Digital Health Course – University of San Diego Extension
COVID-19 Mobile App Project (2020)

Background

Currently, the United States has the highest number of COVID-19 cases worldwide with a staggering 6 million cases as of September 3, 2020 (1). Every country has felt the effects of COVID-19 and every country has dealt with the pandemic a little differently.

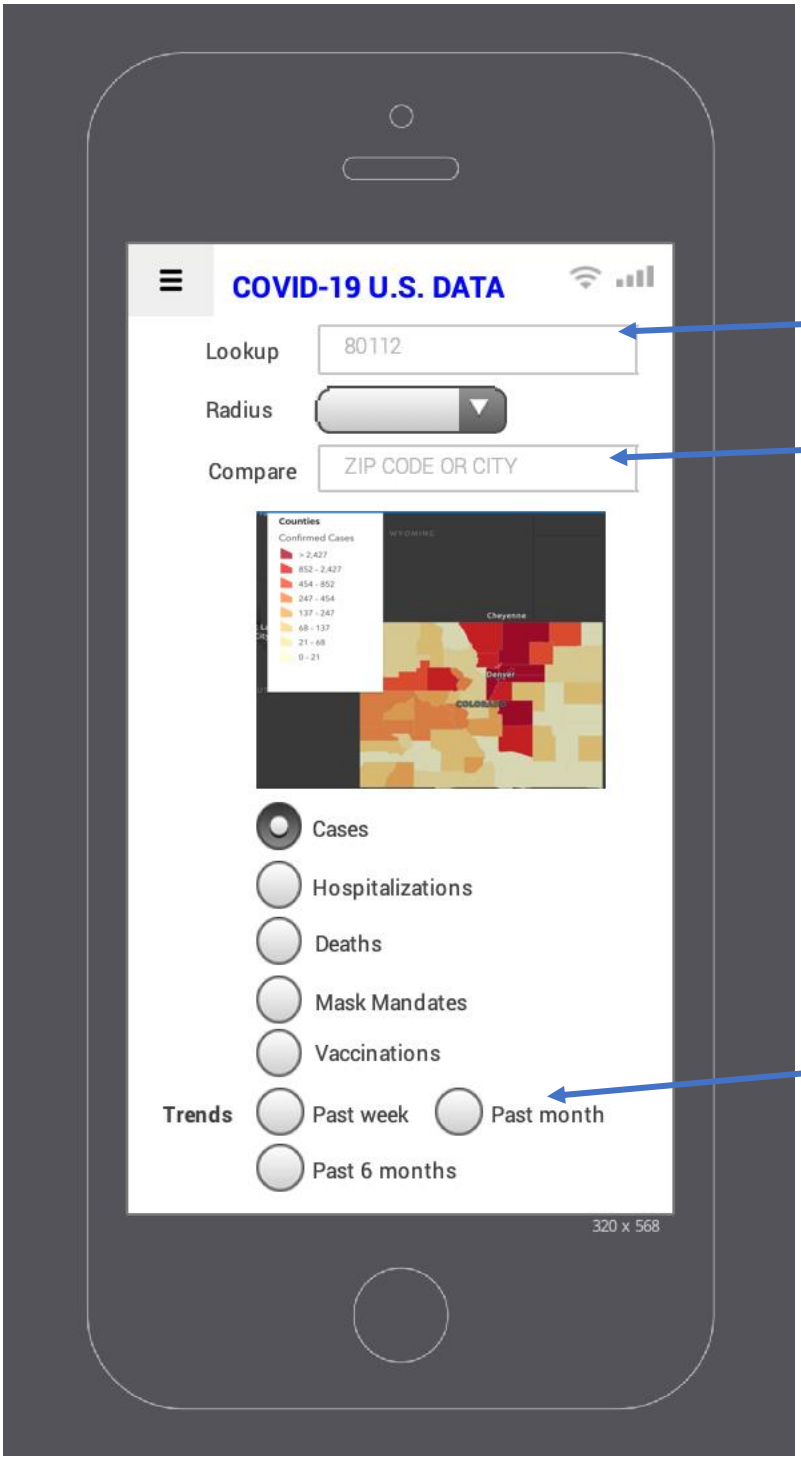
There is an abundance of data on cases, deaths, hospitalizations, etc., on the Internet. For example, John Hopkins University is an authoritative source of COVID-19 information (2). You can find data on cases in various countries, the U.S. and all 50 states. However, it's difficult to put a number like 6 million into perspective unless you put it into context. It's also hard to know what that number means to you in your immediate neighborhood, county, etc. There are also several COVID-19 tracing apps that are available to people, but they have not been widely adopted because of privacy concerns.

