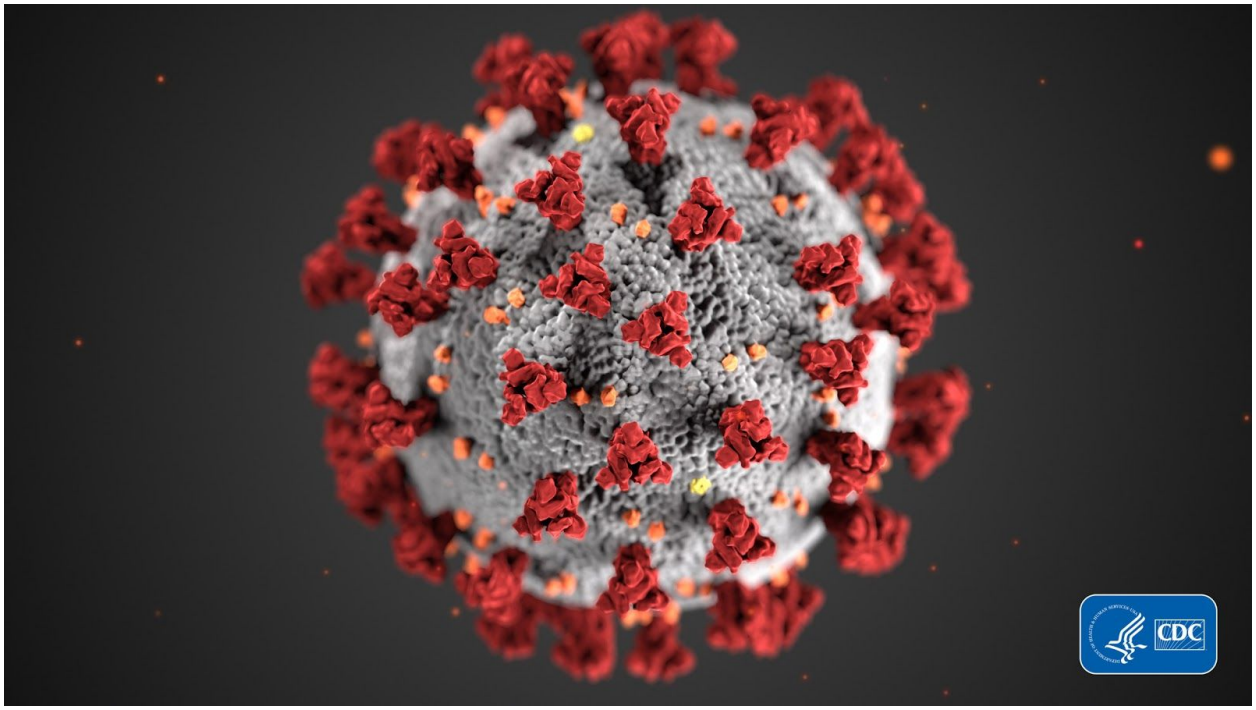
COVID-19 Tracker
Final Presentation



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Abstract

With the outbreak of any infectious disease, being able to comprehend a dense amount of data at a glance can be paramount for your personal health and for the professionals responding to the crisis. COVID-19 is no exception and being spread through the air makes it an incredibly virulent virus. Having easily digestible access to information such as infection rates would be immensely helpful. The goal of this project is to create a system that can analyze symptoms of COVID-19 and give a non-medical diagnosis, while also providing information of nearby testing centers for the user. The system should also display a map for hot zones where the virus is spreading rapidly. This would show how extensive the infection is based on symptoms, enabling users to assess the potential risks of travelling.

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Executive Summary

This project is targeted to tackle a solution to track COVID-19 during the current global health crisis. Coronavirus (COVID-19) is an infectious disease caused by severe acute respiratory syndrome coronavirus 2 (SARSCoV-2). The deadly virus was discovered in December 2019 in Wuhan, China. Since then, the virus has spread across the world causing millions of people worldwide to become infected. Common symptoms from the virus include fever, cough, fatigue, shortness of breath, loss of taste, and loss of smell.

