2) I brainstormed the changes and updates that I can do for the 5 original visualisations as well as the 3 extensions, as well as sketching the graphic designs for each individual chart. For some charts, I have also drawn a code diagram that allows me to visualise the relationships between different variables and functions within the chart's constructor function. I have also updated the 'site map' that Coursera previously provided with the new extensions as well as the relationships between the different files to help with my understanding with the relationships.

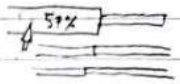
Stage 1 For Midterms

Date No

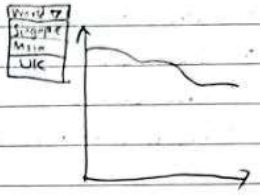
Coursera

Visualisations

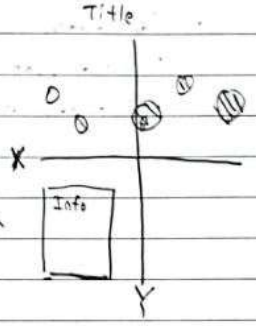
- Stacked Bar Chart (Tech Diversity Gender)
  - → Improvements:
    - Display exact % on mouseover
    - Make it 3D, pop up upon mouseover.
    - Include more companies + scrollable?



- Line Graph (Pay Gap: 1997 - 2017)
  - → Improvements:
    - Make the graph curved.
    - More types of dataset + selection. (Maybe different countries?)



- Scatter Plot (Pay Gap by Job: 2017)
  - → Improvements:
    - Label axes.
    - Colour ellipses based on pay position.
    - Pop up upon mouseover + display more information

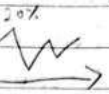


- Pie Chart (Tech Diversity)
  - → Improvements:
    - ~~Pop up upon mouseover~~ + display %
    - 3D

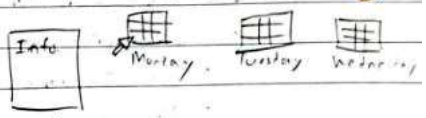
FALCON

Date No.

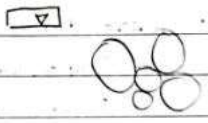
- Adjustable line graph + Temperature (Climate change)
  - -> Improvements
    - o Display average increase ✓ (Changes depending on how zoomed in)



- Waffle charts (UK-Food Days)
  - -> Surrey -> Result Generator (code it out) ✓
  - -> Improvements.
    - o Label each day ✓
    - • Display information at side when mouseover day.

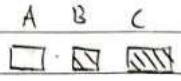


- Dynamic Presentation (UK Food. Type).
  - -> Improvements.
    - o Vertical year selection / Dropdown menu. X (Slider).
    - o Text stays within the the ellipse. ✓ (Wrap Text)



- o Complex waffle chart X (pivot)
  - -> Multiple columns of data.
  - -> Temperature based on date.

1111, 2222, 3333



Stage 2 For Finals.

Date No

Improvements to be made.

- Stacked Bar Chart
  - → Display exact % and pop up upon mouseover
  - → Include a drop down selection.

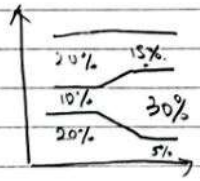
- Live Graph
  - → Multiple lines of data for different countries.

- Scatter plot
  - → Pop up information box upon mouseover.

- Pie Chart
  - → Pop up upon mouseover

- Waffle chart
  - → Display information at side when mouseover days.

- Stacked area chart.
  - → Multiple ~~aggregate~~ proportions.
  - → Compare 2 time period

