FINAL PROJECT PROPOSAL

By Ayan Asim & Casper Run

Table of Contents

Introduction

Team member 1: Ayan Asim

Email: ayan7180@iastate.edu

Experience: Ayan has taken COMS 309 and half of COMS 319. He has a very good understanding of Git version control and works well to communicate his commits/pushes/pulls. He also has learned HTML, CSS and JavaScript and has gotten an A on the midterm project for COMS 319.

Team member 2: Casper Run

Email: casperr@iastate.edu

Experience: Casper has previously taken COMS 309. He has several previous group project experiences in previous coursework with a variety of languages (C, Java, Python) and React.js. He also has used Git version control for most projects and can help with any issues regarding conflicts/merges.

Purpose of the Proposal

The main purpose of our proposal is to highlight the scope of our project regarding the structure of our website and its functionality. Other parts of the proposal will focus on technologies that we will be utilizing, delegation of development duties, expected functionality, and other information that will be useful to better understand our project.

Goals & Objectives

- Visuals & Appeal
    - Improve midterm project pages
    - Hover animations over objects and text
    - Straightforward layouts like in our midterm website
- Functionality & Features
    - User login/sign-up
    - Appointment feature with users and backend
        - MongoDB Database and CRUD operations
        - Appointments will be associated with users
    - Each car in the catalog should have a generated information page based upon JSON data
    - Expand catalog search feature to have filters and to present possible cars based upon user input

Project Description

We will be making an exotic car dealership website in which a user will be able to make an account, schedule appointments, choose a car that they are interested in, save that car to their vehicle comparisons page (if time permits) and more. We will be using some of our own images and some online images of the cars that we will add to the catalog.

We plan on using React.js, Node.js, JavaScript, CSS and HTML to achieve our goal of getting an A on this final project. We have also decided to use MongoDB for our database as it suits our plan of using many JSON files/objects to store data to successfully achieve CRUD operations.

Page 1: This will be the home page. This will have a carousel with some of our flagship vehicles for sale and a navbar that will be available on every single page.

Page 2: This will be a catalog page. This will feature every vehicle that is in our lot, each within their respective cards. There will also be a search feature here.

Page 3: This will be a page for each individual vehicle. This page will show previous owner information, milage, model, more images in a carousel, etc. and will give an option to schedule a test drive (will involve CRUD ops.).

Page 4: This will be a service page. This page will give the user an option to schedule a service appointment with the dealership (will involve CRUD ops.).

Page 5: This page will give the user an option to add a vehicle into the lot (if it is considered a luxury vehicle). This will involve CRUD ops.

Page 6: This will be an about page. This page services the purpose of having contact information and a summary about the founders and their background.

Project Path Selection

We are committed to extending our midterm project.

We will implement various features in addition to the features that we have right now in the midterm project. We will also need to remake the current features in React.js to successfully get a good grade on this project. To expand the features and make them useable we will be adding a backend to supply the login/sign-up

We have been preparing for this final project before it was even announced. During spring break, we went to dealerships to take our own pictures of exotic/luxury cars to implement them into our final design.

Feature Ownership & Responsibility

Login/Sign-up Page

- Handled by Ayan Asim
- Feature will handle user enrollment and hold credentials. Important for handling website permissions and data access.

Catalog/Search with Admin features

- Handled by Casper Run
- Feature will handle displaying vehicle catalog from MongoDB and admin will be able to add new vehicles to the database through a form.

Appointment Page

- Handled by Ayan Asim
- Feature consists of storing appointments made in a form to a database sorted by user that can only be pulled by the user who made them to a dashboard.

