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Mobile App Final Project

For this project, the goal was to create a mobile application of my choice. I choose to create a coronavirus tracker. The reason why I choose to create this type of application is because of what is happening around the world during the writing of this paper. The novel coronavirus also known as COVID-19 is a virus that affects the lungs and is easily transmittable between humans. This tracker was created to help people get useful information about the virus quickly and easily.

Technical Overview

This is a hybrid application that makes several API calls to grab current news articles, the US historical and state data related to the coronavirus. The application has several features including current news articles, graphed data to help visualize infected, death, and recovered, current conditions based on user location and search feature that allows the user to search data for all US states. This application uses JavaScript, jQuery, HTML5, CSS, and the bootstrap framework to allow for better page sizing and styling with minimal coding.

Login Feature. The Login feature was developed for the purpose of personalizing the user experience. This feature allows users to register an account that will be used to track users' favorite searches and location. Developing this feature was first written in PHP and was to be deployed to the FAU lamp server. Due to certain security constraints from the server and the amount of time left to finish the development of this project, the login system was rewritten to be hosted locally on the device. This is not the preferred method but still shows how the login system will work in future development.

News Feature. The News feature is the home page of the application. This is the first thing the user will see when logging into the application. This feature sends an API request to get the most current news articles related to the coronavirus. The API used for this is from The COVID Tracking Project. The Covid Tracking Project hosts many different APIs all with useful data related to the coronavirus. This application uses several APIs from this website. The reason why I choose to go with this API for getting current news is that it was easier to grab the data from one location than to create my own web scrapper.

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Search Feature. This feature allows the user to search for current coronavirus data based on the state. The data that is returned from the search is the total infected, the total positive, the total deaths, the total recovered, and the date/time this data was last updated. The search feature uses an API from The Covid Tracking Project website that gives the most current data related to the virus. The search also uses a get request to the FAU lamp server to retrieve a custom file that stores state names and coordinates unlike the APIs used from The COVID Tracking Project This file returns the state names in full whereas the previous API returned the state names as abbreviations. This custom file is used to show the Full names in the search results.

Graph Feature. The Graph feature was created to help visualize the current data for the entire US. This feature uses the CanvasJS charting library. It is an easy to use JavaScript library that allows for custom graphs. I choose this library over the chart.JS library that was suggested in class because of what this library brings. This feature uses a different API for its historical data. The API is from https://corona.lmao.ninja/, the reason why this API was chosen was because of how easily it was to grab the data and graph it compared to the API provided by The COVID Tracking Project. The API used for this has a complete dataset compared to the other API which allows for better graphing.

Map Feature. The Map feature is like the search feature except that it implements a Google map that allows for better visualization. This feature uses the Google map and Geocode API's as well as The COVID Tracking Project API for current state data. The application also grabs data from a JSON file that stores the coordinates that outline each state's border, this is used for highlighting the states on the map. The geocode API allows for grabbing the current state the user is in based on the geolocation services. The last request that this feature uses is for my custom file that is hosted on the FAU lamp server. This is used to populate the state names and coordinates that are to be displayed on the map and in the results section of the app.

Settings Feature. The setting feature is standard in most applications. This feature is minimal but important. The Settings feature allows the user to set their favorite search location. The user's favorite can be implemented in the Search and Map section of the application. By pressing the "favorite" checkbox in these sections, the results that are returned are based on what

was stored in local storage. The Setting feature also allows the user to delete the profile if they choose.

Future Development

When thinking of the future development of this application I think there is much that can be improved over time. The first thing I would do is to the resolve the login issue with the FAU lamp server. This must be first for security reason. Users sensitive information should never be stored on the user's device. The next thing I would implement would be a web scraper that scans popular news websites for articles based on the coronavirus. Implementing the web scraper would allow for better customization of the news articles instead of currently linking to the news articles website and populating it in an iframe. Other future implementations would include user-to-user tracking which would allow for users to be informed if they have had any contact with anyone that has tested positive for the coronavirus and where they might have had contact with that person. Future updates would include health/prevention tips and local information on where to get tested or help if needed. search results for other regions will also be included. Due to the time constraints of this semester I could not implement these features but did take them under consideration.

Lessons Learned

During the development of this application I learned that when trying to complete a project it is important to set certain rules that must be followed to compete the project on time. With three final projects all due around the same time and each requiring at least a month or more to complete and realistically having about 2 weeks to complete them it was important to spread each project evenly to give them the most time and attention possible. I found that this project was difficult in locating an API for the coronavirus data that would satisfy all the requirements of this application. Because of this I had to learn and source different APIs that may return the same information but are not exact.

Conclusion

The current pandemic that is affecting this country must be taken seriously not only in the US but also around the world. With the development of this application I hope to see that the

information provided helps users understand how serious the coronavirus is and how we may overcome it.

Git Source: https://github.com/CodeDanCode/CoronavirusTracker

Working example: https://www.youtube.com/watch?v=43SVZ-pjuSs

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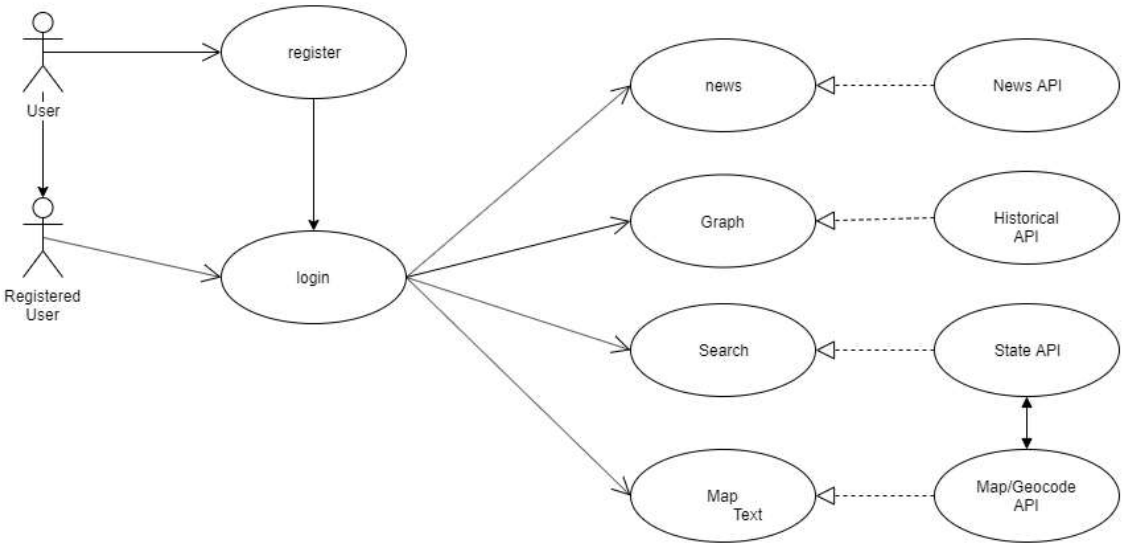

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