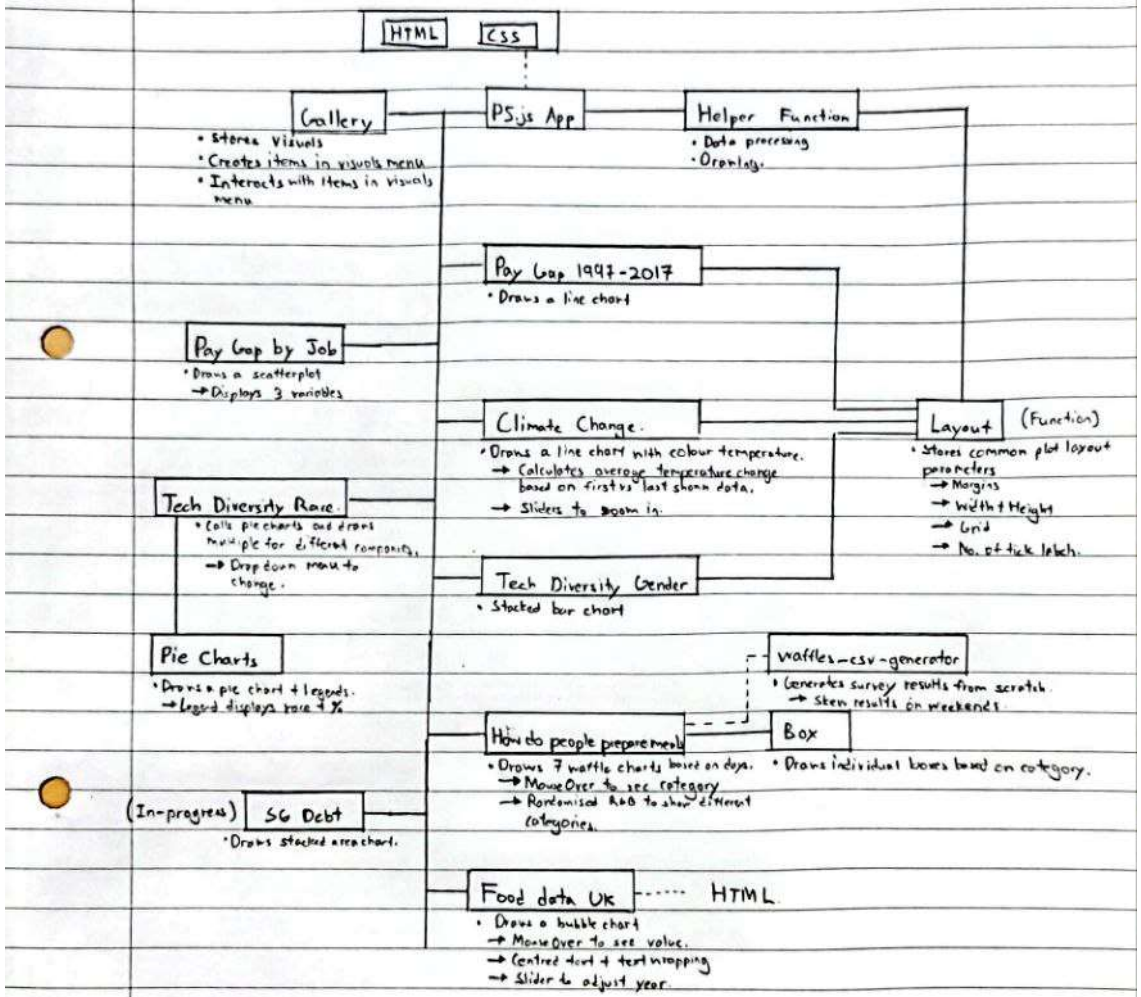


FALCON

Current site map

Date No

PS.JS PS.Dom



FALCON

Date No.

Gallery.js

Gallery

Public:

- selectedVisual
- addVisual()
  - Stores visuals
  - Creates DOM elements.
  - Add events handlers.
  - Calls preload

Private:

- visuals = [] ← Array that stores visuals
- selectVisual() ← Find visuals in visuals array using ID
- findVisIndex() ← Find visual position in an array given ID string
- menuItem.mouseOut()
  .mouseOver()
  .mouseClicked()
  } Event handlers

Called by

Visuals.

Public:

- Name, ID } Strings
- Data ← Data is stored
- Loaded ← Used by Draw
- Preload
- Setup
- Destroy
- Draw ← PS.App.