Vehicle Comparison/Favorites (If time permits)

- Handled by Casper Run
- Feature will pull vehicle data based upon selection and create a page that highlights essential information about said vehicles for the user to compare.
- The saved car cards will be displayed on the same page

Resources & Tools

- GitLab
- Figma
- MongoDB:
- React.js
- Visual Studio Code
- Live Server
- CSS
- JavaScript
- HTML

File Structure & Project Organization

Frontend

- /src/
    - Assets/ - Stores the folders and subfolders of all car images based on model.
    - Data/ - Stores all the Json objects not in the database that will be used for the website
    - Components/ - Stores all react components that will be utilized in the rendering of the App.jsx.
    - App.jsx, and Main.jsx will be the main files that render the webpage

Backend

- MongoDB – Stores essential data to supply the features in the frontend
    - Login/Sign-up functionality will have usernames, and passwords stored on the database. Users also can change their passwords.
    - Catalog Json files with car data will be stored on the database to supply the catalog and expanded car information features.
    - Appointment data will be stored in Json files based upon user information.

Documents

- Documents/ - All project documents will be stored in this folder with a separate subfolder for sketches and models.

Frontend and Backend Communication

The frontend will communicate with the MongoDB backend using API CRUD operations to enable functionality

Login/Sign-up will have a username and password Json file that will allow users to make post requests to sign-up and get requests to check for correct credentials in login functionality.

Appointment feature will have a separate Json file corresponding to each user and only the user assigned to that Json file can see their appointments made. Post requests will be used to add appointments and get requests to display them.

Catalog feature will get data from car catalog Json files in the database and all users will be able to use get requests to view the cars. An admin user will enjoy the privilege of being able to add new cars to the database using post requests.

Favorite vehicles will work similarly to the catalog, but favorite cars will be stored on a JSON object based upon the user login. Data will be pulled from MongoDB, added based upon a star button, and deleted with the same button if pressed. Vehicle comparison will allow a user to pull two vehicles' data side by side by pulling car data JSON objects from MongoDB.

Data Sources & Management

Appointments: Logged in users will be able to do POST requests. Users will have their own JSON, and they will be the only person to access that.

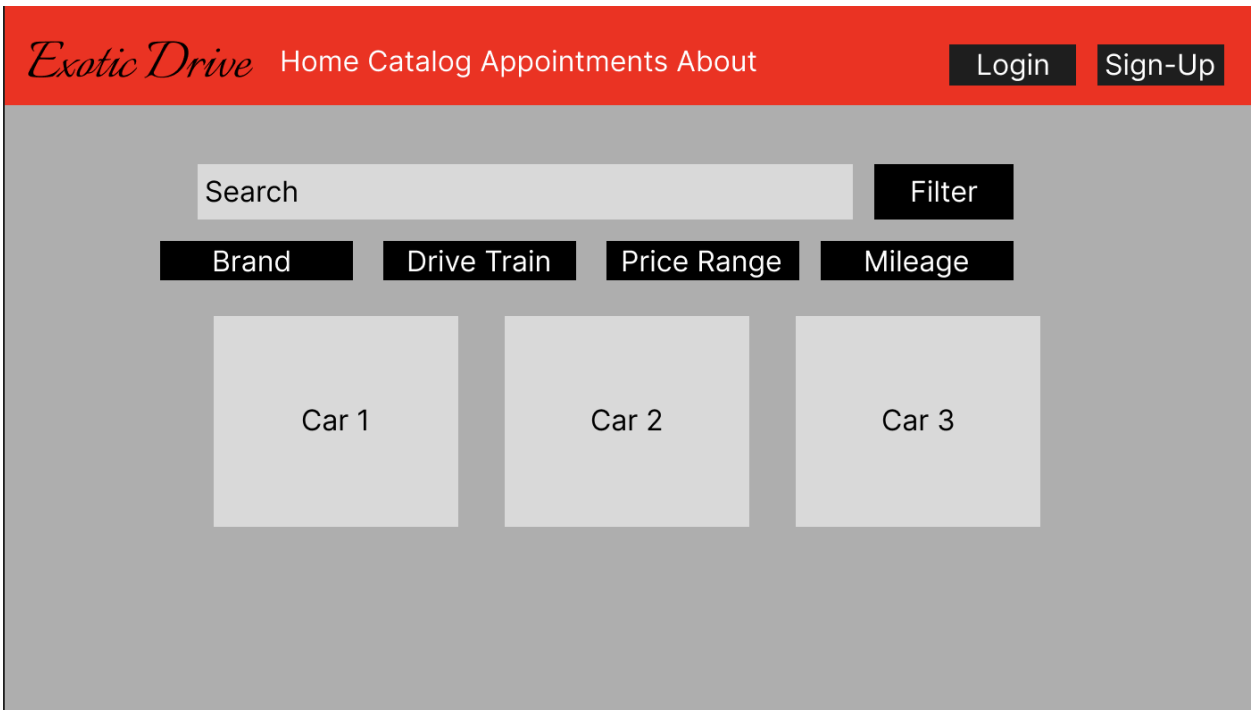
Login/sign up: There will be a JSON in which it has all users' information about all the users. When a user Signs up, a new JSON object will be created where the keys (for the key value pairs) will be username and password. When the user logs in, it will check in the database if the user exists or not and log them in.

