

## Functional design

### What is this software? / Background

*-A choropleth of the United States that shows when the mandates have been implemented and the number of covid cases + bar graphs / line graphs that shows the daily new positive cases changes.*

### User profile: who uses the system

- Policymakers who want to implement new preventive measures.*
- Individuals that want to observe data in a visually appealing way*

### Data sources

- COVID 19 cases counts at county level*  
*Coronavirus (Covid-19) Data in the United States repository held by New York Times.*  
<https://github.com/nytimes/covid-19-data>
- Dates of preventive mandates in each state/counties (same)*  
*COVID-19 State and County Policy Orders held by HealthData.gov*  
<https://healthdata.gov/dataset/covid-19-state-and-county-policy-orders/resource/8049ae6e-3e72-4fb4-a3b6-0fc8c85b6517#{}>

### Use cases: what is the objective

- see the effectiveness of each mandate within the United States*
- easily compare the number of COVID 19 cases among states/counties.*

### What are the use cases? What kind of user interaction scenarios do we need to support?

- clicking the map to see more specific COVID 19 counts before and after the mandates*
- zooming in and out of the map*

### Describe use cases (list of possible actions)

What information does the user provide?

*The user provides no information*

What responses does the system provide?

*The system responses are*

- 1. Color changes representing COVID infection densities for each state as user slides time series slider in Dash
  - a. Border of state and/or county turns red when major mandate is passed*
  - b. Hovering over counties shows major mandates passed**
- 2. Graph showing COVID counts vs. time, with mandate implementation showing up as a vertical line. This graph will be static and show the entire time series covered*

	Info from user	System response
1	Clicking on a map	displaying the graph of that state/county of COVID 19 positive case on the right side and with a marker showing when the mandate was implemented
2	Hovering over a state/county	Popping up a small display with some information

Component specification

-name of the component

Plotly

-describe the function / what role does this component play?

To manage choropleth and serve as the interface or framework for Dash

- specify the methods

- what is the input

- what is the output/return value

- how does one component interact with other components

List of components:

1. Choropleth
2. Graph
3. Display

ex) name: 'findprimes' function

what it does: finds the prime that are less than N

input: an integer

output: list of integers

maybe a pseudocode of the component