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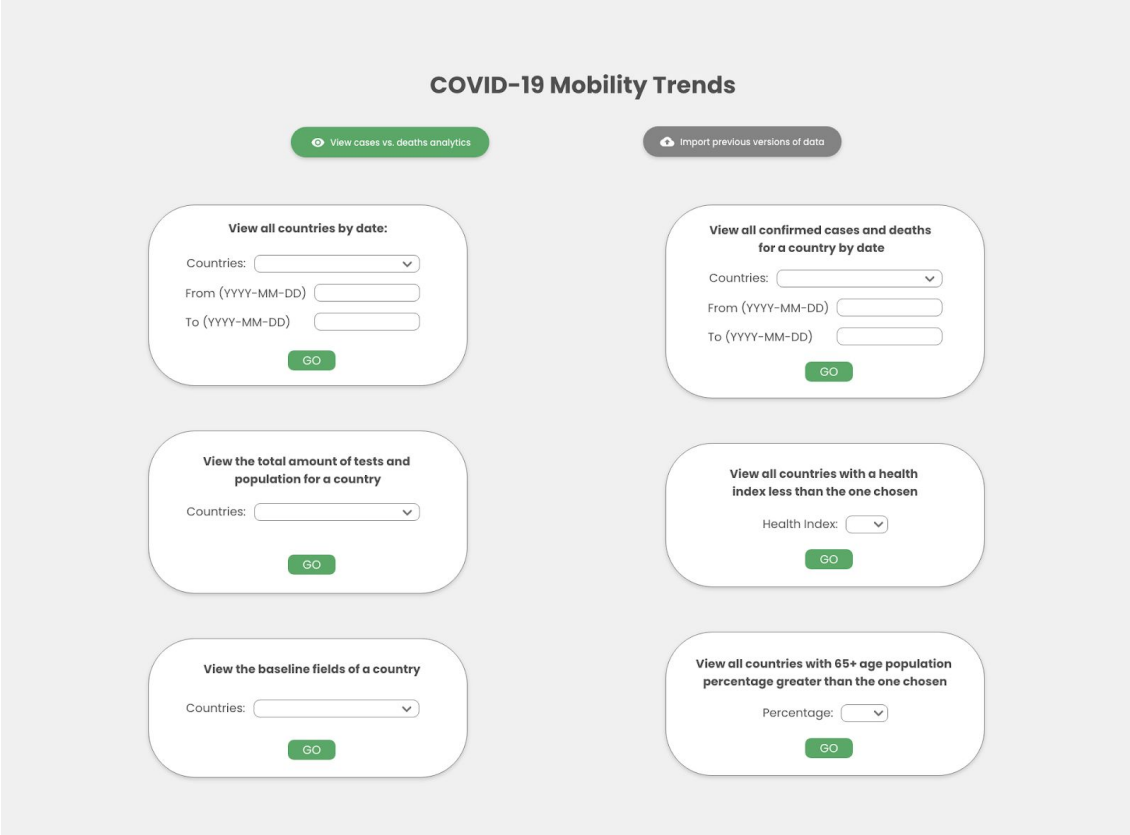
Lab 6 - It's Corona Time

[Data Set (for bookmarking)]

Features (analytics to implement) to Implement in Next Sprint:

- **World Data: (COVID-19.csv)**
  - **Feature 1:** as a user, I want to be able to see if the top 5 countries with the highest population age above 65 have the most deaths and cases to if older people are more susceptible to the virus
  - **Feature 2:** as a user, I want to be able to see the worldwide change from baseline average of various mobility analytics
  - **Feature 3:** as a user, I want to see if richer countries tested more that poorer countries to see if richer countries were able to handle the virus better than poorer countries
  - **Feature 4:** as a user, I want to see whether public transit mobility and workplace mobility have correlations with certain countries.

GUI design:



User test cases:

- **Feature 1 Test Cases:** as a user, I want to be able to see if the top 5 countries with the highest population age above 65 have the most deaths and cases
    - **Test Case 1:** Our application finds the top 5 countries with the highest population age above 65
        - Correct Output: We will have a 5 double bar graphs, where the x-axis labels will be the countries with highest population age above 65
    - **Test Case 2:** Our application finds displays the total number of deaths for that country thus far
        - Correct Output: We will have a 5 double bar graphs, where the the left bar represents the total number of deaths for that country thus far
    - **Test Case 3:** Our application finds displays the total number of cases for that country thus far
        - Correct Output: We will have a 5 double bar graphs, where the the right bar represents the total number of cases for that country thus far
- **Feature 2 Test Cases:** as a user, I want to be able to see the worldwide change from baseline average of various mobility analytics
    - **Test Case 1:** As a user, I want to visually see how the world has been affected by Coronavirus
        - Correct Output: A graph showing the worldwide average of mobilities
    - **Test Case 2:** As a user, I want to see changes to the mobilities of various outings
        - Correct Output: A graph showing the worldwide average of various mobilities
- **Feature 3 Test Cases:** as a user, I want to see if richer countries tested more that poorer countries