So, how can people take the data that is currently available and make it applicable to their life? How can they know how the virus is circulating and affecting people in their immediate neighborhoods and surrounding areas? To take things a step further, how can they use the data to not only be informed about what's happening in their neighborhood, but how can they use the data to make informed decisions? A family may want to take a weekend vacation trip to a local tourist town, but which one is the safest bet?

That's where the U.S. COVID-19 Data app comes in. People can use this app to find COVID-19 data within their immediate neighborhoods to make important decisions that can help to curb the spread of the virus. They can use the app to find data that is directly relevant to them, and they can use the information to make wise decisions. They may choose to travel to a town with a lower number of cases or they may choose not to travel at all, depending on how the virus is circulating and how severe cases are. If they have to travel to work, they may choose to stay in a hotel within an area that has a lower rate of viral spread.

When a vaccine has been brought to market, the app will track vaccination rates within specific areas.

Proposed U.S. COVID-19 Data App

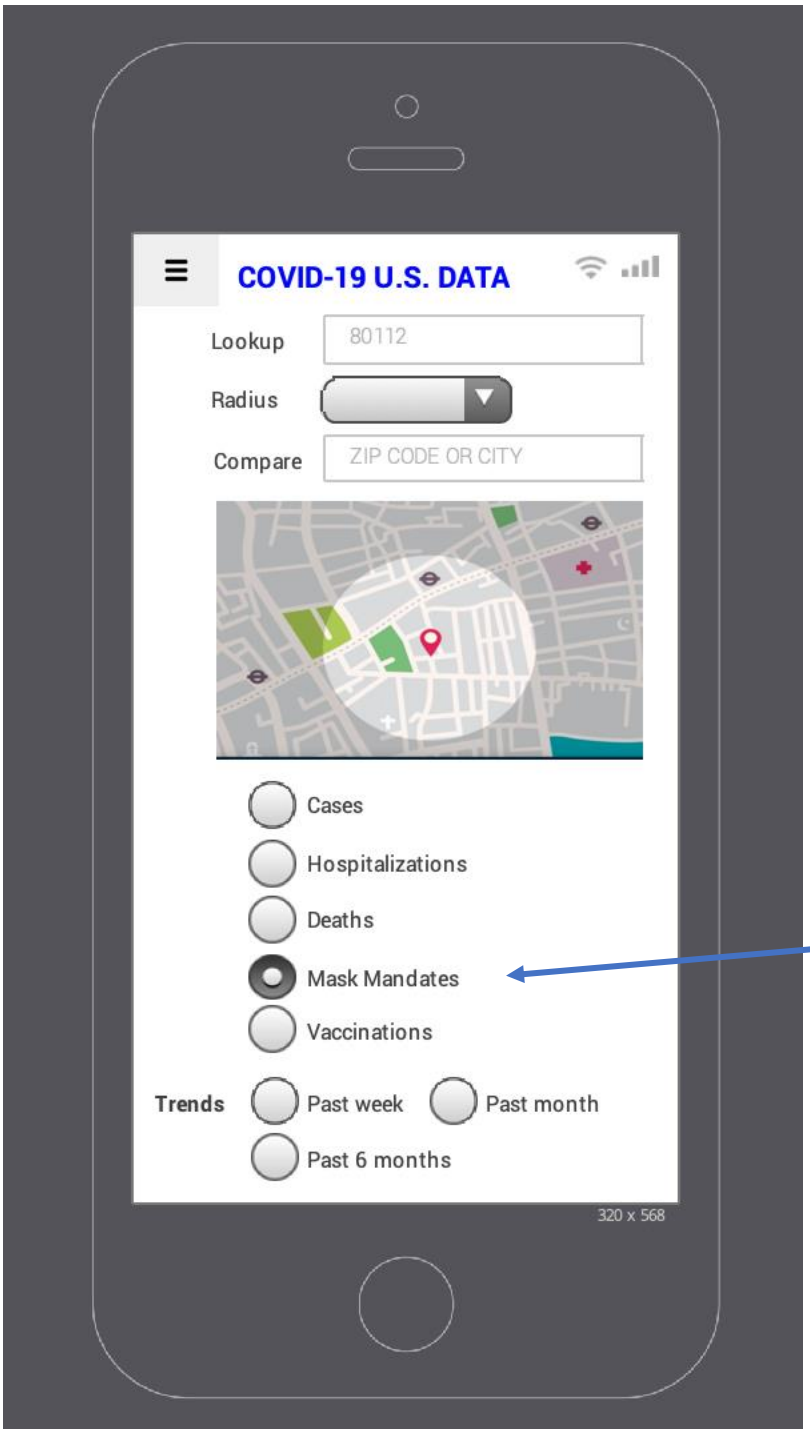


You can enter your zip code and find out how many cases there are in your area. You can also search beyond your zip code by entering a 10, 25 or 50-mile radius. This is helpful for those who travel to work.

You can also compare your area to another area you are curious about to compare cases. This helps to put the case number into context.

You can also look at trends. For example, you can look at the number of cases in your zip code over the past week, month or past 6 months. This helps you to know if cases are going up, down or staying stable within your immediate area.

You can also look at the number of hospitalizations in your zip code and see how they have been trending over the past week, month or 6 month-period



If you are traveling out of town or you want to go on vacation, you may prefer to go to an area where masks are mandated because currently only 34 states have issued some form of mask mandate (3).

When COVID-19 vaccines are available, not everyone will choose to get vaccinated, which means that areas with low vaccination rates will be riskier places to live and travel in.

If you live in an area with low vaccination rates, you will most likely want to continue taking precautions that you were taking when there wasn't a vaccine.

Strengths

The main strength of this app is that it will house vital COVID-19 data all in one place. Although John Hopkins provides comprehensive data such as cases, deaths and trends, they don't provide data about hospitalizations and mask mandates. In addition, they provide data for countries and states, but they don't provide data based on zip

