

# Green Graphs by Team Bagel Pizza

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Our website's objective is to display climate change through graphs demonstrating the changes in temperature from 1901 to 2000, as well as CO2 emissions from fossil fuels globally. To use our site, the homepage will have three buttons labeled "Global Temperature Anomaly", "U.S. Average Temperature Anomaly", and "CO2 Emissions". When each button is clicked, the user will be redirected to a page that has graphs displaying the data. The graphs are interactive, so sliders can be used to move through time. An additional button labeled "Compare" or something along those lines will show a graph comparing temperature anomalies and CO2 emissions over time.

## Roles:

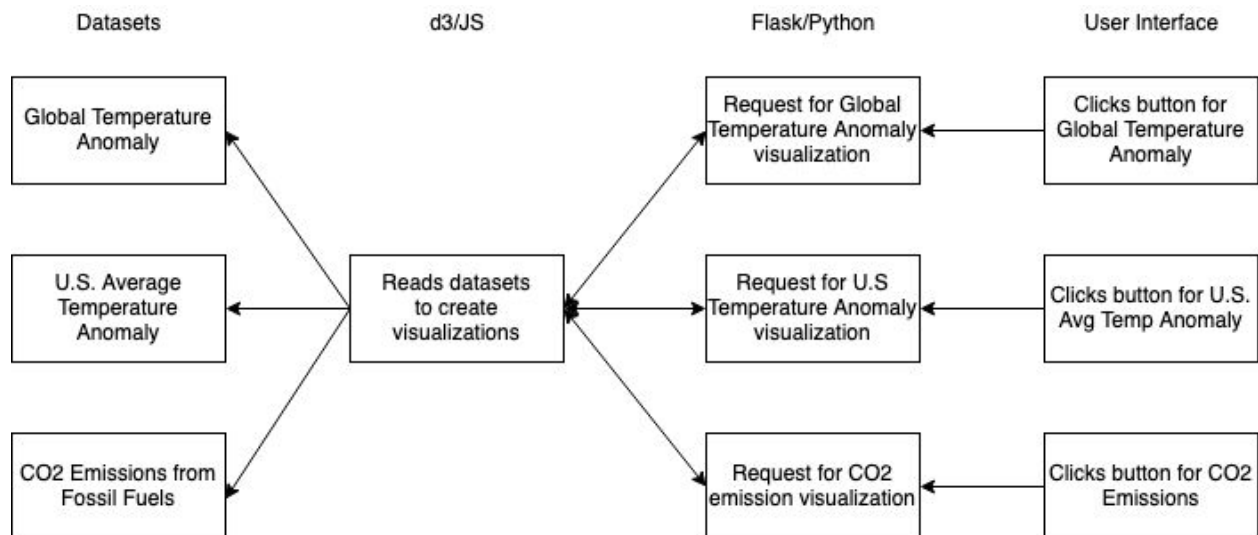
Alice: Front-end, Bootstrap, JS/D3

Leia: Python, Database/CSV

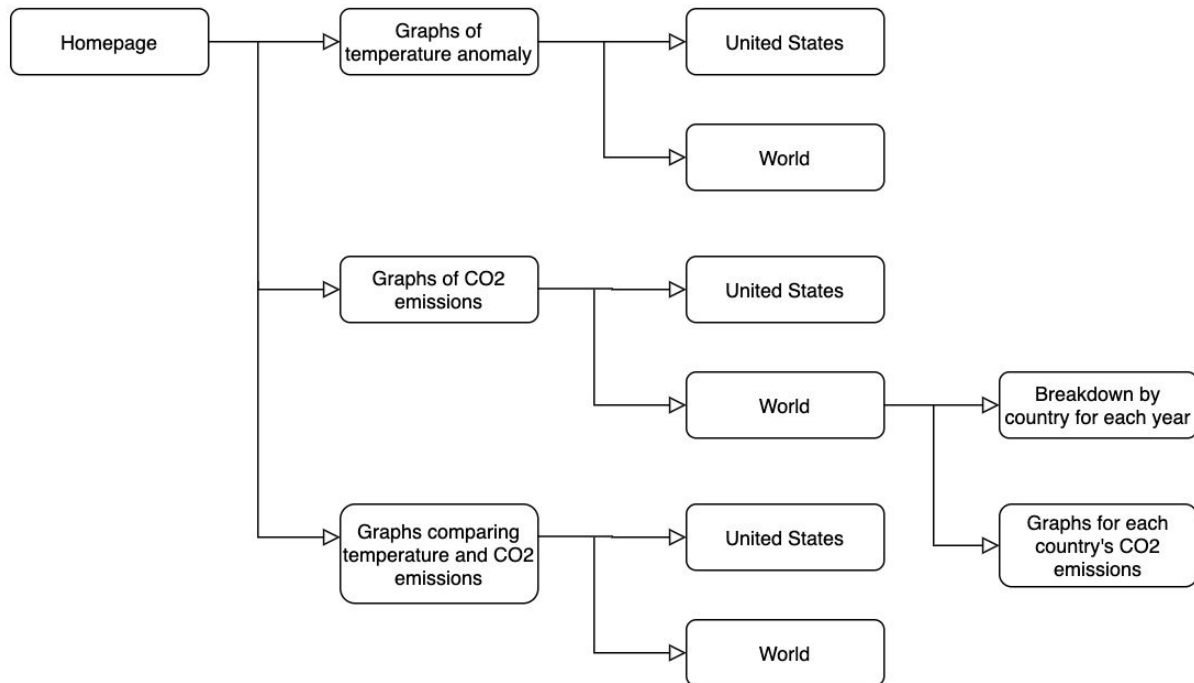
Pratham: JS/D3

Hilary: Project Manager (prime minister), Flask

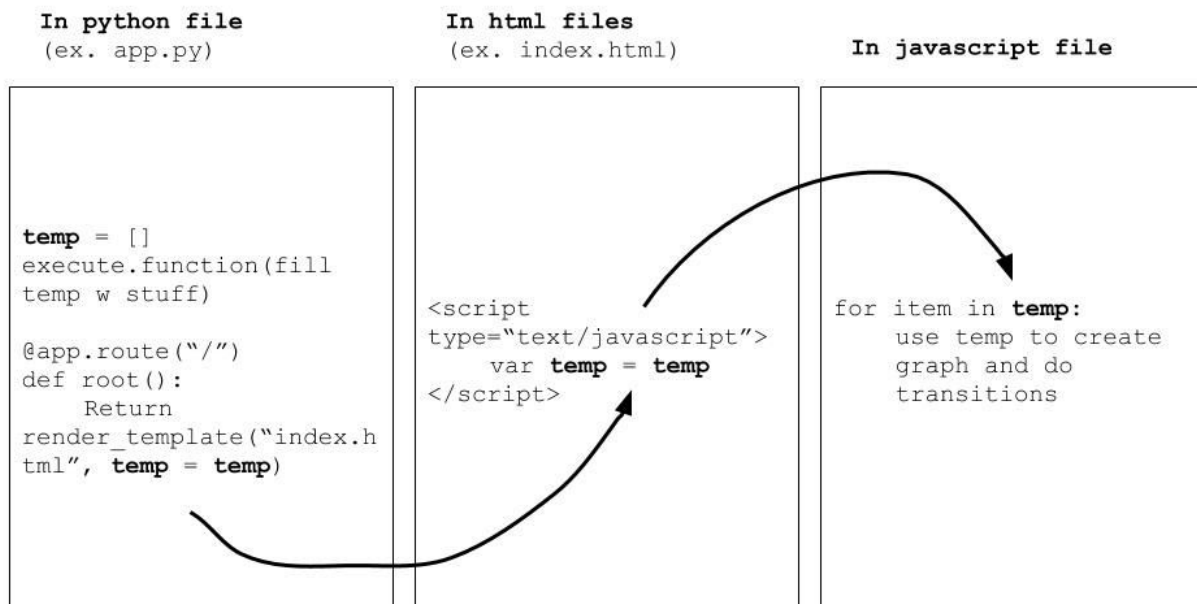
## Component Map



## Site Map



## Breakdown of Data Transfer between Front & Back End



- The app.py file will read and organize the csv data and represent the data as variables.
- When executing the “render\_template” function, the variables on the front-end will equate to the variables established in app.py

- Ex. `return render_template( "index.html", temp = temperature... )`
- For the d3 graph to display on the front-end, javascript is necessary
  - In the html file, a variable can be established for javascript by referencing to the variable obtained from app.py
