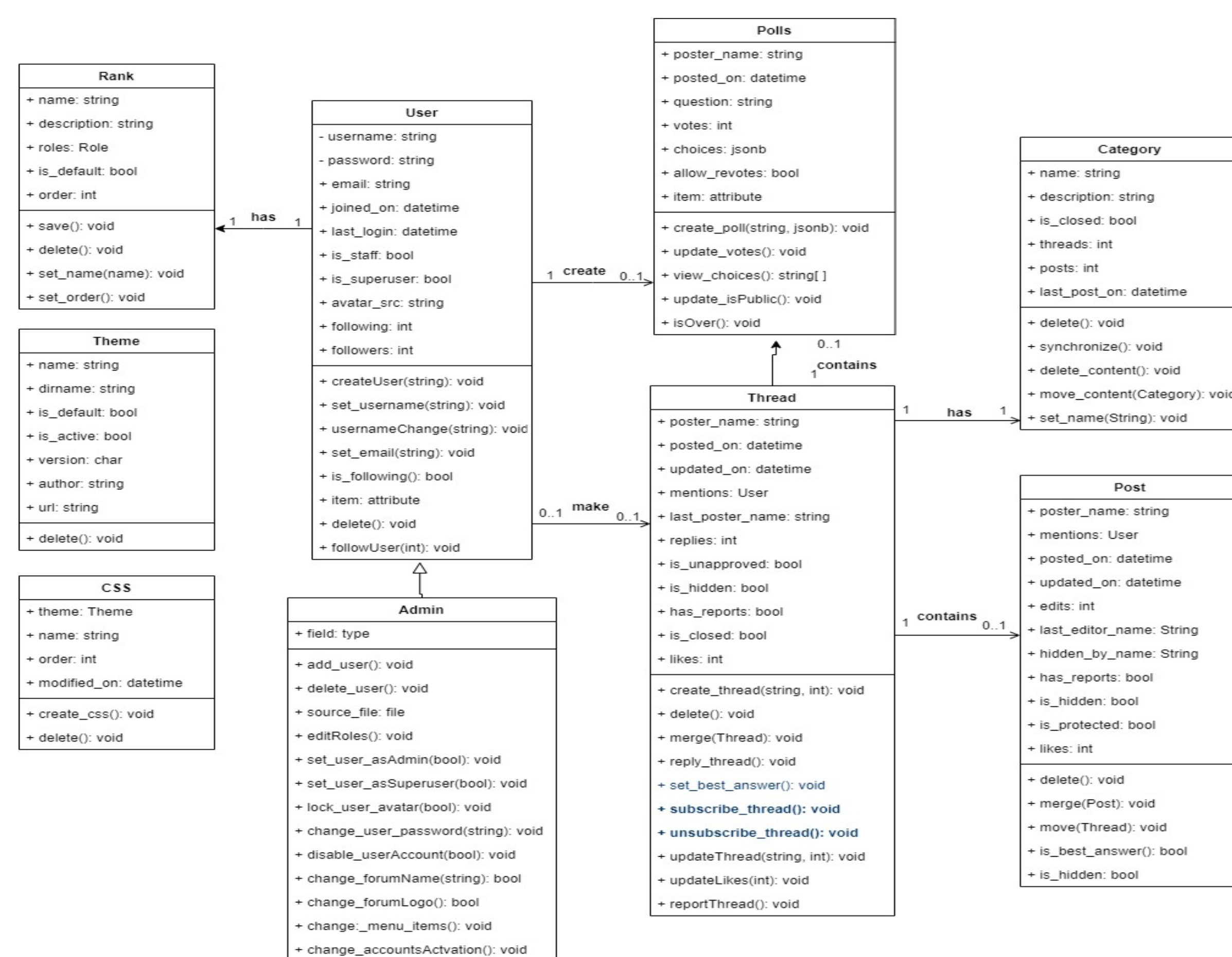


Problem:

It is difficult for any individual person to gauge how much carbon they personally emit into the atmosphere every year. We wanted to build a tool for users that allows them to easily acquire such an estimate.

