

BBCDS Artifact

Platform: Web App

Languages: Javascript, Typescript, HTML, CSS

Technologies:

- [Next.js](#) (Frontend)
- [Node.js](#) (Backend)
- [Chart.js](#) (Data Visualization)

Dataset:

Novel CoronaVirus 2019 Dataset ([Link](#))

1. Number of cases confirmed by country, date.
2. Number of cases in the U.S. by state, date.
3. Number of deaths by country, date.
4. Number of deaths in the U.S. by state, date.
5. Number of recovered by country, date
6. All cases by location, age, gender, date, symptom.

Fields of interests for the features

- 1) Are there any particular areas where COVID-19 is most vulnerable?
- 2) What age range is more prone to contracting the virus?
- 3) Have the number of deaths decreased since the beginning of this year?
- 4) How many new cases are increasing in the U.S, by state and globally every day based on the user's choices ?
- 5) Charts that show confirmed cases, number of deaths, recovered cases, number of new cases, respectively.
- 6) Global mortality rate

Fields of interests to search:

- Search by **age** of previous confirmed corona cases
- Search by **sex** of previous confirmed corona cases
- Search by **country** of previous confirmed corona cases
- Search by **city** of previous confirmed corona cases
- Search corona cases in specific **date range**

Features:

1. 10/08 Sprint-1 Feature

- a. Basic Layout of the website
- b. Two page (Home page and analytic page)
- c. NavBar in both page on the top
- d. Front-end and Back-end communication

2. 10/15 Sprint-2 Feature

- a. The user can select the cases they want to see by country, age, sex.
- b. Once users confirm their choice of categories, they can submit the choices.
- c. The backend server returns data based on the parameter the user chose.
- d. Based on the return data, display a data table and graphs visualization for the result.

3. 10/22 Sprint-3 Feature

- a. The user can select more categories other than country, age, sex in home page.
- b. An admin page that shows the table that contains all the data from the dataset.
- c. The user can do modification such as insert new cases, edit existing cases and delete cases.

4. 10/29 Sprint-4 Feature

- a. Add more options in the search field.
 - i. Reporting Date
- b. Implement a chart comparing the confirmed cases by location in one country by searched result.
- c. Implement a chart comparing confirmed cases in different age gap.
- d. Implement a chart comparing the death and recovered ratio of a searched result
- e. Add date reported field on Admin page while inserting a new data into dataset
- f. Add delete confirmation on Admin page before a data is deleted
- g. Data Backup/Import
- h. Bug Fixes
 - i. Input field on homepage- recovered, Death

GUI design:

1. 10/15 Sprint

- Input field for country, age, and sex
- Autocomplete feature for country input field
- A dropdown list of searchable sex options
- Shows confirmed, death, recovered number under the Input field









UI Design for Search operation for multiple fields in the data

The image shows a web application interface for "BBCDS Covid-19 Analytics". At the top is a dark navigation bar with links for "BBCDS", "Home", and "Analytics". The main content area has a light orange background. The title "BBCDS Covid-19 Analytics" is centered, with a subtitle "Helping you understand the current state of Coronavirus" below it. There are three input fields: "Country" (a dropdown menu showing "The United States", "Brazil", "India", and "Russia"), "Age" (a text input field), and "Sex" (a dropdown menu showing "Male", "Female", and "Other"). Below these input fields are three large, empty white rectangular boxes, likely placeholders for charts or data visualizations.









2. 10/22 Sprint

- Add New Data button
- Table of all data
- Edit and Delete Buttons for each row of data

ADD NEW DATA

Actions	Country	Gender	Age	Recovered	Death
 	USA	Male	35	Yes	No
 	Japan	Female	43	Yes	No
 	Somewhere	Male	125	No	Yes
 	Somewhere	Male	125	No	Yes

ADD NEW DATA

Actions	Country	Gender	Age	Recovered	Death
 	U			s	No
 	Ja			s	No
 	Som			y	Yes
 	Som			y	Yes