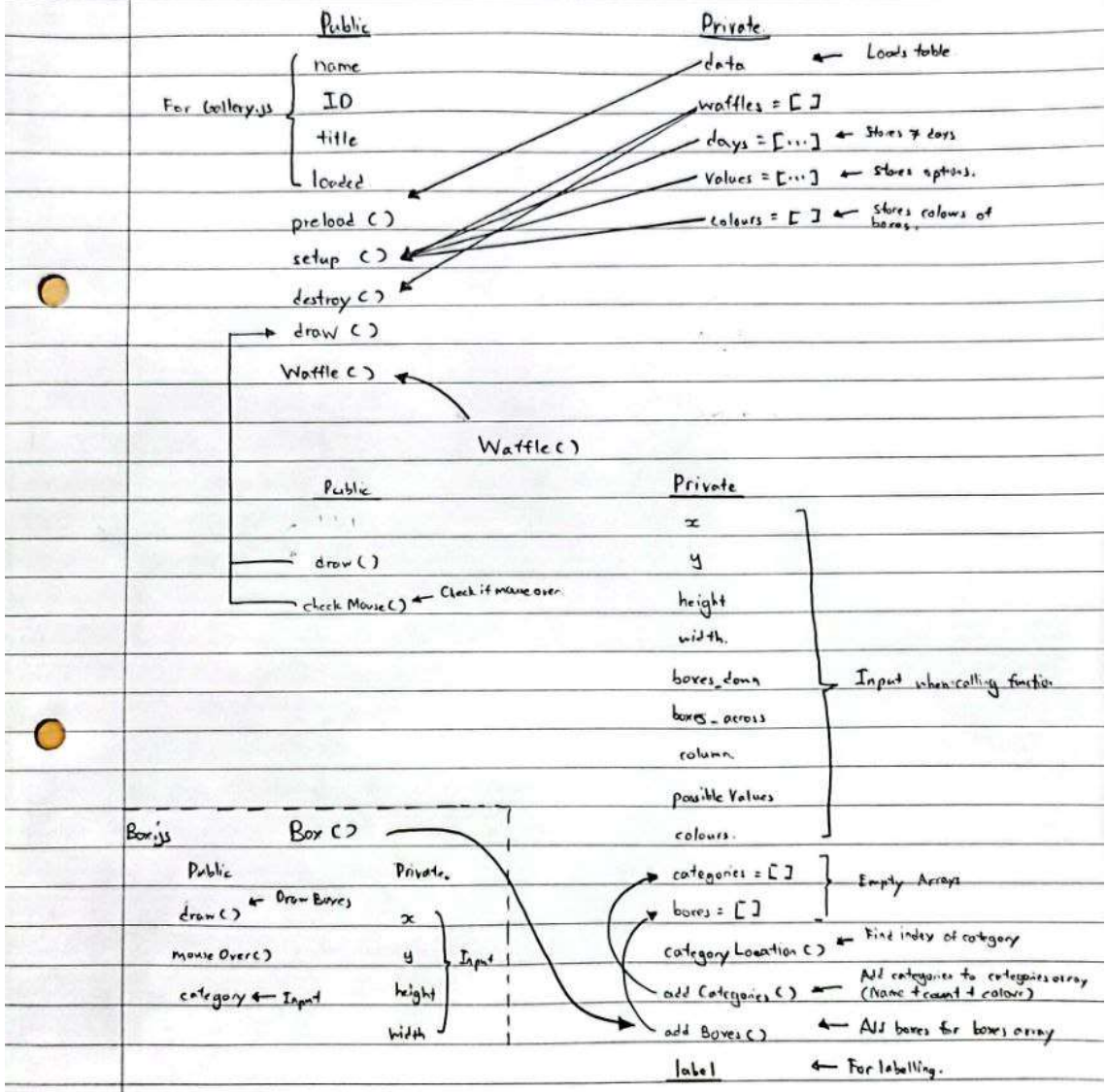
Private:

FALCON

Date No

how-do-people-prepare-meals.js (Waffle Chart)

Waffles



FALCON

Date No.

food-data-UK.js.

FoodDataUK ()

Public

- name, ID, Title } Gallery
- loaded
- preload ()
- setup ()
- destroy ()
- draw ()
- Bubble ()
- Updates current Selected year → changeYear ()

Private

- data ← To store Table data
- bubbles = [] ← Store bubble objects.
- maxAmt ← Map data values to size
- years = [] ← Store years included.
- ← creates sliders.
- yearSlider ← Interacts with HTML.
- minYear, maxYear } Set range of slider.