code. The CDC also provides data on cases, trends and deaths. They also allow you to compare trends for up to 6 states (4). However, you cannot compare zip codes. In addition, individual public health departments like the Colorado Department of Health, do provide information about hospitalizations but the numbers they provide are statewide numbers (5). Without context, it's hard to know what all these numbers mean.

This app provides unique data such as mask mandates. We've all heard the regular public health messages about the importance of wearing masks, social distancing and hand hygiene. On the other hand, we've also heard about the ongoing controversy regarding mask use. Although mask use has increased due to mandates that have been put in place throughout the United States, not all people are on board regarding mask use nor have all states mandated the use of masks. Data shows surges in cases in areas where masks are not being worn by everyone when they are out in public.

This is important information for people to know. If they have a choice, they may choose not to travel to those areas. Although this data is readily available on the Internet, it's much more convenient to go to one app to find this type of information that is critical to preventing the spread of COVID-19. Because so many people carry their phones with them, it's important to have relevant information like this at their fingertips.

When vaccines are available, I believe this data will be easy to incorporate because states collect vaccination data within one system.

Weaknesses

Although much of the data that would be provided in this app is readily available from various sources, it will be a challenge to pull some of this data into the app. For example, data on hospitalizations would need to be pulled in from public health departments throughout the United States. This could prove to be very challenging from a technological standpoint if the data isn't being collected within the same system from state to state.

In addition, in order to provide data for zip codes, the number of cases and the number of deaths would have to be tied to zip codes. I'm not familiar with the details that are currently included with this data on other websites such as state health departments, John Hopkins and the CDC. Given that John Hopkins and the CDC do not provide data based on zip code, it's possible that it's either not available or challenging to aggregate at this granular level.

Conclusion

Knowledge is vital to preventing the spread of COVID-19. Thankfully, there is an abundance of information about COVID-19 available on the Internet. There are also several different tracing apps. The key to putting this information into action is to make it applicable and relevant to people. A number is just a number if you don't have a way to put it into context.

This app helps to do just that. It helps people to get detailed information about what is happening in their neighborhood – and beyond – when they need it.

References

1) Google data
2) John Hopkins University Coronavirus Resource Center
3) Axios: The states where face coverings are mandatory
4) CDC COVID Data Tracker
5) Colorado Department of Public Health and Environment