Team 3
Interview #2 Notes

Scientist/Client Names:
Sachin Fernandes

Meeting Date and Time:
1/25/2023, 4pm EST (1pm PST)

Meeting Location:
https://michigantech.zoom.us/j/89849313534

Team interview roles:
Team Leader: Patrick Seidel
Note takers: Zayne Pepin

Interview questions:

1. Discuss App Description

   Need to determine how to provide feedback to users. How to pick out patterns from the data. Therefore this section should be more "open ended" or generalized as we do not know exactly how the app will function in this way.

   Users should be generalized to everyone who wants to gain more insight into energy consumption rather than focusing on those who don't already have smart devices etc. Though it is more useful to those who do not already have smart homes or similar devices.

2. Identify stakeholders

   a. Primary, secondary, tertiary

      Primary - People using PG&E. Engineering stakeholders.

      Secondary - PG&E's consolidators.

      Tertiary - The engine that does the aggregation of data and expands the usage to more people.

3. Major Workflow (step by step user interaction)

    Depending on where we decide to host the application, one of the things we could do is put it in front of an auth provider so a user doesn't need to sign into their account. Sachin's account is what we will be talking to so we can abstract the user authorization. The interesting piece we want to focus on is the representation of data rather than the functionality for a user to sign in to the application.

4. Data Types

    From a data visualization perspective we're just looking at time series structured JSON. Every data point has a time value which we use to plot the data. We need some credentials that we will send in our API request but they cannot be the credentials we use to access authorization as we cannot put our secret credentials in the actual code.

5. Views (pages)

    Cloudflare analytics example:
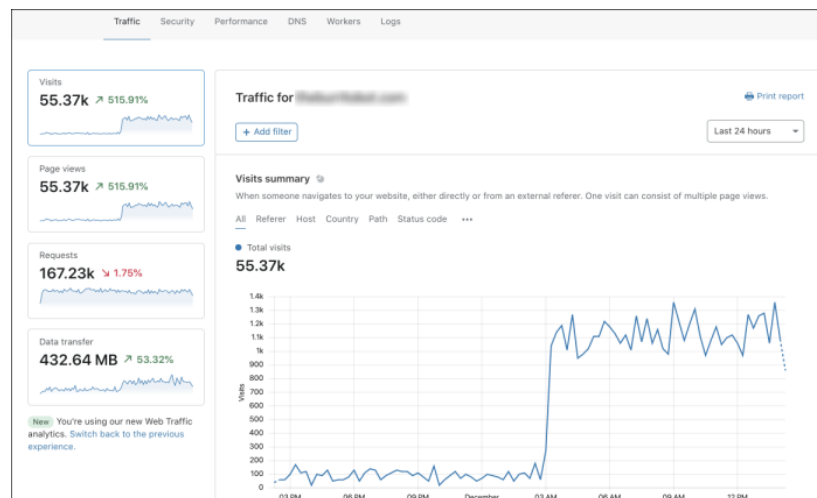
    We should keep everything within one page similar to the above example.

    Stretch goals:

Overlaying graphs for comparing data. (may run into issues with how long data about a person can be held)

https://www.wren.co may have an API that can drive emotional feedback.

Gamifying the application.

6. Anticipated challenges

Plotting graphs is harder than it seems.

Inconsistent time ranges can be difficult to deal with.

How to handle days with missing data.

How to handle edge cases like NULL's or 0's.

7. Ask to see/explain API and the API calls we will be making and their return types

```
{
  "startDate": "2023-01-10",
  "endDate": "2023-02-08",
  "reads": [
    {
      "startTime": "2023-01-10T00:00:00.000-08:00",
      "endTime": "2023-01-11T00:00:00.000-08:00",
      "consumption": {
        "value": 8.245,
        "type": "ACTUAL"
      },
      "demand": null,
      "exported": null,
      "grossConsumption": null,
      "grossGeneration": null,
      "imported": null,
      "reactivePower": null,
      "providedCost": null,
      "milesDriven": 13
    },
    {
      "startTime": "2023-01-11T00:00:00.000-08:00",
      "endTime": "2023-01-12T00:00:00.000-08:00",
      "consumption": {
        "value": 16.262,
        "type": "ACTUAL"
```

```json
        },
        "demand": null,
        "exported": null,
        "grossConsumption": null,
        "grossGeneration": null,
        "imported": null,
        "reactivePower": null,
        "providedCost": null,
        "milesDriven": 27
      },
    "2023-01-12T00:00:00.000-08:00",

    {
      "0": {
        "elecRead": {
          "startTime": "2023-01-11T00:00:00.000-08:00",
          "endTime": "2023-01-12T00:00:00.000-08:00",
          "value": 16.262,
          "readType": "ACTUAL",
          "providedCost": null,
          "readComponents": null,
          "isPeakPeriod": null,
          "rebateAmount": null,
          "milesDriven": 27
        },
        "gasRead": {
          "startTime": "2023-01-11T00:00:00.000-08:00",
          "endTime": "2023-01-12T00:00:00.000-08:00",
          "value": 1.061064,
          "readType": "ACTUAL",
          "providedCost": null,
          "readComponents": null,
          "isPeakPeriod": null,
          "rebateAmount": null,
          "milesDriven": 13
        },
        "endTime": "2023-01-12T00:00:00.000-08:00",
        "startTime": "2023-01-11T00:00:00.000-08:00",
        "readType": "ACTUAL",
        "providedCost": null,
        "readComponents": null,
        "isPeakPeriod": null,
        "rebateAmount": null,
        "milesDriven": 40,
        "value": 23.233190662143706
      }
    }
```