Catalog/Search: The user will be able to search within the catalog of vehicles in our lot. This will in involve a GET request as it will search for the certain vehicle that the user asked for and pull that vehicle up within the catalog.

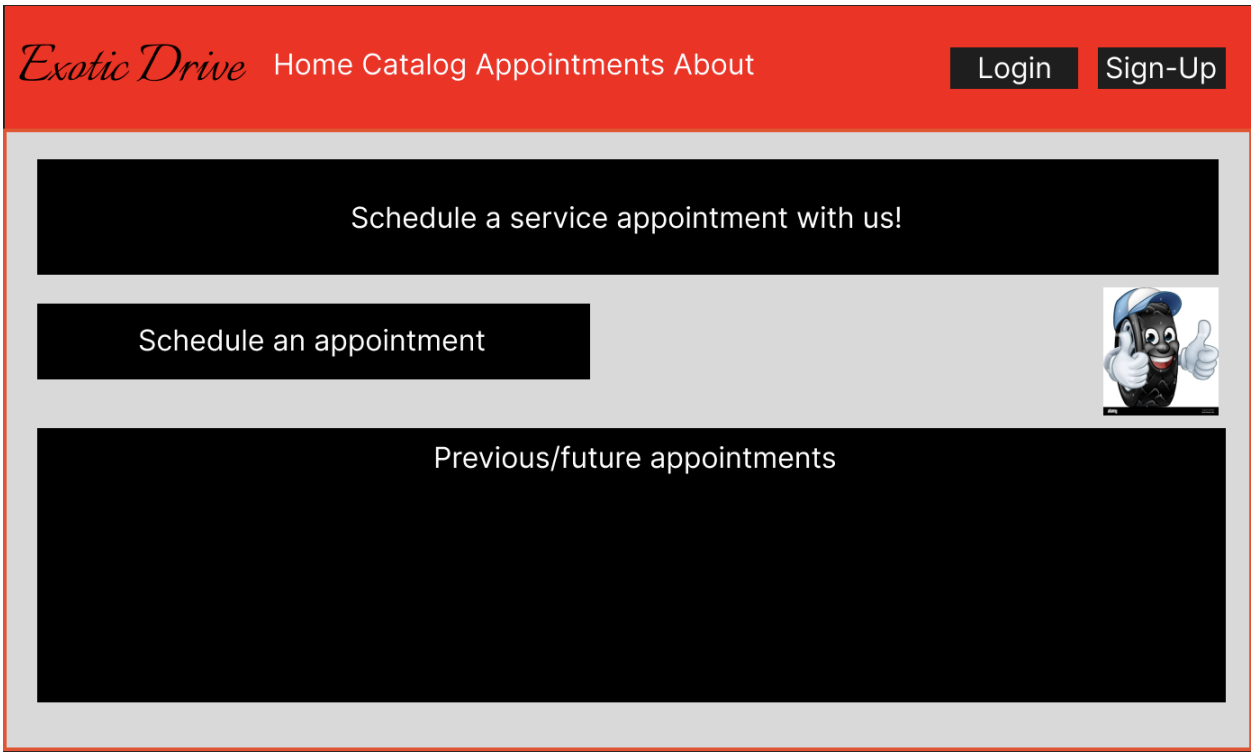
Vehicle Comparisons (if time permits): This cart feature will add new vehicles that the user prefers to buy if the user clicks the "add to cart" button. This will add certain the JSON objects (the vehicles) loaded into the catalog into a new JSON and will be displayed onto a subpage. This will allow the user to compare vehicles of their preference.

