

Business Requirement: Travel Pass System

Start date: Jan 22, 2023

Expected completion date: May 10, 2023

Final deliverable: DriverPass Learning System site operational

System Components and Design

Purpose

- DriverPass hopes to bring to market a system to train students for the driving test at their local department of motor vehicles (DMV). It should be able to provide online classes and practice tests to enrolled students. It should also facilitate the scheduling of on-the-road driving instruction.

System Background

- DriverPass wishes to fill a void in the market, providing online - and in-person - instruction to students preparing for their driver's test with the DMV with the following components:
 - Provide tools to students to enroll and take online classes and practice tests
 - Provide tools to students and staff to schedule on-the-road instruction.
 - Provide administrative tools and reports to DriverPass management.

Objectives and Goals

- Administrative data can be accessed by DriverPass employees from any computer or mobile device.
- Different employees at the company will have different privileges and roles.
- Tracks who makes/changes/cancels a reservation or enrollment.
- Provide administrative activity reports.
- Enrollment can be accomplished online by students or by DriverPass employees over the phone.
- Enrolled students can access online classes and available practice tests from any computer or mobile device.
- The online test progress should show the tests taken and overall progress. It should indicate name, time taken, score, and status (not taken, in progress, failed, or passed).
- Support for several different on-the-road training packages with a different number of training hours and support options.
- On-the-road driving instruction can be reserved by the student online or by DriverPass employees over the phone. Reservations can be created, modified, or canceled.
- Internally, the system must be able to assign road instructions to available drivers.
- Driver needs to be able to log each lesson, its start and end time, and make comments.

Requirements

Nonfunctional Requirements

Performance Requirements

- The system should be a web-based system that has the following parameters:
 - Maximum uptime. The Services should be available as close to 24 hours a day, 365 days a year
 - Web pages should be responsive, i.e., look good on all types of devices with differing screen sizes and processor speeds
 - Web pages should load in under 5 seconds (Portent, 2019)
 - Payments need to be handled securely using industry-standard encryption and secure HTTPS protocols.
 - The system should be able to be upgraded with hot fixes for urgent issues such as security vulnerabilities or significant bug fixes.
 - The system should have regularly scheduled maintenance to ensure maximum uptime and to add or modify features.

Platform Constraints

- The system should run on any web-browser enable device with internet access, with support for the following Operating Systems, at a minimum:
 - Windows
 - Mac OS
 - Linux
 - Apple iOS
 - Android
- The backend will run the following services:
 - Database Server
 - Web Server
 - Web Analytics services
 - Secure payment transactions

Accuracy and Precision

- Usernames will be the same as the email address provided during user setup, and therefore case-insensitive
- Admins should be immediately informed of potential security breaches with special attention to possible breaches of sensitive information stored within the system
- Admins should be immediately alerted to any system problems that threaten to shut down the system
- Admins should receive daily analytics reports describe the performance of the system

Adaptability

- To use the system, a user need only register as a new user and provide a valid e-mail address or cell phone number, with their contact information - and a valid credit card.
- User information can be modified by the user, or administrators at the user's request.
- Users can be removed by an administrator. More often, the user account will just be disabled to maintain history within the system
- The technical IT Administrators need access to the Cloud resources and services and any analytical or debugging information available.
- Other administrative users may need access only to change content, assign drivers, and perform other strictly administrative tasks.
- The system's hotfixes and scheduled updates will run scripts that will replace system components and update Cloud resources as required for the issue being fixed

Security

- Multifactor Authentication will be required to access the system. A user must create a strong password and provide an e-mail address or cell phone number for authentication purposes.
- After multiple failed attempts, the account will be disabled and further action by the user and/or administrators to restore
- A user may reset the password by using a security question answer provided during account setup
- Users should be alerted if there is a strong suspicion that their account has been compromised

