

Karto: Car Maintenance and Gas Finder Application

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Purpose

- Help keep track of cars.
- Keep a history of the maintenances done on each car.
- Find gas from gas stations.

MVP

- Authenticate users
- Add trusted gas stations
- Look for gas prices
- Maintain a list of cars
- Create cars
- Maintain a maintenance log on each car

Authenticate User

The image shows a login screen with a dark gray background. At the top left, there are two links: "Create Account" with a user icon and "Login" with a right-pointing arrow icon. Below these, the word "Login" is displayed in a large, bold, white font. A teal-colored rounded rectangular box contains the form fields. Inside this box, the word "Email" is centered above a dark gray input field containing the text "asoh@exam.com". Below this, the word "Password" is centered above another dark gray input field showing a series of black dots. At the bottom of the form is a teal-colored button with the word "Submit" in white.

Create Account Login

Login

Email

asoh@exam.com

Password

.....

Submit

Gas Prices

Find Gas For Your Car

Select your car ▾

2015 Honda Accord

2025 Volkswagen Jetta

2025 Toyota Camry

Car List

A screenshot of a web browser window titled "KartoUi". The address bar shows "localhost:4200/cars". The page content is titled "Cars" and displays the message "No cars in inventory". A large, light-gray rectangular area is centered on the page, containing a small black plus sign (+) in its upper right quadrant. The browser interface includes a top navigation bar with various icons and links, and a sidebar on the left side.

KartoUi

localhost:4200/cars

Cars

No cars in inventory

+ A cursor arrow pointing towards the plus sign.

Maintenance List

The screenshot shows a dark-themed web application interface. At the top, there is a navigation bar with four items: 'Cars' (represented by a car icon), '\$ Gas Prices' (represented by a dollar sign icon), 'Gas Stations' (represented by a location pin icon), and 'Logout' (represented by a user icon). Below the navigation bar, the main content area has a title 'Create Maintenance'. Underneath the title are three input fields: 'Cost' (312.32), 'Date' (12/03/2025 03:54 PM), and 'Mileage' (89,123). A cursor arrow is positioned above the 'Mileage' field. Below these fields is a section titled 'Item Details' containing four input fields: 'Maintenance Type' (set to 'Oil Change'), 'Quantity' (1), 'Comments' (Test), and a red 'Remove' button.