User Experiences

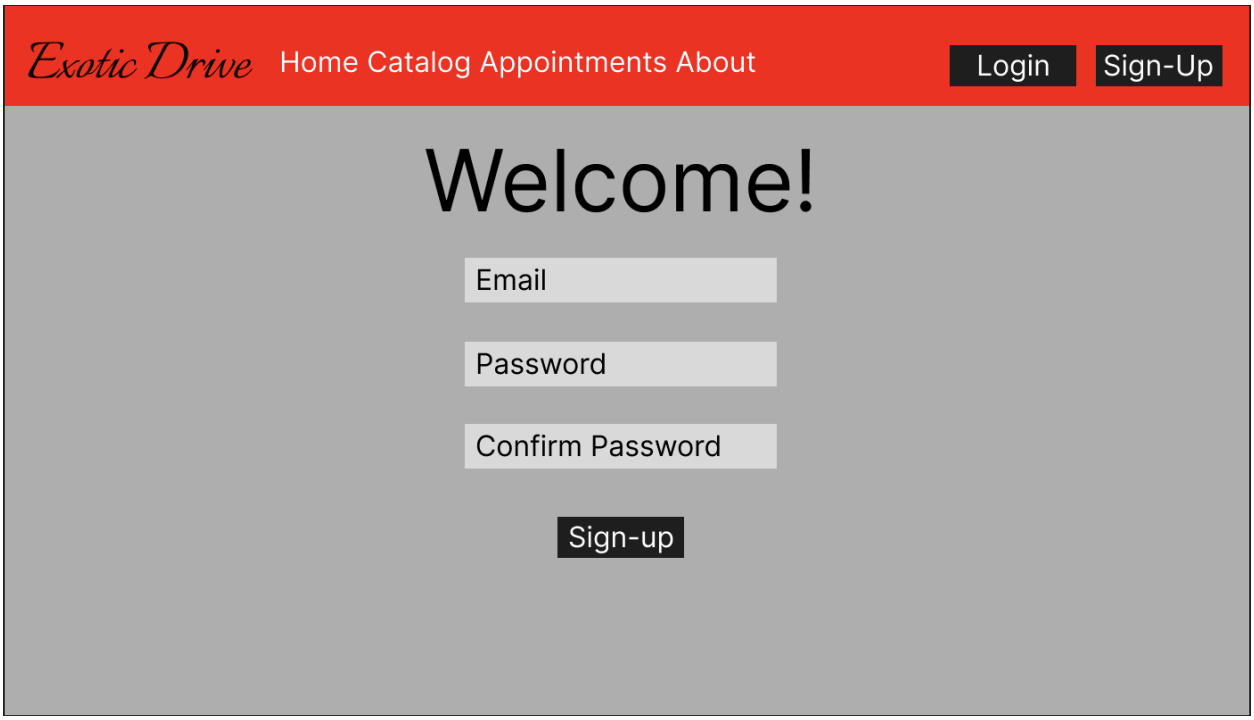
Catalog:



Appointment Page:



Login/Sign-up Page:



Final Comments

Some of the images that this project will use are images of vehicles on sale at the time that the photos were taken.