Functional Requirements

- The system shall validate user credentials when logging on to the system
- The system shall direct the user to the correct landing page based on their role - Student, Admin, or Driver
- The system shall log interactions between users and the system and report to the Super admin user and IT administrators (also Super admins)
- The system shall allow students to self register
- The system shall allow for online payment of fees
- The system shall require a Super admin to add admin users and other Super users
- The system shall serve requested web page content to users
- The system shall serve content stored in databases to users
- The system shall serve designated sensitive student information only to users assigned to an appropriate user group
- The system shall allow users to manage their account information
- The system shall all admins to manage student accounts
- The system shall allow Super users to suspend or remove an account
- The system shall allow users to reset their password
- The system shall track completion of learning material by each student
- The system shall track student scores on sample tests, and any other graded material that may be added in the future
- The system shall provide a calendar for driver training reservations
- The system shall allow Super Users the ability to add, remove, or modify Drivers.

- The system should allow learning material to be added, removed, or modified
- The system should be alerted when the DMV makes rules changes or updates their driver's instruction manual so that course materials can be reviewed and updated as required
- The system shall allow Instruction Packages to be added, removed, or modified

User Interface

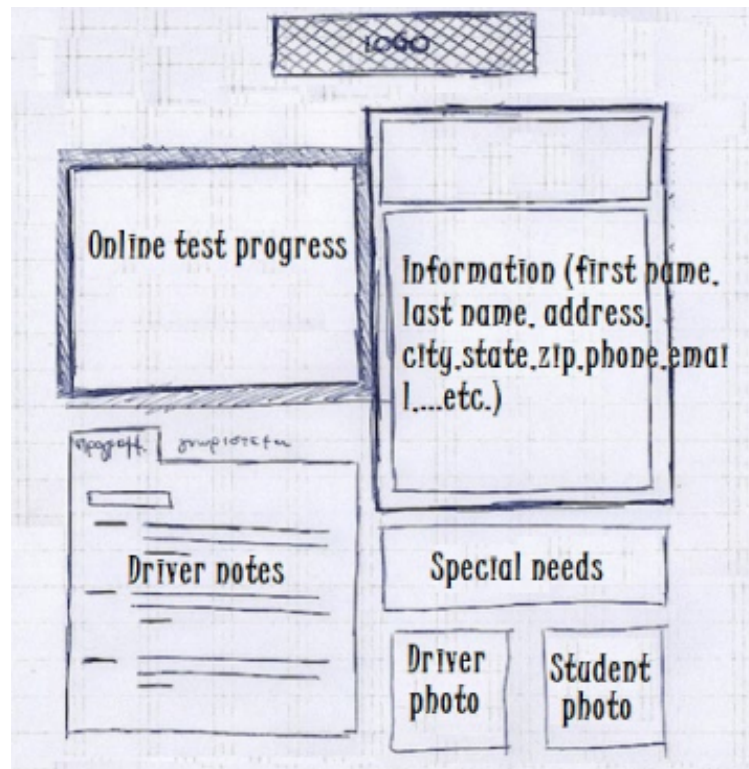
- The system shall have a general landing page that introduces the site and what services DriverPass provides, along with a Learn More button, A Register New User button, and A Login Button
- The system shall have a new user registration page. It will allow the user to set up their name, address, contact numbers, email addresses, and credit card payment details. New users will be asked to select an Instruction Package that can later be modified through their Student Landing page (See example packages below)

Sample Packages

Name	# Hours	Other Services
Package One	6	
Package Two	8	an in-person lesson where we explain the DMV rules and policies
Package Three	12	<i>plus</i> access to our online class with all the content and material. The online class also includes practice tests.