Add New Data

Country

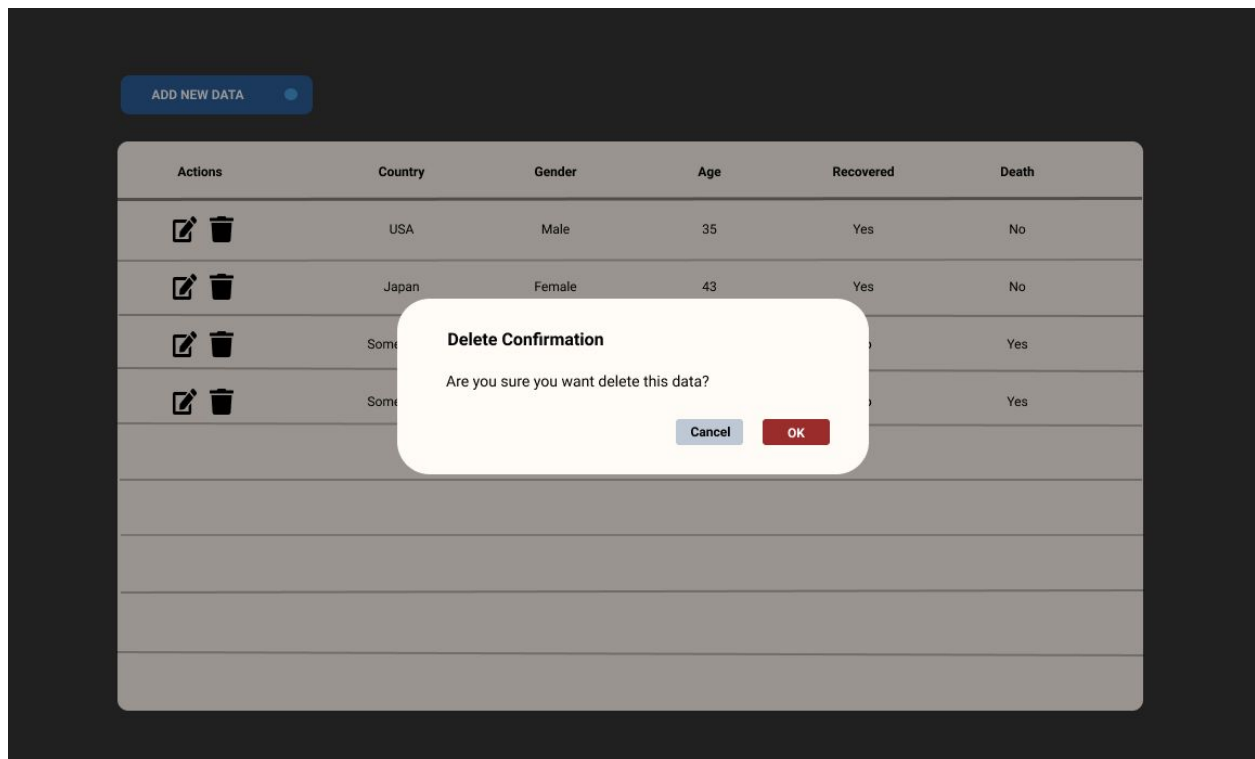
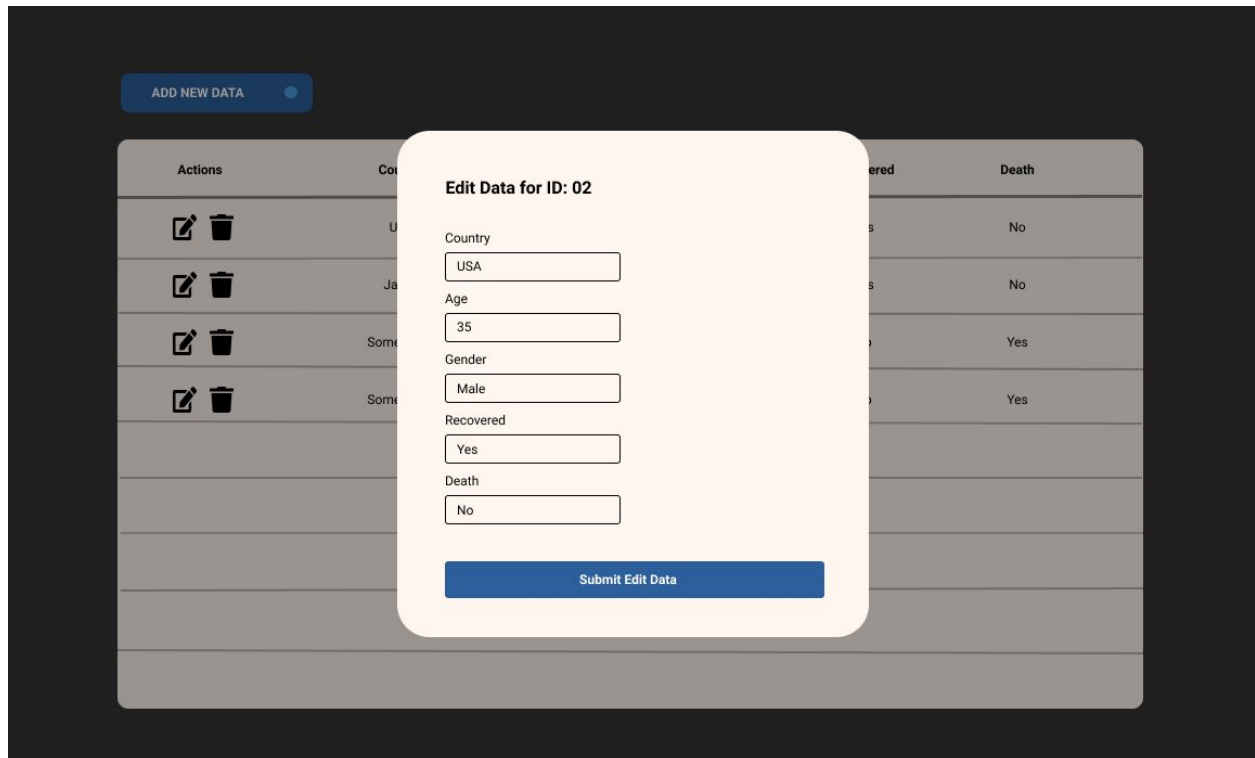
Age