Cars \$ Gas Prices Gas Stations Logout

Create Maintenance

Cost
312.32

Date
12/03/2025 03:54 PM

Mileage
89,123

Item Details

Maintenance Type
Oil Change

Quantity
1

Comments
Test

Remove

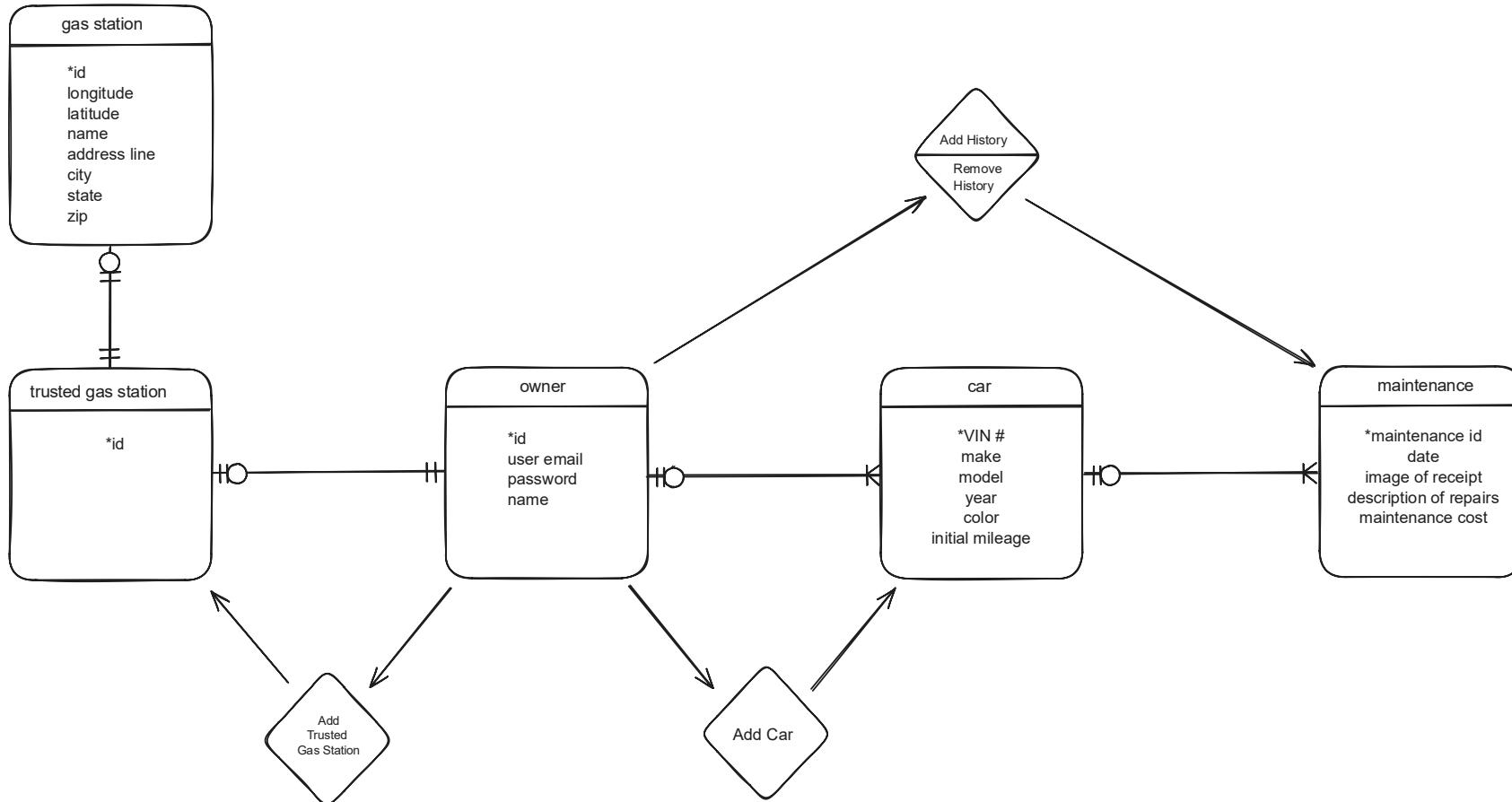
Gas Station List

The screenshot shows a dark-themed web application for managing gas stations. At the top, there's a navigation bar with links for Cars, Gas Prices, Gas Stations, and Logout. Below the navigation, a title "Gas Stations" is followed by a sub-section "Add Gas Station". A horizontal row of input fields includes Name, Address, City, OH, Zip, and two numeric fields (0 and 0). A green "Add" button is located below these fields. The main content area displays three entries for gas stations:

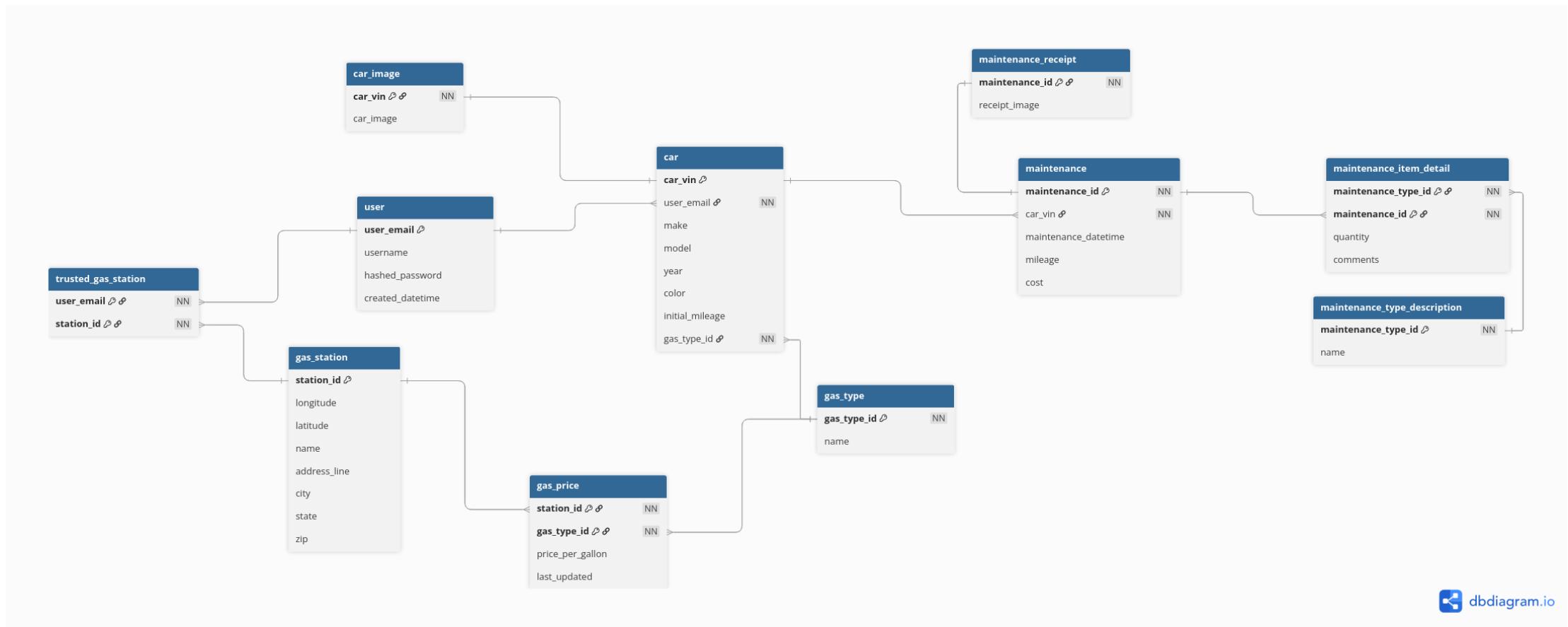
- Spec Marathon**
ID: 1
Address: 1
City: Inglewood
State: Ohio
Zip: 1234567
- Speedway Broadway**
ID: 2
Address: 2
City: El Paso
State: Ohio
Zip: 1234567
- Main Clark**
ID: 3
Address: 3
City: Escondido
State: Ohio

