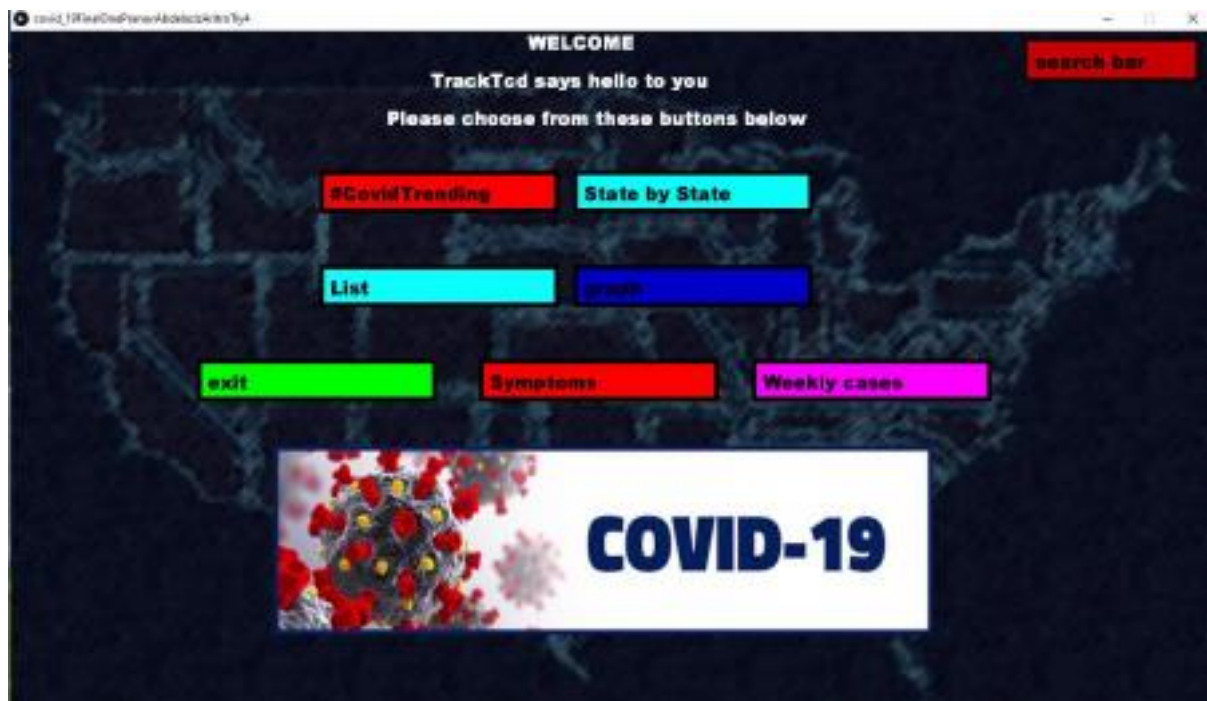




CSU11013 - Programming Project Group 18 TrackTCD

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Our Design

We first met up the day after the groups were announced. Coming together on a design through the new “Zoom Call” way of life was not ideal but easily achieved with this group of lads.



Meeting the brief was crucial. We read the brief individually and analysed it together. Creating goals was easily achieved with weekly assignments from Gavin as well as our own initiative.

We knew our design had to meet the brief and go beyond it. Everyone in the group had incredibly creative mindsets, forcing us to go down the more interactive route. We decided on this collectively, as we believed we would have a project to be used and most importantly, enjoyed by the user rather than a CP5 or graphica data based program, as this simply didn't satisfy our intuitive minds. Our user based interface was planned, implemented and edited by all four members with a plethora of features to be used (described below), to go beyond the brief into our own ideas.

Teamwork & Organisation

We took this great opportunity to mimic the coding scenario in the real world of software engineering, just at a much smaller scale. Inside our group of 4, we devised a schedule and 2 sub-groups in which we did the work in pairs. The pairs were Aritro with Kevin and Abdelaziz with Pranav. We worked on our separate part of the projects in these sub-groups. One person would do the coding while the other would supervise and look over the code they were working on to make sure they were not making any mistakes and just generally offering a second pair of eyes to aid in the creative problem solving aspect of the project. This roll was switched usually on the half hour mark.

We organised 2 weekly meetings (outside of the 2 hours on a Thursday) in which we would update the whole group as to what the sub-groups got done, what they were working on, what their plans were for the rest of the week and regularly code as a group of 4. All of the attempts that we would be doing during the week were done in separate files in which we titled in a specific way so that we could keep track of the work by solely looking at the SVN Repository; "covid_19tryxName". "x" was the attempt number and then we would enter our name after that. This allowed us to have access to all of the stages of the work we were doing. This was helpful because none of the ideas we had went to waste. By doing this we were able to revert back to different variations and interpretations of every concept we thought of.