Gender

Recovered

Death

Submit Insert Data



3. 10/29 Sprint

- Add 3 new searchable input fields
- Add new chart from searched results

c. Backup/Import UI

BBCDSHomeAnalyticsAdmin

BBCDS Covid-19 Analytics

Helping you understand the current state of Coronavirus

Country▼

The United States
Brazil
India
Russia

Age

Sex▼

Male
Female
Other

Date📅

Recovered▼

True
False









Death▼

True
False

Paginated Table

Chart

Chart

ADD NEW DATA		Import		Backup		
Actions	ID	Country	Gender	Age	Recovered	Death
 	1	USA	Male	35	Yes	No
 	2	Japan	Female	43	Yes	No
 	3	Somewhere	Male	125	No	Yes
 	4	Somewhere	Male	125	No	Yes

User test cases:

1. 10/15 Test Cases

- As a user I should be able to tell which input field queries for what particular piece of data.
 - Correct Output: Add labels inside the text fields and default values
- As a user sometimes I don't want to be required to fill in all of the search input boxes.
 - Correct Output: The search will only send what is inputted and the backend will only filter through based on what is sent. Empty inputs will be ignored as part of the filter
- As a user I want to see data pertaining to the search I just requested in an easily digestible format.
 - Correct Output: Charts and tables will be added to assist in data visualization
- As a user I want to know if my submission went through
 - Correct Output: Add an animated loading spinner while the backend filters through the data.

2. 10/22 Test Cases

- As a user I accidentally click the delete button for a data point
 - Correct Output: Deleting data will come with a popup confirmation modal
- As a user I don't have all the data for all the possible inputs in the insert modal.
 - Correct Output: Only certain fields will be required to make sure the dataset is filled with relevant data points.