Each entry has a vertical column of three icons on its right side: a green pencil (edit), a red trash can (delete), and a purple heart (favorite).

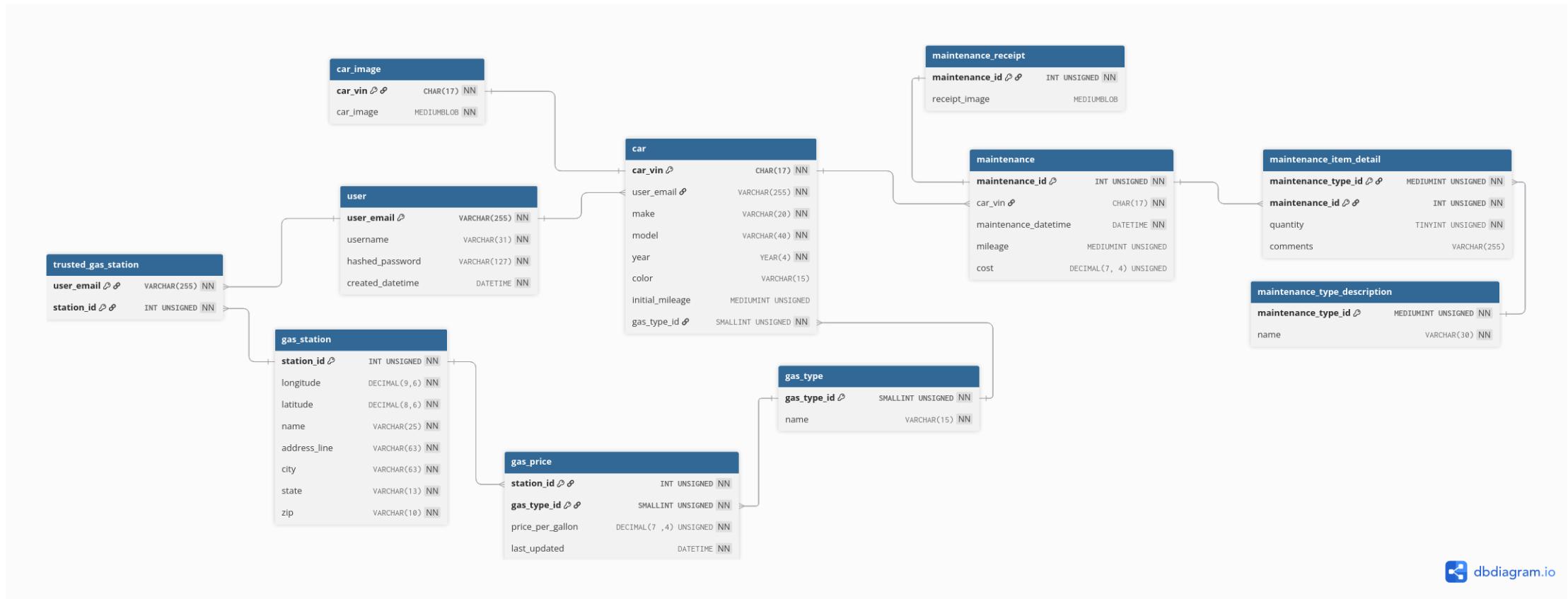
Conceptual Model



Logical Model



Physical Model



UI - Wireframes

Note: This page is scrollable and will give the user the option to also input the car's gas type and VIN number

KARTO

1995 Mazda Miata
Mileage: 140,010 mi

+

Add Car Page

KARTO

Manufacturer: Mazda
Make: Miata
Year: 1995
Mileage: 140,010
Color: White
Photo: Select Image

Done

View Car Page

KARTO

1995 Mazda Miata
Date Added: 09/16/2025 @ 11:02 PM

Mileage: 140,010
Color: White
Gas Type: Unleaded
Trait: Info

View Maintenance Done

Loading Page

KARTO

...

