Team: CSAST

Analytics to implement in next sprint:

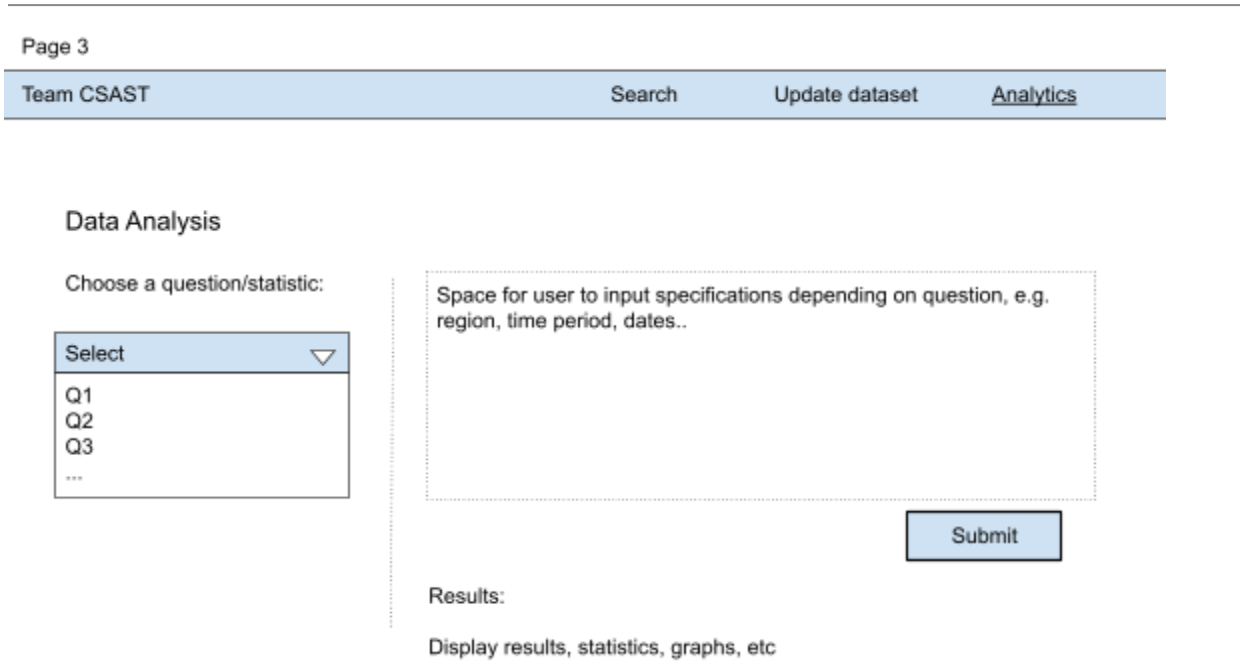
- **Analytic 5:** As a user, I want to be able to see the ratio of recovered cases to confirmed cases for any country I input (effective recovery rate). If no country is inputted, I want to see a ranking of the recovery rates for all countries.

- **Analytic 6:** As a user, I want to be able to see the ranking of each country based on their maximum cases/deaths/recoveries of all time.

- **Analytic 7:** As a user, I want to be able to input a specific country and statistic and get back its maximum cases/deaths/recoveries (whatever statistic) and on which date it peaked, as well as a visual graph.

- **Analytic 8:** As a user, I want to be able to see a table of the cumulative total amount of confirmed cases, deaths, and recoveries for the world on each day

GUI Design:


Page 3
Team CSAST
Search
Update dataset
Analytics
Data Analysis
Choose a question/statistic:
Select
Q1
Q2
Q3
...
Space for user to input specifications depending on question, e.g. region, time period, dates..
Submit
Results:
Display results, statistics, graphs, etc

Test Cases:

- **Analytic 5:** As a user, I want to be able to see the ratio of recovered cases to confirmed cases for any country I input (effective recovery rate). If no country is inputted, I want to see a ranking of the recovery rates for all countries.
    - Test Case: User inputs a specific country or no country.
    - Expectation: If a user inputs a specific country, returns back the recovery rate in % form. Else, table of all the countries' recovery rates ranked.

- **Analytic 6:** As a user, I want to be able to see the ranking of each country based on their maximum cases/deaths/recoveries of all time.
    - Test Case: Input a specific statistic to rank
    - Expectation: Table with all the countries ranked based on their maximum cumulative cases/deaths/recoveries (depending on what user picked).

