Purpose and general description

The purpose of this application is to help people plan and enjoy road trips where they have to get from point A to point B as quickly as possible, but also want to experience fun, quick, historical stops along the way.

The priority is a direct route --- users should not be routed to significantly slower routes just to hit a fun stop. Also it's critical that there are sufficient food, fuel and sleep stops along the way. Once those requirements are fulfilled, the best fun stops should be selected.

Ideally food, fuel and fun stops are close enough together that they can be considered a single stop. All stops should be verified to be "open" at the time of arrival if that information is available.

A few terms we'll use in the specification:

- A "trip" is a single route between two points, together with all of the input parameters required.
- A "fun stop" is a stop at a point of interest.
- A "food stop" is a stop to eat.
- A "fuel stop" is a stop to charge or fill up with gas.
- A "sleep stop" is a stop at a hotel or similar facility where the driver can sleep.

Technology

The app should be written in React with Javascript and not require a back end service.

The app will be used both to research upcoming trips, and as a companion app while driving, so it should work well on phone and laptop screens.

The app should use the ChatGPT API to compute the road trip as described. If additional services such as Yelp or Google would be helpful please add those as well.

Input

- Route
    - Starting day and time (no default)
    - Starting location (no default)
    - Ending location (no default)
- Vehicle
    - Fuel type (gas/electric, default electric)
    - Comfortable range between fuel stops in miles (default 200 miles). The idea here is to capture when the user will want to recharge/refuel; less than the

full range of the vehicle from full to empty. This is going to be hard to get right especially for EVs because of differences in charger types and charge time curves, so we'll start simple.

- General Preferences
    - Maximum daily drive time (default 10 hours)
    - Preferred time between stops (default 2.5 hours)
- Fun stop preferences
    - Maximum time to divert from the main route to a fun stop (default 10 minutes)
    - Maximum entrance cost of stop in dollars (default $0)
- Sleep stop preferences
    - Maximum budget per night (default $300)
    - Pet friendly (default no)
- Food stop preferences
    - Maximum budget per meal (default $25)
    - Prefer fast food yes/no (default yes)

All "maximum" times can be exceeded by up to 5% if it will significantly improve the trip.

Output

A route description with waypoints, mileage and times. A toggle to view the text description or a version with the route and waypoints on a map. In map view, the user's current location should be shown and updated dynamically.

Each waypoint can be clicked for details, including location and time from previous waypoint. The waypoint can be "shared" as lat/long so it can be sent to proprietary routing systems like Rivian (for now sharing a full route with stops seems difficult to achieve).

For each fun stop, additional links to details on the web, operating hours, relevant spotify podcast or audiobook links, etc. should be available.

The user should be able to "reject" any stop, which will trigger a recomputation of the trip excluding that stop from consideration.

A trip can be "shared" as a single URL that packages up all parameters. Clicking that link will open the app up with those parameters pre-selected. Note that opening the link may cause some different stops to be selected and that is ok for this version.