With the outbreak of any infectious disease, being able to comprehend a dense amount of data at a glance can be paramount for your personal health and for the professionals responding to the crisis. COVID-19 is no exception and being spread through the air makes it an incredibly virulent virus. Having easily digestible access to information such as infection rates would be immensely helpful.

The innovation of technology in recent years has given the ability to create solutions for instances that have the chance to save lives. The goal of this project is to create a Web application that can give the public access to new technologies to track COVID-19. Some of the system functionalities include tracking and logging symptoms, visual tools of “hot zone” maps of surrounding areas near the user where the virus is spreading rapidly, a list of nearby testing centers, and a recommendation to seek medical attention based on the symptoms the user provides.

This project implements a combination of deployment processes from start to finish. The team has worked on an agile development method. This gives the team an emphasis on delivering an application that has functionality. The team split the work into several sprints over the timeline duration of the project.. These sprints have concluded in deliverables that are prioritized by the customer for the system.

Student Development Team

Software Engineering Processes - Ryan Frazier

Coding - Ryley Tierney

Testing - Barry Sly-Delgado

Security - Michael Brewer

Final Requirements and Comparison With Initial Requirements

The final requirements of this project include being able to register a user and displaying data about Covid-19 infections in the United States. In comparison with our initial requirements, our final requirements are smaller in scope and number. This is due to our original requirements involving more than we could accomplish this semester, especially due to the impact covid and weather has had on this semester.

Initial requirements included:

Requirement Type	Description
Functional Requirement	A user should be able to view the infection rate of the COVID19 virus. This information should be shown in both the heatmap of the virus and listed on the website in plaintext.
Functional Requirement	A user should be able to search for nearby testing centers and or hospitals related to their location.
Functional Requirement	A user should be able to view symptoms of the COVID19 virus. Outside sources should be linked for this kind of information.

Business Requirement	A heatmap should be available to users in order for them to track the infection rates of areas and any relevant information related to the virus should be available on this heatmap.

Final requirements:

Requirement Type	Description
Functional Requirement	A user should be able to create, delete and edit their own personal account.
Functional Requirement	A user should be able to view the infection rate of the COVID19 virus. This information should be updated continuously.
Functional Requirement	A user should be able to view symptoms of the COVID19 virus. Outside sources should be linked for this kind of information.
Security Requirement	Sensitive information such as a user's password needs to be hashed and salted.

Final Timeline in Comparison With The Initial Timeline

The initial timeline of this project was intended to be separated into three sprints, with several deliverables to show functionality at the end of each sprint. As time went on, with constraints in time and unforeseen circumstances throughout the semester, the team collectively decided to change the timeline of the project to only include two sprints. This gave more time for team meetings on a more relaxed schedule rather than a rushed sprint that would jeopardize functionality.

Project Results Compared With Expectations

At the start of the project, the team had an initial project plan to create a system that can analyze symptoms of COVID-19 and give a diagnosis, while also providing information of nearby testing centers for the user. The system should also display a map for hot zones where the virus is spreading rapidly. This idea would show how extensive the infection is based on symptoms, enabling a user to assess the potential risks of travelling.

During the first sprint, the team knew there were some ideas initially thought that would be challenging to implement into the project. Once this was discovered, the team decided to scale down for the requirements in the system. Instead, the focus of using an API to track covid cases was the main focus to implement in this system. As of now, the application can have a user create, edit and delete their account. The user can also view the infection rate of COVID-19, as well as a list of symptoms.

Project Process Review

Overall, the process went smoothly throughout the duration of the project. A quick outline:

- Assign team roles
- Project Idea
- Group meeting scheduled
- Individual plan
- Group plan
- Sprint 1
- Sprint 2
- Final deliverable/presentation

Between Sprint sessions, the team would meet every Wednesday and Friday to discuss where the development was, progress being made, and the timeline of the semester to ensure how much was left to get done in the amount of time in the semester.

Work to be Done

For the Continuation of this project, there would be an implementation for the user to be able to track an interactive map that shows different “hot zones” where the virus is spreading rapidly. Due to time constraints, not all of the functionalities we originally planned on implementing were completed. The following things that still need to be implemented in the system:

- Maps of Covid Hot zones
- Allow Users to search for covid Testing centers near them
- Improve site layout
- Show sources for reports and symptoms
- Implement locations