  - Ex. `<script type="type/javascript">`  
     `var temp = {{temp}}`  
     `</script>`

## Data Layout

[Global Temperature Anomaly](#) : JSON

[U.S Average Temperature Anomaly](#) : JSON

[CO2 Emissions from Fossil Fuels since 1751, By Nation](#) : CSV

These datasets will be saved as files and built-in d3 CSV functions will read from these datasets to turn them into graphs/other data visualizations.

## Front-end Framework

Bootstrap

- Because we are familiar with bootstrap, we decided it would be the best option for us.

The user can choose if they want to see bar graphs or if they want to see plot graphs.

Files:

- base.html
  - Will serve as a template for the rest of the pages on the site
- home.html
  - Home page for the site
  - Search bar (potentially)
  - Buttons that redirect to pages corresponding to the datasets
- temp.html
  - Will have graphs of global temperature anomaly, U.S. temperature anomaly, and comparison graphs
- carbon.html
  - Will have graphs of CO2 emissions globally over the years
  - When the bars are clicked on, a breakdown of CO2 emissions by country will pop up

- (Extra) The user will be able to search for and view a graph of each country's CO2 emissions over time
- alldata.html
  - Will have comparison graphs of both sets of data

## **Backend Framework**

- app.py
  - Contain flask to pull html files
- data.py
  - Will read and organize csv files into easily manageable data as lists or dictionaries if needed
- data.js
  - Takes data and uses D3 to create various graphs