- The system shall have a login screen
- The system shall have a student landing page that will be the starting page for all enrolled students. The student has instant access to data about content they have completed, notes provided by instructors, and their user account information (see provided sketch). From here, a student should be able to access their available content and the scheduling subsystem

Sample Student Landing Page:



- The system shall have content pages that will provide students with sample tests and preparation material
- The system shall have a scheduling page for students that provides a calendar with their currently scheduled driver instruction, and showing available times that are available with the ability to reserve this time
- The system shall have a landing page for administrating the system that will include a calendar with all scheduled driver training, analytics related to the current number of users signed in, the total of currently enrolled students, easy access to other administrative pages.
- The system shall have a driver training reservation page accessible by administrators to view available reservations and make reservations for students that wish to do so over the phone.
- The system shall have an account page where staff can access student account information, print statements, certificates of completion, invoices, and update account information - including setting up new students that wish to sign up over the phone
- The system should have a driver scheduling page for administrative staff to view the drivers currently actively employed with DriverPass, and their driver schedules. A super administrator can update the list of drivers and assign them to the calendar.
- The system shall have a Driver landing page with a calendar showing their booked times. It should have the ability to edit availability. The page should provide a link to a student driver page, and the Driver Log page
- The system shall have a student driver page for Drivers to review their student's account and make instructor notes and the ability to contact the student with any necessary follow-up.
- The system shall have a driver log page that allows the driver to log their hours (sample below)

Sample Driver Log

Lesson Time	Start Hour	End Hour	Driver Comments

Assumptions

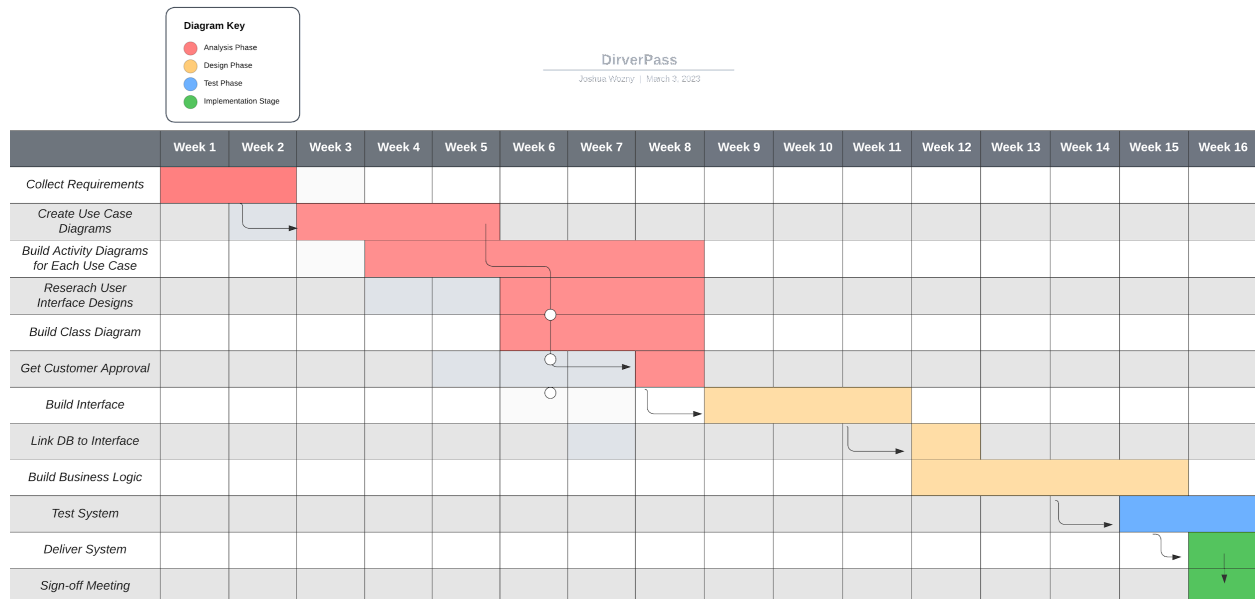
- Users have internet access
- The system will reside in an offsite cloud-based system to maximize uptime, providing robust security and scalable performance

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?

- System will be unavailable if the cloud service experiences downtime
- Users will not be able to access the system if their internet connection goes down.
- Must abide by Cloud Service Provider Terms of Service. This should not seriously limit the system but should be periodically reviewed to ensure the system is in compliance

Project Plan Jan 22 - May 10, 2023



REFERENCES

Portent. (2019, August 20). Portent.
[https://www.portent.com/blog/analytics/research-site-speed-hurting-everyones-revenue.htm#:~:text=T
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