- **Analytic 7:** As a user, I want to be able to input a specific country and statistic and get back its maximum cases/deaths/recoveries (whatever statistic) and on which date it peaked, as well as a visual graph.
    - Test Case: User inputs specific country
    - Expectation: The user will receive the maximum noncumulative cases/deaths/recoveries on whichever date it occurred, as well as a noncumlulative graph

- **Analytic 8:** As a user, I want to be able to see a table of the cumulative total amount of confirmed cases, deaths, and recoveries for the world on each day
    - Test Case: No input. Just click analytic 8.
    - Expectation: Returns a cumulative table of the world on each day displaying its confirmed cases, deaths, and recoveries.

Completed last sprint:

Front-end

1. Create new analytics page (Sabrina, Alex, Steven)
    - Navbar icon
    - Dropdown menu
        - Display user input based on selection
    - Submit button displays results
2. Create Graphs/visuals for analytics (Sabrina, Alex, Steven)
    - ~~Look into d3.js~~ >> Chart.js instead
    - Analytic 1: output lockdown details, graph/table for confirmed cases/deaths in relation to lockdown period (Sabrina)
    - Analytic 2:output date of vaccine release, confirmed cases/deaths in graph in relation to date of vaccine release (Alex, Sabrina)
    - Analytic 3: Output two graphs. One is the country selected and one is the world graph displayed over time. (Steven, Alex)
    - Analytic 4: Have a graph displaying deaths and confirmed cases, allowing the user to see how deaths trailed the confirmed cases. (Steven)
3. Display info sent by backend (Sabrina, Steven, Alex)

Back-end

1. Research each country in the csv file and store the following information in another csv file with the following headers: sno,country,vaxName,vaxDate (Thomas)
2. Analytic 1 (Thomas)
    - Receive post
    - Search through all countries and find the average data
    - Store in new array
    - Send array data to client in JSON format
3. Analytic 2 (Caleb)
    - Receive post of country user wants
    - Send vax name and date back to client
    - Average for all data before vaccine release in that country and store in array
    - Average for all data after vaccine release in that country and store in array
    - Send array data and average data to client in JSON format
4. Analytic 3 (Thomas)
    - Receive post of two countries user wants
    - Search for all data in those countries and store in array
    - Aggregate along the date
    - Send array data to client in JSON format
5. Analytic 4 (Caleb)
    - Do a search for cases and deaths for a specific country
    - Send back json with cases, deaths, specific dates

To-Do Next Sprint

Front-End

1. Dropdown menu functionality; 4 more cases
    - Wrappers for each case, css styling
2. Analytic 5
    a. 2 cases-- make separate options
        i. Input a country, output specific rate
            1. Display: prompt, text input, submit button
            2. Take in user input, send to backend & receive results through xmlhttpreq, output rate (country name, percentage, recovery rate/time)
        ii. See ranking rate of all countries
            1. Display: prompt 2 (split page?), separate submit button
            2. Take in user input, send to backend & receive results through xmlhttpreq, output rankings (table format)
3. Analytic 6: As a user, I want to be able to see the ranking of each country based on their maximum cases/deaths/recoveries of all time.
    a. Display: prompt, dropdown menu to select statistic (All, cases, deaths, recoveries), submit button
        i. Css/styling to hide/show data based on selection
    b. xmlhttp request to get data from backend
    c. Populate data into 3 tables (wrap each)

4. Analytic 7: As a user, I want to be able to input a specific country and statistic and get back its maximum cases/deaths/recoveries (whatever statistic) and on which date it peaked, as well as a visual graph.
    a. Display: prompt, text input (country), dropdown menu to select statistic, submit button
    b. Xmlhttpreq (send/receive data)
    c. Display data
        i. Peak date
        ii. Graph: Use chart.js to make a graph from data, possibly mark peak date

5. Analytic 8: As a user, I want to be able to see a table of the cumulative total amount of confirmed cases, deaths, and recoveries for the world on each day
    a. Display: prompt, submit button
    b. Xmlhttpreq
    c. Display table

Back-end

6. Analytic 5 (Thomas)
    a. Receive post of country input
    b. Calculate the recovery rate for that specific country (store it in an array) and send it in json format if the country is not empty .
    c. If country is empty, calculate recovery rate for each country (store it in array) and send it in json
7. Analytic 6 (Caleb)
    a. Receive post of input statistic to rank
    b. Find the maximum cumulative for the input statistic for each country
    c. Store the max in array
    d. Sort array from highest to lowest
    e. Return array in JSON format
8. Analytic 7 (Thomas)
    a. Receive post of country input and statistic input
    b. Search through the country data and find the date with the max new number of that statistic
    c. Send the result (date and max number) as well as array of country data in JSON format (for graph)
9. Analytic 8 (Caleb)
    a. Sum all cases/deaths/recoveries for each country on each day
    b. Store the sum in an array in each index representing the world data
    c. Send this array in json format to frontend