- c. As a user I don't want to have to search through thousands of data rows to find what I want to delete or edit
 - i. A search box will be above the table to easily filter through the table in realtime
- d. As a user I want to edit the data into all blank fields.
 - i. Correct Output: Certain fields will be required to make sure the dataset is filled with relevant data points.

3. 10/29 Test Cases

- a. As a user I accidentally backed up an unwanted dataset
 - i. Correct Output: Provide the ability to import the original dataset via the import button.
- b. As a user I only know the start date but not the end date of the cases I want to search for.
 - i. Correct Output: Support empty fields for start date or end date so that either one can be empty or even both. If the end date is empty but the start date is not then the filter will only accept data after the start date and no end date limit.
- c. As a user I try to add invalid input into a field that only accepts boolean true/false.
 - i. Correct Output: Add a strict dropdown for the recovered and death input fields that have only 3 options (Yes, No, Empty)
- d. As a user there is too much data to look at in the chart that it becomes hard to decipher
 - i. Correct Output: Add functionality so that certain labels in the chart can have their visibility toggled.
- e. As a user I want to check all the data without filtering.
 - i. Correct Output: Support outputting dataset with every input field being empty.

Taskboard:

1. 10/08 Sprint Done List

- a. Finish Sprint Artifact Planning
(finished by Everyone)
- b. Setup web and api servers
(finished by Dominic Lee)
- c. Setup web request to the api server
(finished by Dominic Lee)
- d. Upload Demo video
(finished by Biqian Cheng)

2. 10/15 Sprint Done List

- a. Finish Sprint Artifact Planning
(finished by Everyone)
- b. Add csv file of datasets. And create an api route that returns parsed csv files into an array of JSON objects.

(finished by Dominic Lee)

- c. In the homepage add an input field for country, age, and sex
(finished by Biqian Cheng)
- d. Once all search fields have content and have been validated for user errors, the search should submit automatically.
(finished by Shuang Zhou)
- e. On search submit, query the backend for a response that returns all cases that match the search query.
 - i. Ex. Search for country [United States], age [32], sex [Male] returns all 32 year old males that were confirmed with corona virus in the United States.
(finished by Shuang Zhou)
- f. Display data in a visual format. Tables & charts.
(finished by Dominic Lee)
- g. Upload Demo video
(finished by Biqian Cheng)

3. 10/22 Sprint Done List

- a. Finish Sprint Artifact Planning
(finished by Everyone)
- b. UI design for admin page
(finished by Biqian Cheng, verified by Dominic Lee)
- c. Add more input fields for different categories in the home page such as status(confirmed, recovered, death).
(finished by Biqian Cheng)
- d. Add a new admin page and a title showing what page you're on.
(finished by Dominic Lee)
- e. Request all data from the parsed dataset on the backend api and use that data to populate a paginated table display the data
(finished by Dominic Lee)
- f. Add insert data feature which includes an insert button, insert popup modal, and POST request to the backend upon insert submit.
(finished by Biqian Cheng)
- g. Add an Edit and Delete icon button in each row of the data table.
(finished by Shuang Zhou)
- h. Add an Edit popup modal displaying text fields for all editable data fields and a submit button that calls a PUT request to the backend
(finished by Shuang Zhou)
- i. Create a DELETE request to the backend on delete icon click.
(finished by Shuang Zhou)
- j. Write backend route for inserting (POST Request) new data
(finished by Dominic Lee)
- k. Write backend route for delete data (DELETE Request)
(finished by Dominic Lee)
- l. Write backend route for editing data (PUT Request)
(finished by Dominic Lee)

- m. Upload Demo video.
(finished by Biqian Cheng)

4. 10/29 Sprint

- a. Sprint Artifact Planning
- b. UI design for homepage and admin page
- c. Add Death and Recovered searchable field to the homepage
- d. Add Reporting Date searchable field to the homepage
 - i. Using a date picker
- e. Add a chart comparing death and recovered ratio
- f. Implement a chart comparing confirmed cases in different age groups.
- g. Add a chart comparing confirmed cases by location when users specify country.
- h. Add backup and import functionality
- i. Fix bugs throughout the project
- j. Upload Demo video.