Bubble ()

Bubble ()

Public

- size, targetSize, pos, direction, name, units, color, data, currentData } Variables.
- draw ()
- Update bubble position → update ()
- Set current data value → setData ()
- Used to display values. → mouseOver ()
- Calculate number of lines needed → calcLines () } Wrap text
- wrapText ()

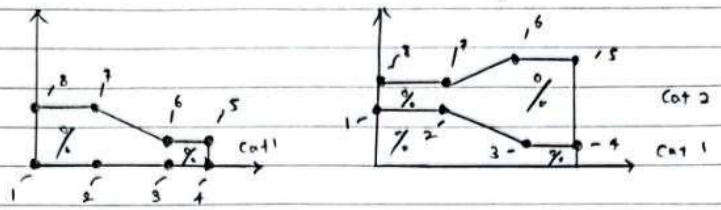
Private

FALCON

Date

sg-dbl

Dist between 1&8 dependent on %
Dist between 5&4 dependent on %



Category 1 Category 2

for (i = length, i--) cat 1 8 = cat 2 1 for (i = 0, i++)

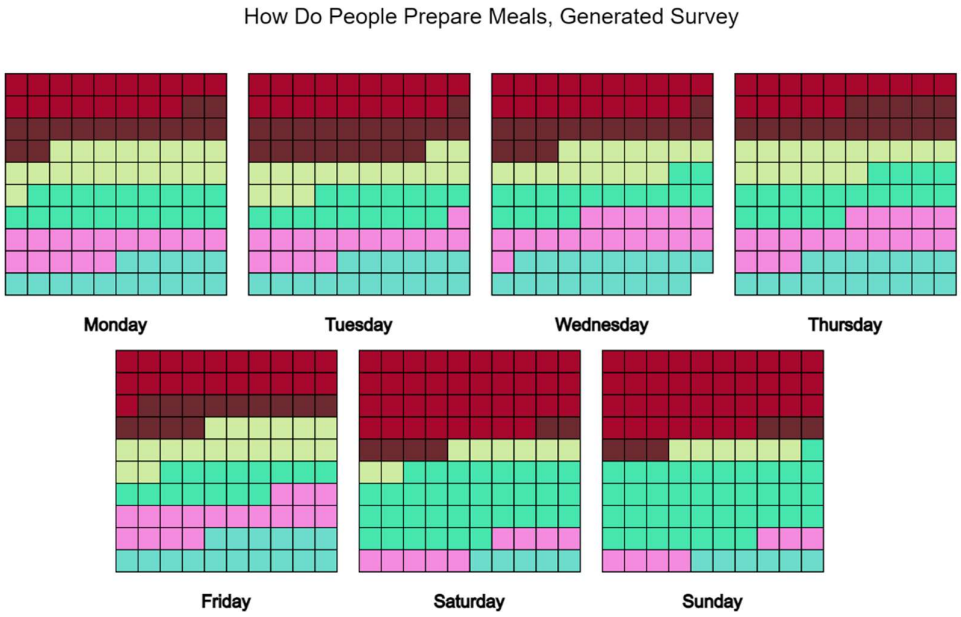
cat 1 7 = cat 2 2

cat 1 6 = cat 2 3

cat 1 5 = cat 2 4

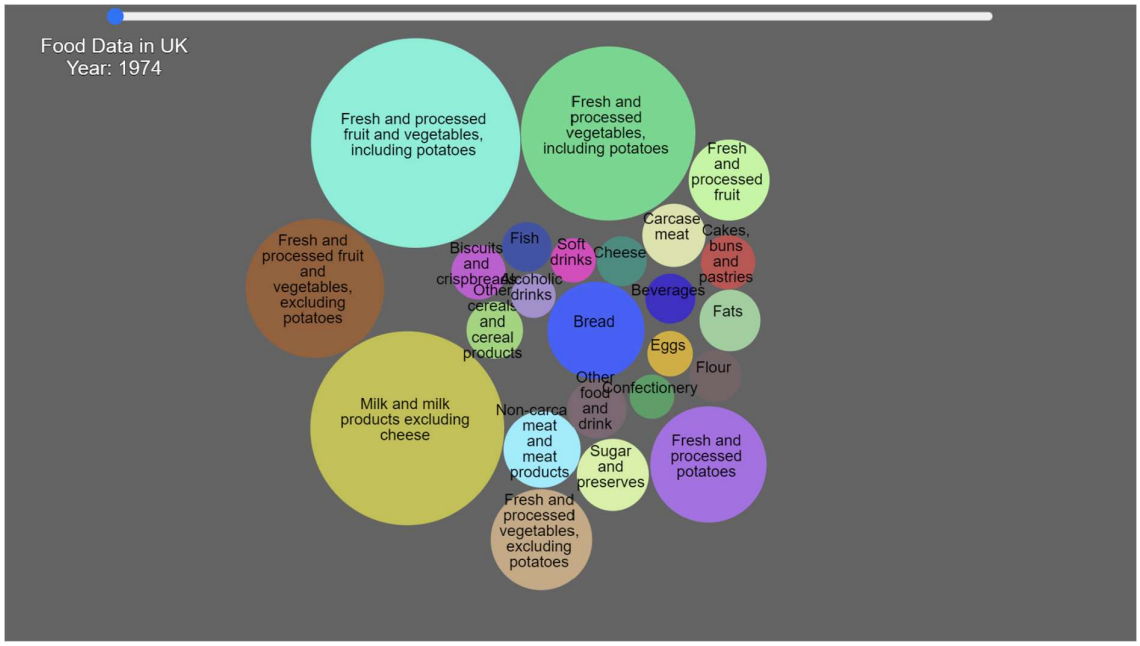
Repeat for all categories ↑

I will approximate the total number of codes written to be 60% of the progress for the entire ITP2 project, with majority of the difficult extensions (Waffles and Bubbles) being mostly completed. For the waffle chart, I have updated it with the random colour generator that will update with each iteration of the categories, as well as coding out a CSV file generator to generate the survey results required for the waffle chart, where skewed data is generated for the weekends.