Add Maintenance Page

KARTO

Maintenance Date: Select Date
Current Mileage: Enter Mileage
Receipt: Select Image
Total Cost: Enter Cost
Maintenance Type: Select Type
Tire Change: Enter Comments Here
Done

Login Page

KARTO

Username / Email: Enter Username or Email
Password: Enter Password
Login
Create Account

New Account Page

KARTO

Email: Enter Email
Username: Enter Username
Password: Enter Password
Confirm Password: Create Account

Find Gas Page (pre search)

KARTO

Find gas for: 1995 Mazda Miata
Searching near: Enter City Fairborn, OH ★

Find Gas Page (post search)

KARTO

Find gas for: 1995 Mazda Miata
Searching near: Fairborn, OH

Casey's 123. Main Street	Regular \$3.19	Distance 0.82 mi	Maps
Sheetz 123. Main Street	Regular \$3.17	Distance 0.89 mi	Maps
Marathon 123. Main Street	Regular \$3.25	Distance 0.73 mi	Maps

Maintenance History Page

KARTO

10/04/2025
140,010 mi
Oil Change x1, Full Body Wash x1
1995 Mazda Miata
...

UI – Brand Guide

PRIMARY COLORS



Persian Orange
#CA925B



Robin Egg Blue
#5BC3C7

BLACK & GRAY



Smoky Black
#0D0A06



Licorice
#251B11

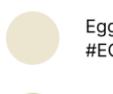


Night
#060D0D

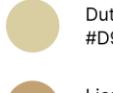


Rich Black
##0C1919

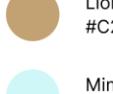
ACCENT COLORS



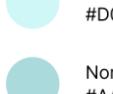
Eggshell
#ECE6D1



Dutch White
#D9CDA2



Lion
#C2A172



Mint Green
#D0F7F8



Non Photo Blue
#AADADB



Celadon
#69BD8A

BUTTONS



Filled



Outline



FONTS

H1

Inter Bold, 40px

H2

Inter Bold, 32px

H3

Inter Bold, 24px

H4

Inter Bold, 20px

H5

Inter Bold, 15px

Lorem ipsum dolor sit amet
consectetur adipiscing elit. Dolor
sit amet consectetur adipiscing
elit quisque faucibus.

