secretary.

Limitations

- The system will not support offline editing of records to avoid duplicate/conflicting data.
- Package creation/removal beyond disabling packages may require future development (the owner wants flexibility, but adding/removing modules is stated as a future release discussion).
- DMV integration requirements depend on DMV's ability to provide updates and the agreed integration approach.

Gantt Chart



Tasks are sequenced based on dependencies: customer approval must occur before interface development begins; database integration follows interface build; business logic implementation follows integration; and testing occurs after core functionality is completed before delivery and sign-off.