During the two hours we had on Thursday, we would usually have all of the work which Gavin outlined for the week finished, so we would use the time to brainstorm the future of the project and try to execute them.



Description of code:

Main Features:

- #CovidTrending is a screen in which one can find the latest Covid trending hashtags on twitter via using a widget/open-link event.
- State by State is a widget to enter a screen displaying all 50 states and each with a respective widget. By selecting a state widget it will display the total state cases and their Covid guideline.
- Graph was a screen containing a bar chart using the total number of cases in each state.
- List is a screen with a list of all states with their cases organised by the order of the date. This was a week 7 task.
 - Within this list we added a scroll bar for the user to choose what section of the list is displayed
- Graph was a screen widget and screen used to display the data in a visual. It contained a bar chart of the total cases per state.
- Symptoms was a widget and screen used to indicate the covid-19 symptoms as per WHO guidelines.
- Weekly cases displayed the weekly cases of each state using the larger data set. An US map was displayed and is accessible to the user via the mouseX and mouseY positions.
 - By holding the mouse of the state the weekly cases and a line graph was displayed in the top right hand corner of the screen.
 - The user could also edit the week of cases by scrolling a bar at the top of the screen from week one to seven.
- Covid-19 Banner was also included for design, but when clicked would open up a browser on the WHO website for more vivid information
- Search Bar was added as an alternative to mousePressed, the user can access any features on the home screen of in the state by state function through entering the input.
- Back button was implemented to each screen to return to the previous screen.

Individual work and experience:

- Abdelaziz Abushark

I loved working with my teammates as they were very helpful and supportive since day one. I started by implementing the data on the screen by creating a data class as shown in figure (ii) as well as creating different screens for the program with the help of my mate Pranav as we created classes screen and widgets. I created the design of our program which shown in figure (i) which has the widgets on it as well as I created the search bar in class



textWidget In which you can search any state or anything in our program and you will get the results you wanted. I did the decider part in decider class as well as draw map and graph classes as well as I did the line graphs for the weekly cases by making a new excel file that separates every state with its weekly states and added to processing as CSV file then worked with it and did the suitable coordinates to make it easier for everyone to browse as shown in figure (V) in which will be shown on a map in which when you click the state you will get the weekly cases for 8 weeks as stated in our data as well as Pranav and I did the exit button to close the program as well as Covid-19 banner in which takes you to the WHO website and back button to get you back as shown in figure (i)

It was a good experience to work with my college mates and I was happy to be part of my team.

- Kevin O'Donnell

We were first given the task to create a moveable list of the data. This was done by Abdelaziz, creating an automatic moving list. I then implemented the scroll bar on the right hand side of the screen by implementing a rectangle on a line at the right hand side of the screen (ref(ii)). This could be moved by the user using mouseX, mouseY, mouseClicked and mouseReleased. As the Y position changed this then altered the Y position of the list to either go up or down based on the rectangles previous position. As you can find in the code.

After this I then created the #CovidTrending screen and widget as taught in week6 (ref(iii)). We decided on this screen as a group as we had the idea to create a user friendly interface. We believed this would create an alternative to a solely data based interface to create a pleasant experience for the users. By using the screen you can click on the current largest Twitter trends for covid-19. By clicking the widget on the screen it will directly open up your browser onto the link found in the code as if you searched it on Twitter yourself. I implemented this by creating an event for each widget and when clicked it would trigger the link() function to bring the user directly to their preferred # on Twitter. No Twitter account is needed for this action to guarantee a satisfactory user interaction.

Finally I implemented a state by state total case function by the same Method as above using rishis total cases from the graph using the .csv data. By entering this aspect of our program you will be welcomed by a map of the USA downloaded by me from google images. After implementing this image (as taught in the individual element of the course) I added a widget (with a corresponding screen) over each state by altering the widget X and Y positions (ref(iv)). By clicking the widget for a certain state a new screen will enter. This will then bring you to a page showing the total cases based on the data set used. As well as this it will also have a



widget to see current Covid guidelines for this state (using the same link function as above(bringing you to the state governmental website)(decided on and done with Aritro De) (ref(VIII))). There is a back button implemented on this screen also to return to the previous screen. Just as seen in every aspect. This can all be seen in the code.

- *Aritro De*

This group project was definitely a collaborative effort. We all helped in the creation of all the functions although we did take the lead of some of our own classes and methods as well. I took on the role to read over every piece of code edited to make sure both coding duos were synchronized. This allowed me to aid with both Kevin and the two lads to create the best experience for the user.

