

# CovidDB Technical Report

## Motivation

It's no secret that we're still embroiled in the global COVID-19 pandemic. It is also no secret that every corner of the world is trying to gather and study data about infections both domestically and abroad. However, due to the large scale of both the crisis itself and the resulting influx of data it can be hard to sort through what's been happening for the last year and a half. Thus, our website will aggregate covid information by **country** and **city** to make it clear which areas have been hit the hardest at which times throughout the pandemic.

## User Stories

- Hey Development team, I am a middle school student who is responsible for delivering morning announcements over the intercom. The start of my announcement involves reading daily statistics for cases in our area. It would be awesome if the data could be updated at minimum, everyday. This way I can provide the most recent, accurate information to my classmates.
  - There was not much we could do for this story in this first phase due to requiring a dynamic addition of data to our database, so we could not complete it.
- Hey Development team, I am a mother of three so I am usually pretty busy throughout the day. I try my hardest to keep up with recent news and updates on COVID in order to keep my family as safe as possible. Sometimes, however, it's hard to keep up with so much; so, I was wondering if this website could contain a feature that displays major news regarding covid for example, new outbreaks in the area, government announcements, etc. This would be awesome because it would be a centralized location that can keep me informed and my family safe.
  - This once again would require looking at data dynamically, which is not a part of this phase.
- Hey Development team, I am a pediatric doctor who hears from a lot of patients that they have trouble finding testing locations. As a result, I would think it would be amazing if there was a feature that showed nearby testing locations for users based on the address they search. Available and reachable testing is very important in beating this virus because we can take proper precautions for infected individuals.
  - This would require a search, which is a dynamic procedure that we do not have right now. On top of that, we only have six total locations.
- Hey Development team, I am a math teacher at my local high school. After seeing numbers all day, I think my students and I can both agree we don't enjoy seeing a list of statistics. I request a feature that visualizes the data, and can provide a better visualization of the severity of these stats. Whether this be

through charts, graphs, etc, I think this feature would better deliver the goal of this website in informing the population about COVID data.

- We thought that it would be better to wait until the next phase for this so that we could turn our data into graphics with code.
- Hey Development team, I am an elderly man who is a high risk individual. I think this website will be great for me to identify the general threat of my surrounding neighborhood. But, because I am older I have trouble navigating complicated websites. I would love it if there was a feature that could make it easy to generate a search for my address. This would help because it would be friendly for me to take advantage of the data you provide and stay safe.
  - This request was another request that we could not do in the first phase because it seemingly requires that we use their location.

## RESTful API

We designed our RESTful API using Postman:

<https://documenter.getpostman.com/view/17756516/UUy4cRDp>

Endpoints:

Country:

-All: <https://api.crown19db.me/v1/models/country/all>

Fetch data about one all the countries in the database

-By Name:

<https://api.crown19db.me/v1/models/country/name=<name>>

Fetch data about one particular country, by Name

City:

-All: <https://api.crown19db.me/v1/models/city/all>

Fetch data about all the cities in the database

-By Name:

<https://api.crown19db.me/v1/models/city/name=<name>>

Fetch data about one particular city, by Name

Covid:

-All: <https://api.crown19db.me/v1/models/country/all>

Fetch data about the entire COVID timeline

-By Date:

<https://api.crown19db.me/v1/models/country/date=<mm-dd-yy>>

Fetch data about one time step in the COVID timeline

## Models

## Countries

- GDP
- Population
- Population Density
- Flag
- Area
- Capital
- Last Date of Covid Cases

## Cities

- Latitude
- Longitude
- Population
- Time Zone
- Country
- Last Date of Covid Cases

## Covid Timeline

- Deaths
- Recovered
- Cases
- Country with more recoveries than cases
- Country with more deaths than cases
- States with most cases
- States with most deaths
- Capital of country with most cases

## Tools

React (Typescript) for Frontend

Postman for API design

Discord for team communication

React Bootstrap for CSS

## Hosting

After some initial troubles securing a domain name because of restriction of the phrase “covid”, we registered our domain “crown19db.me” through NameCheap and hooked it up to our React App using AWS Amplify. Once NameCheap and AWS were communicating we enabled SSL and now our app is just waiting for a back end and more data.