    - **Test Case 1:** We will have a two pie charts, where the right pie chart displays the top ten richest countries and their respective total number of tests
        - Correct Output: A pie chart showing ten slices of the richest countries and their appropriate proportions.
    - **Test Case 2:** We will have a two pie charts, where the left pie chart displays the bottom ten poorest countries and their respective total number of tests
        - Correct Output: A pie chart showing ten slices of the poorest countries and their appropriate proportions.
- **Feature 4 Test Cases:** as a user, I want to see whether public transit mobility and workplace mobility have correlations with certain countries.
    - **Test Case 1:** As a user, I want to select which country to compare their transit and workplace mobilities.
        - Correct Output: A drop-down list shows the available countries to select from.
    - **Test Case 2:** As a user, I want to see the graph showing the mobility trends between the two desired fields.
        - Correct Output: A button titled "submit" is available for the user to press.
    - **Test Case 3:** As a user, I want to see the graph of the mobility trends between workplaces and public transits.
        - Correct output: After pressing the submit button, the app takes me to the webpage showing the desired line graph. A button is available for the user to return to the search operations webpage.

Taskboard:

Done list of last sprint:

- Worldwide cases vs deaths analytic
    - Implemented by Jesse Garcia
        - Updated SearchOperationPage.jps
            - Created form that displays a message and a submit button to the user
            - Created connection to send the user to the new page using the submit button
        - Updated CovidFile.java
            - Implemented getCases function to get the total number of cases from all the countries in all months.
            - Implemented getDeaths function to get the total number of deaths from all the countries in all months.
        - Updated SearchOperations.java
            - Created connection between the front end to the server using the submit button
            - Submit button checks off a boolean value to calculate the analytic
            - Use getCases and getDeaths to calculate the analytic.

                - Calculate the percentage of people that die from the data
                - Send the user to the new page after calculation.
            - Created caseVsDeathsPage.jsp
                - Created Connection to receive the data from the server to implement into the graph.
                - Implement jsp to display the graph to the user.
- Country cases vs death analytic
    - Implemented by Cristina Lawson
        - Created countryCasesVSDeathsPage.jsp
            - Implemented ChartJS chart for the frontend
        - Updated CovidFile.java
            - Implemented getCountryCases function to get the total cases from specific inputted countries
            - Implemented getCountryDeaths function to get the total deaths from specific inputted countries
        - Updated SearchOperations.java
            - Implemented frontend way for the user to choose the country and press submit
                - Communicates with backend to bring user to the analytics page and show the respective graph
- Change from baseline mobility analytic
    - Implemented by Jesse Garcia
        - Updated SearchOperationPage.jps
            - Created form that displays a message, drop down box and a submit button to the user
            - Created connection to send the user to the new page using the submit button
            - Created connection to send the data from the drop down box to the server after the submit button
        - Updated CovidFile.java
            - Implemented a getMobilityAvg function for grocery and Pharmacy, park, residential, retail, transit stations and workplace
                - Function takes in the data from the drop down month to filter the data by the user choice of month.
        - Updated SearchOperations.java
            - Created connection between the front end to the server using the submit button and to receive the data from the dropbox front end
            - Submit button checks off a boolean value to calculate the analytic
            - Implement function to send the data to the new page by mobility

            - Implemented a function to send the user to the new page after calculation.
        - Created allMobilityPage.jsp
            - Receive the data from the server to implement into the graph.
            - Added 6 different sections to the graph to display all the data at once.
            - Implement jsp to display the graph to the user

To Do task list for the next sprint:

- Perform analytics to implement
    - Jesse
        - Implement specific mobility comparison to cases per month
            - Need to update searchOperationPage.jsp to allow the user to choose a month and a specific mobility
                - Need to implement a submit button to grab the data and send it to the server
                - Need to send the user to the next page
            - Need to update the searchOperationPage.java to retrieve the data sent from the front end.
                - Need to use the data to calculate analytic comparison
                - Need to send the data back to a jsp file
            - Need to Create new jsp file for new analytic
                - Need to retrieve the data sent from the server
                - Need to use the data to implement into the graph
                - Need to display the graph to the user.
    - Cristina
        - Implement worldwide change from baseline average of various mobility analytic
            - Create a new analytic frontend and backend
        - Update UI
            - Implement a new interface that is more in-line with our GUI designs
                - Update searchOperationsPage.jsp
                - Update displayResultsPage.jsp
                - Update editFilesPage.jsp
                - Update index.jsp
    - Luccas
        - Implement/complete analytic for comparing mobility trends between public transit and workplaces
            - Complete workPlacesVSTransportation.jsp file

        - Consider scrapping gson
        - Revamp functions in development in searchoperations.java due to possible data type issues
- Celyna
    - Design UI
    - Implementation
- Enrique
    - Implement Feature/Analytic 1
        - Add another function to CovidFile.java that performs this analytic
        - Add another .jsp file that displays the double bar graph chart
        - Update searchOperationsPage.jsp so that the correct response attributes are saved
    - Implement Feature/Analytic 2
        - Add another function to CovidFile.java that performs this analytic
        - Add another .jsp file that displays the the two pie charts
        - Update searchOperationsPage.jsp so that the correct response attributes are saved