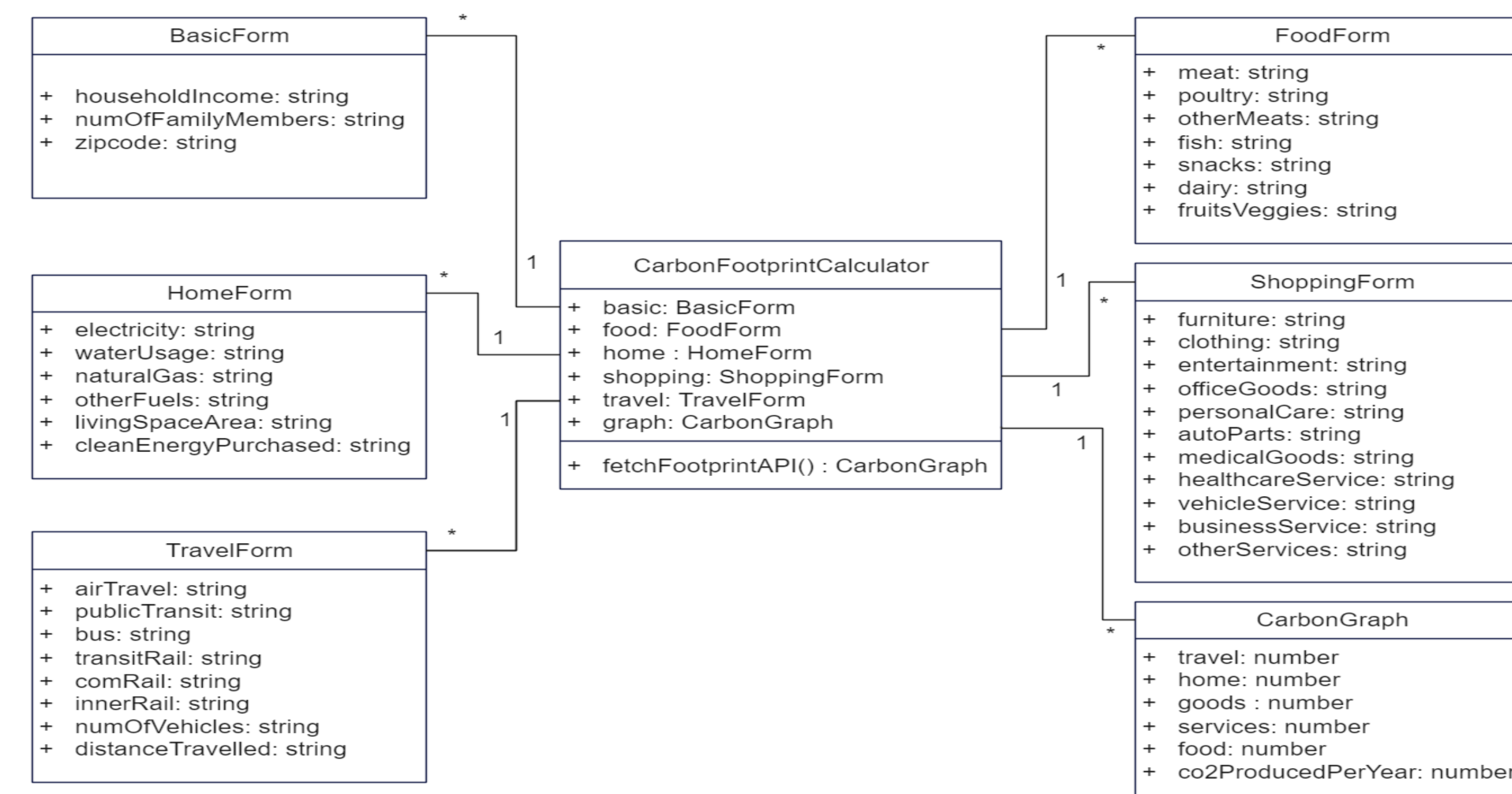
Database System Design:



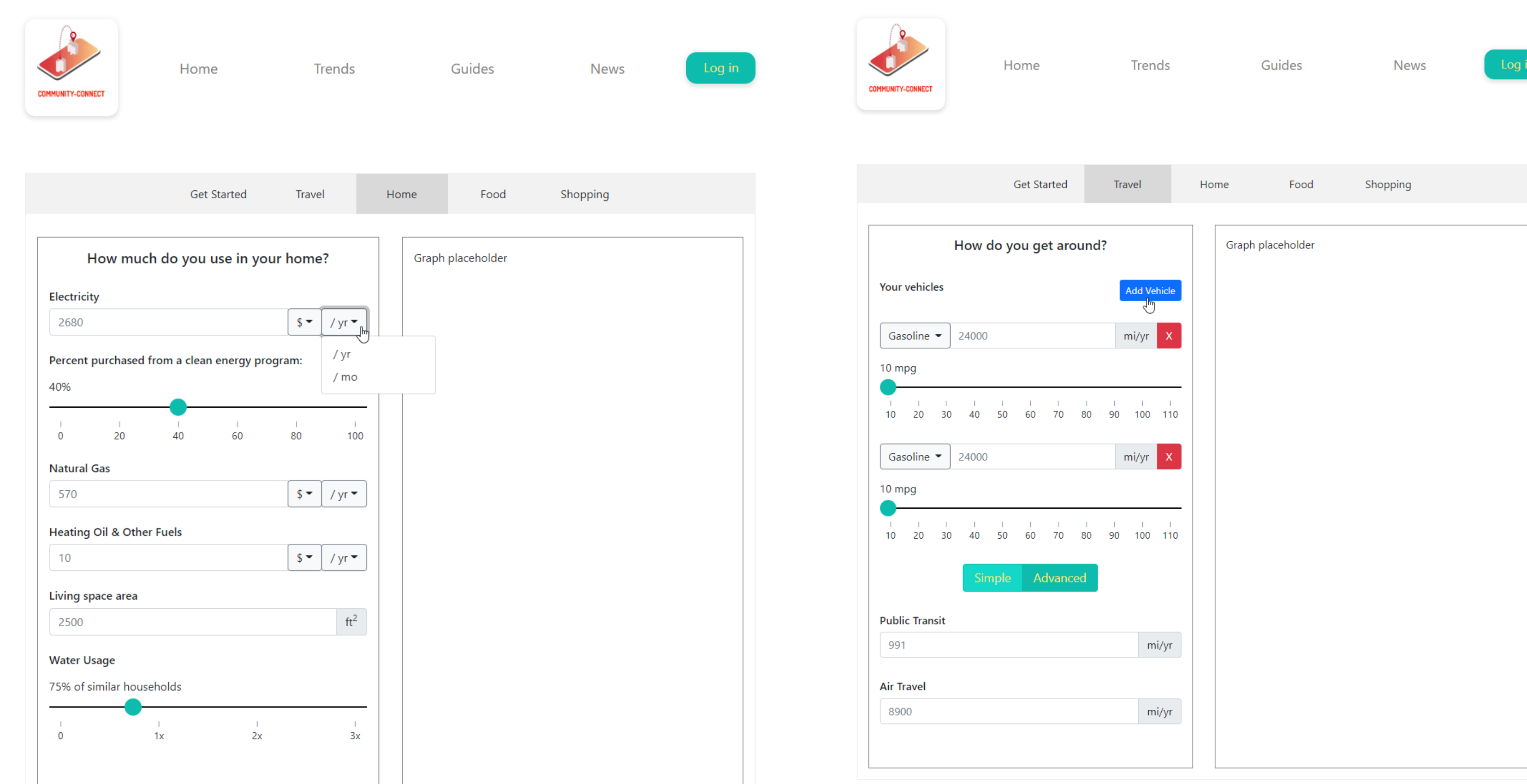
Current System:

The current front-end system has been rebuilt with the NextJS framework so that we can utilize built-in tools that the previous system lacked. These additional tools will make future development easier and provides modern functionality that will make the user experience significantly better, such as server-side rendering. The setup process for the project was also streamlined to enable developers to get their projects up and running as quickly as possible. The previous implementation in the old system led to many errors and inconsistencies across different OS platforms.

Object Diagram:



Images:



Verification:

The built-in Chrome Developer Tools were used to test and verify that the user input data was correctly implemented, as well as to make sure that the design of the calculator was consistent and clear. The Firefox Developer Tools was also used to verify that the components functioned and were styled properly across different browser platforms.

Requirements:

- Web-based
- No user account necessary
- Users can get as detailed as they want to acquire a more accurate estimate
- Users can fill out a simplified form to quickly acquire a broader estimate
- Provide a simple, visual graph that shows the user's average CO₂ emissions per year

Contributions/Implementation:

- Chart.js will be used to graph the user's yearly carbon emissions
- Completed the design for all the different user forms for the calculator
- ReactStrap was used for grouped textboxes, buttons, and dropdown menus
- Custom CSS was used for the sliders

Summary:

The Carbon Footprint Calculator was created so users can get an estimate of how much they carbon they emit every year based on their lifestyle. With this tool, they can now quickly acquire a general estimate of how much they pollute so they can adjust their lifestyles accordingly.



Acknowledgement

The material presented in this poster is based upon the work supported by Shahin Vassigh. We thank our mentors Marcus Muñoz for assistance, cooperation and mentorship that we received throughout this process.