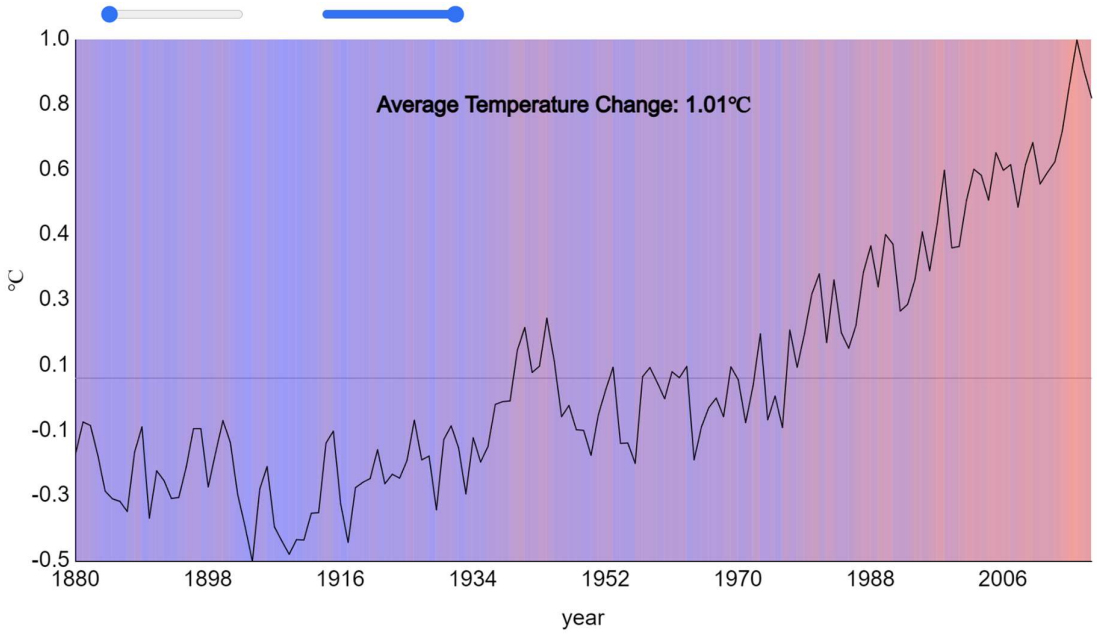


I plan to incorporate a pop up information box for the Waffle chart, which will contain the rest of the information present in the CSV file.

For the Bubble chart, I have incorporated a text wrapping to the bubble, such that the text stays within the ellipse as well as adapting to any changes in size to the ellipses. I have also incorporated a slider in the place of the year-selection buttons to make the visualisation more organised and intuitive, Lastly, I have incorporated a mouseOver function to display the values of each bubble along with their units.



For the provided Line graph with colour temperature, I have incorporated an “average temperature change” calculation to the chart that adjusts according to years being displayed, and will automatically update when the slider is shifted.



Despite starting on the stacked area chart, it is currently incomplete and does not work, I plan to finish the Stacked area chart, where a comparison between the percentages of different categories between 2 different time periods will occur.