

**Team peterPickledPeppers**

**SOFTDEV PD 2/9**

**P4 : LET THE DATA SPEAK**

## **PROJECT WILDFIRE**

### Project Objective:

Displaying data about Wildfires/Global Temperatures/Other Climate-Related Measures to consider the correlations between increasing temperatures and the increasing incidence of natural disasters. Furthermore, we are looking at data about Oil/ Natural Gas Production and whether we can find any relationship between the locations of these places and the amount of wildfires/pollution levels in that area.

### Roles:

Alex O - Project Manager -- Ensure that deadlines are met and that everybody is doing their job, work on front end development with Bootstrap

Connor Oh / Biraj Chowdhury - Work on data visualisation with D3 and make decisions on how best to display data, how to approach looking for correlations between our different datasets and connect the information they provide. Think about how to present our findings if any and how reliable our methodology was.

Manfred Tan - In charge of back-end, working with MongoDB to store all the data on in our app and optimally create a database structure that makes retrieval and organization of data ideal for the d3 manipulation.

### Timeline:

April 28th - Finish Design Doc.

April 29th - Revise Design Docs/ Think about how we want to try and connect our datasets/work on choosing exactly how to display our data.

...

Begin Coding

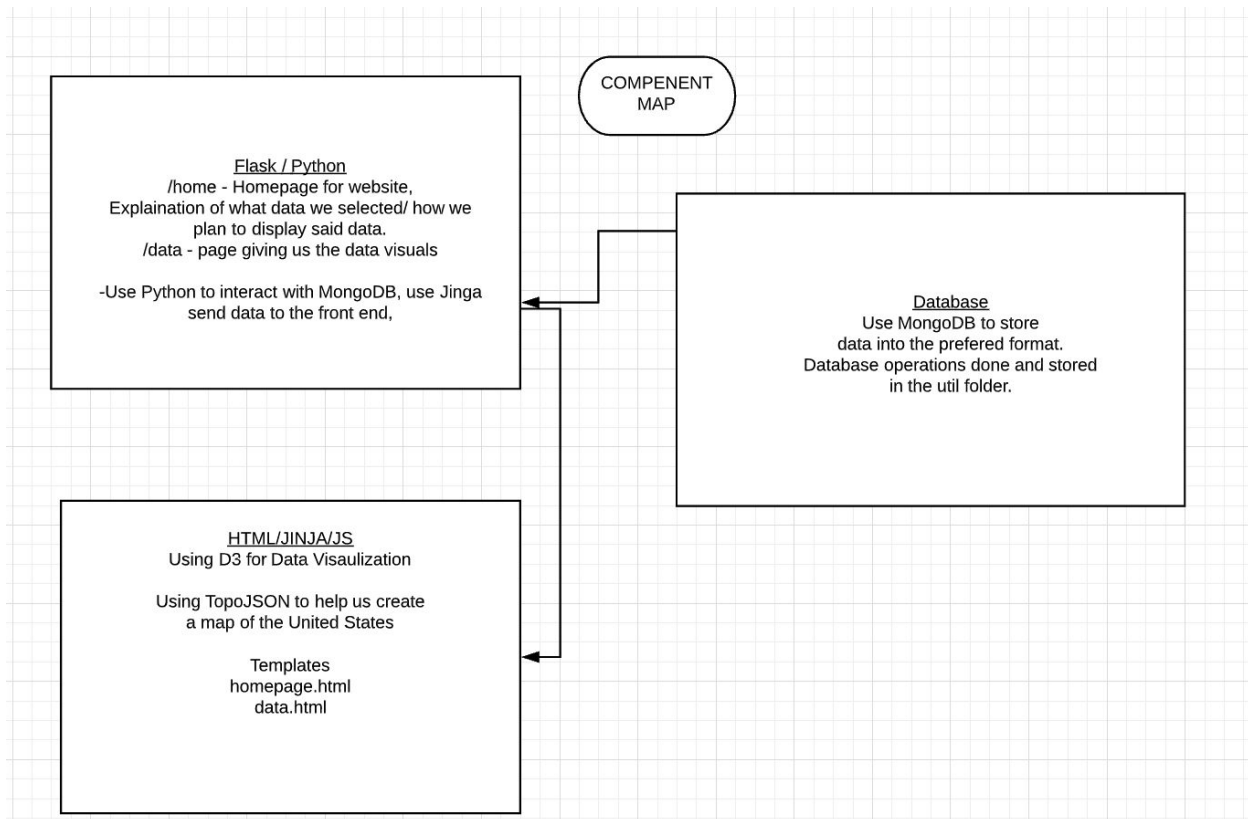
....

May 1st - Have basic framework of web app done, limited data visualisation, Alex and Manfred working on aesthetics and Front End, while Connor and Biraj continue to work on d3.

May 3-4th - Depending on the progress we've made, look into Continuous Integration and TravisCI and see whether it would be a good idea to incorporate it into our project.

May 10th - Completed Project ready to be submitted, last second tests to ensure there are no bugs, prepare for presentation.

### Component Map



- Use Bootstrap as our front end framework
  - Reason: Everyone is most comfortable with bootstrap
- Use TopoJSON for map data
  - If we chose to display our data in a format that requires a map
- Use Sqlite3 to store our data in our preferred format
  - Will mostly be data from our csv files that we find necessary so the process from backend to front is streamlined
  - It will be dynamic because it will change based on what year/month is chosen
  - This will then be sent in an array straight to the html file
- HTML will be basic as most of the magic happens in the JS file and css
  - Jinja will be used to transfer data to JS file
- JS file will use d3 to represent data relating back to TopoJSON or a pie graph
- What is displayed will be determined by the three option buttons that show different data
  - Wildfires, Avg. Temp., and Factories

- This will work with the d3
- Then we have two other option input which will allow user to select month and year
  - This will work with app.py so it can change the MongoDB data and resend data
- Then we have switch page buttons that will work with app.py to change app.routes

Sample Databases:

State	# Of Wildfires	Average Temperature	# of Factories
Alabama	1	79	5
Alaska	0	35	0
...	...	...	...

- Side Note: the USA map will pull directly from this data table
  - The Pie Chart needs some math conversions to get:
    - percentage of states with wildfires during the selected month and year
    - percentage of those states with wildfires that had an average temperature above 80
    - percentage of those states with wildfires that had factories using combustion energy

## Site Map