Inter Regular, 16px

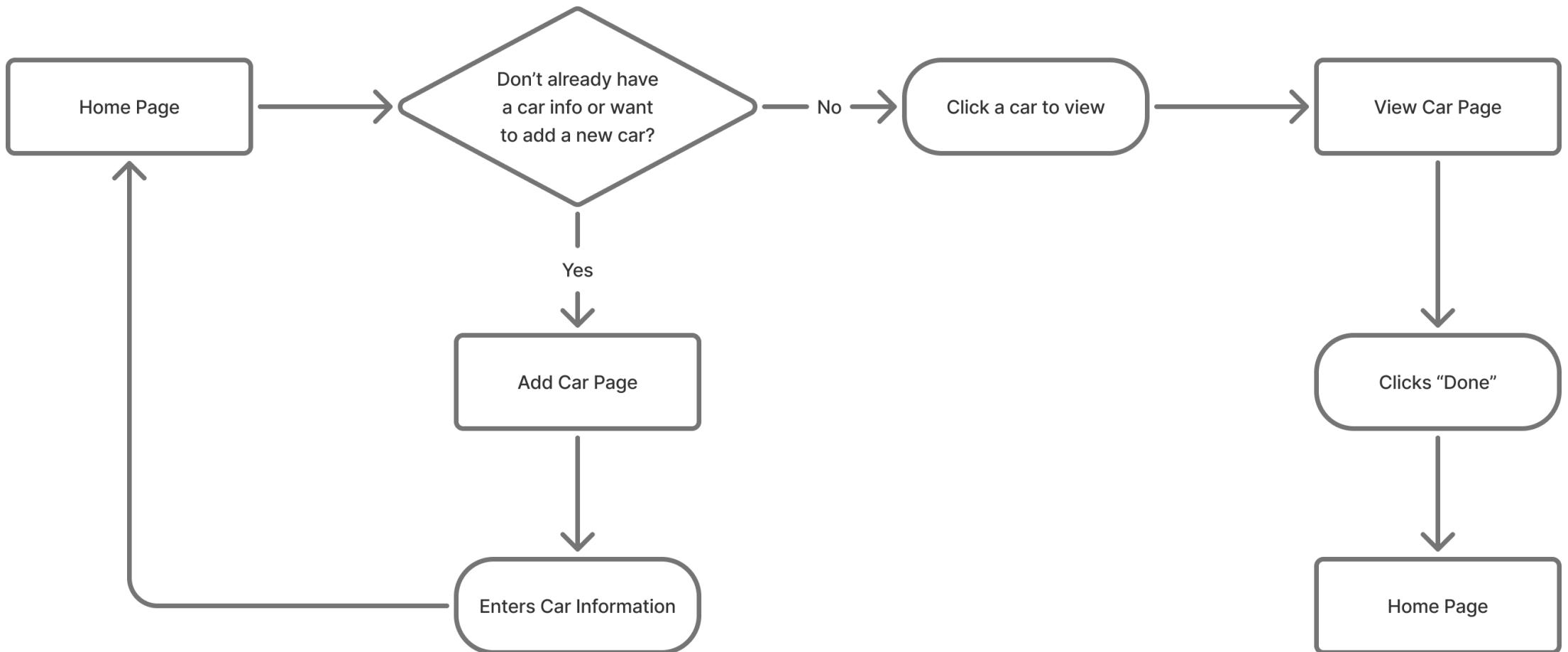
ICONOGRAPHY



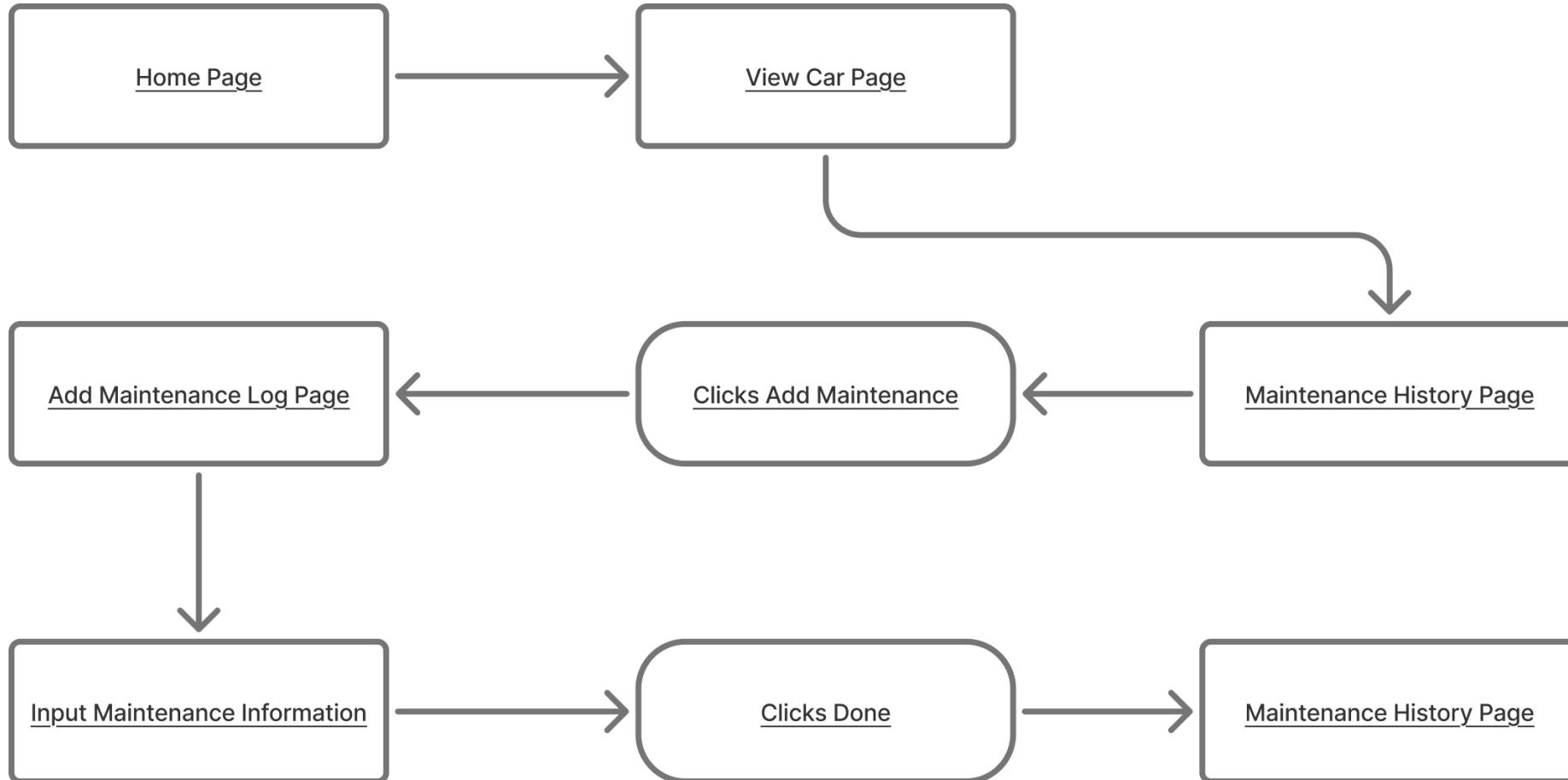
WORDMARK

KARTO

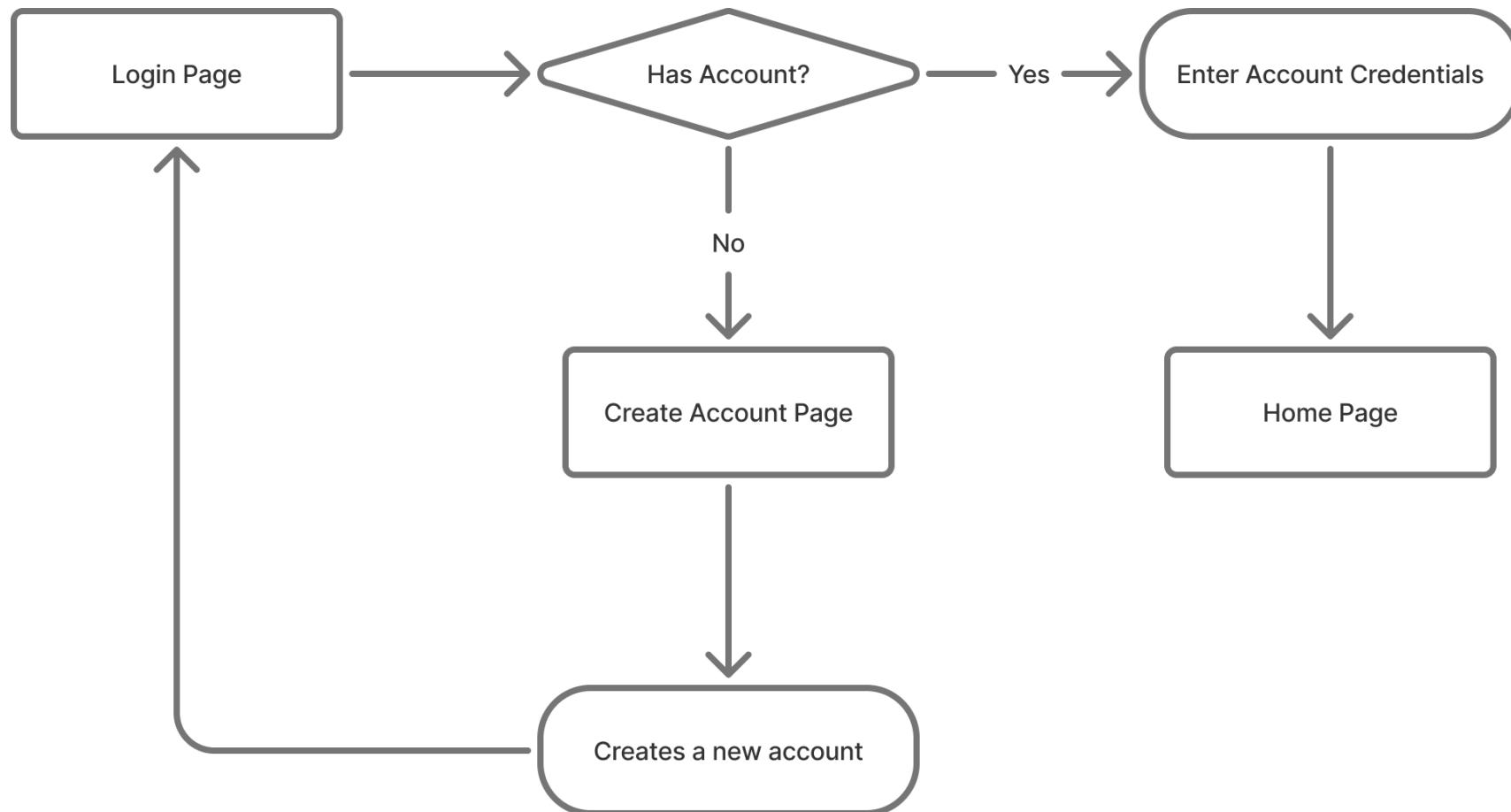
UX – Add Car



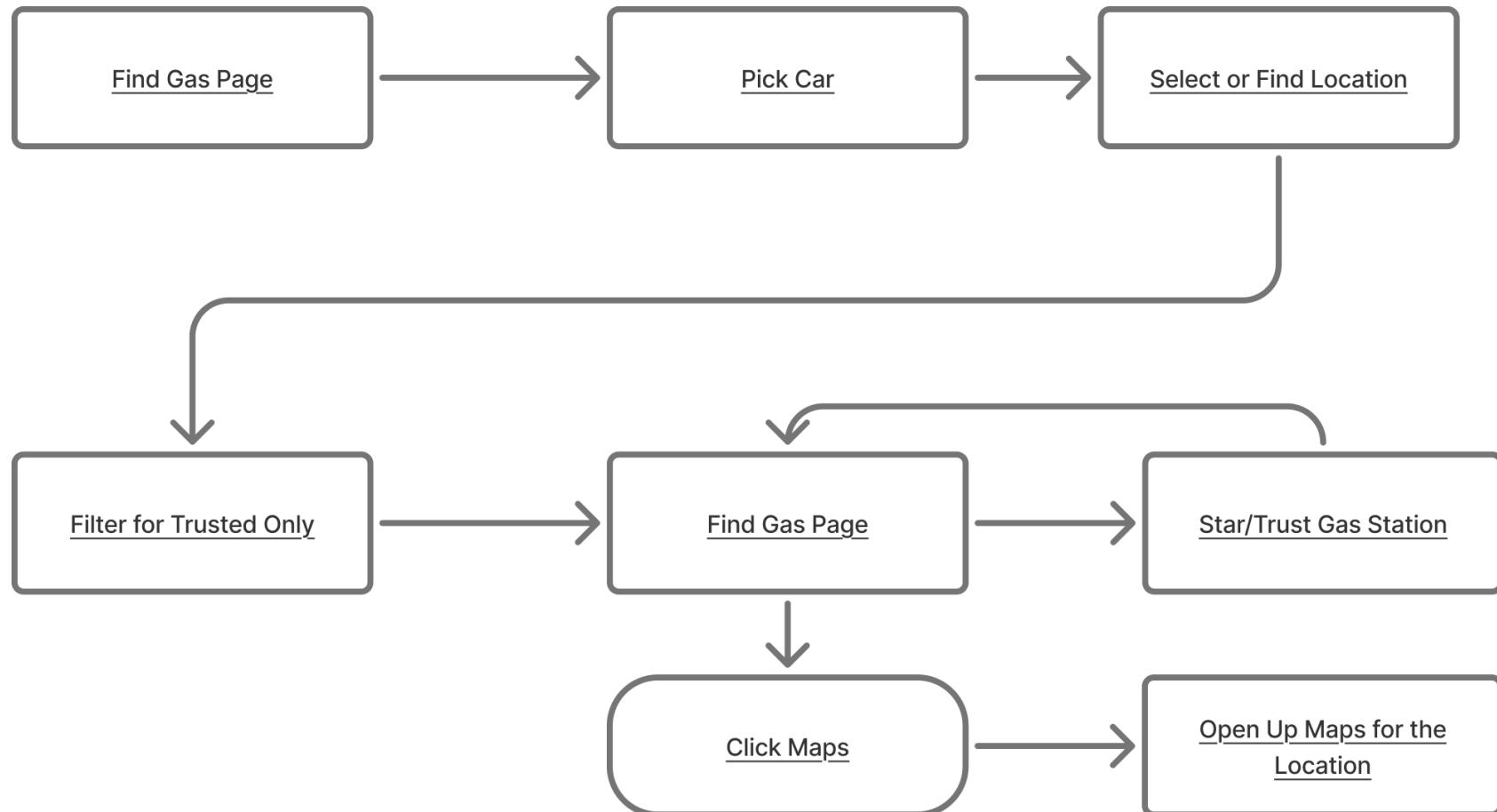
UX – Add Maintenance



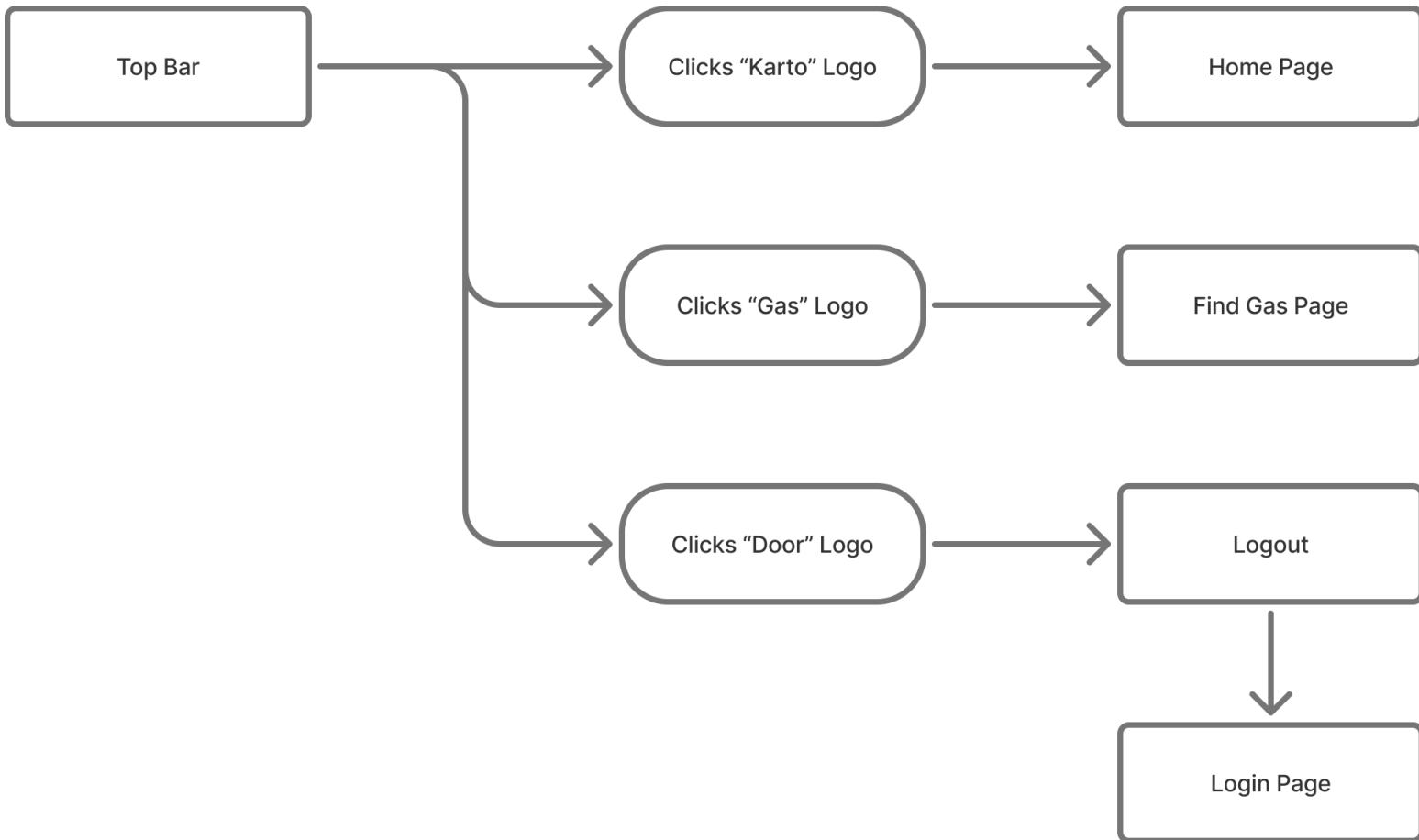
UX – Create Account



UX – Find Gas



UX – Navigation Bar



API Endpoints

Maintenance

- GET - all maintenances
- GET - all maintenances by car
- GET - maintenance by Id
- GET - all maintenance types
- GET - maintenance statistics by car
- POST - maintenance
- PUT – maintenance
- DELETE - maintenance

Car

- GET - all cars
- GET - all cars by owner email
- GET - all cars by vin
- POST - Create a new car
- PUT - Update car details

API Endpoints

Gas Type

- GET - all gas types
- GET - gas type by id
- GET - gas type by name
- POST - create new gas type
- PUT - Update gas name

User

- GET - all users
- GET - users by id
- GET - users by username
- POST - create new users
- POST - login with email and password
- PUT - update users

API Endpoints

Gas Station

- GET - all gas stations
- GET - gas station by id
- GET - gas station by name
- GET - gas station by trusted
- POST - create new gas station
- PUT - update gas station

Document: <https://github.com/WSU-kduncan/cs4900-api-karto/blob/main/API%20Definitions.md>

Live Demonstration

- Hopefully, nothing goes wrong 😊 🙏.
- Can join the website with this URL if you are on WSU-Secure.
 - <http://10.17.140.246:4200>

Improvements

- Better UI
- Better Error Handling
- Authorization
- Update Gas Prices Automatically
- Unit and Integration Tests

Questions?