I created the graph screen by directly using the data from the CSV and creating their own variables. An individual variable for each and every state. I then created a class to use this data and turn them into bars for the bar chart. I created the bar length based on the screen size and the number of cases in each respective state. I used a similar process to add the bars in the list screen which is another visual representation of the number of cases in an area. The difference is that in the list screen it shows the cases per city but the graph screen shows the cases per state(ref(VII)).

I also edited the decider class after Pranav had started it, it is the class for the slider in the map class, I then edited this slider to be much more visually accessible and pleasing for the user. This was imperative, as user based satisfaction was at the forefront of our project(ref(V)).

Lastly myself and Kevin implemented the widget for each state to search for their respective covid guidelines. I suggested this to Kevin as I felt each screen was too plain. Advice he took on board and together we acted upon. We did this by creating a link/widget mousePressed() event for each state(ref(VIII)).

- *Pranav Babu Bollina*

I helped my team in displaying the data loaded by Abdelaziz onto the screen, this was described by Abdelaziz above as shown in figure(II). I also made the screens and widgets for the homepage and made easily usable classes to make it easier to create many widgets and screens which shown in all figures. This simple plan allowed all the guys to make screens and widgets easily as we distributed our work and made a plan to distribute the classes to make sure we are moving in the same and right direction. I made the homepage where all the



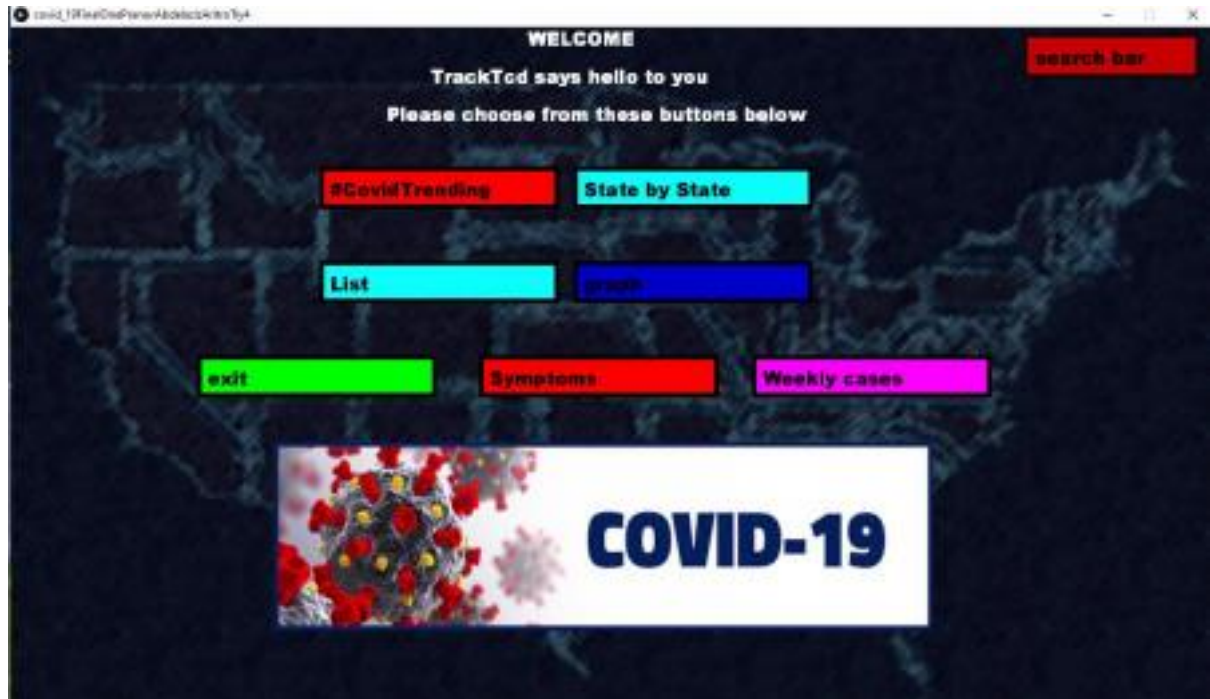
different widgets and queries are located as shown in figure (I). Kevin used the same method for his state by state screen which he explained above as shown in figures (iii and iv). I also worked along with Abdelaziz to implement the 2nd map by helping him organizing an excel file to separate the data file for weekly cases to make it easier for us to program it as shown in figure (V) which represents weekly cases into our code, this was a very tough piece of code but Aziz and I worked tirelessly on it to get it implemented. I also made additional elements such as the covid-19 symptoms tab which is on figure (IX) and linking the WHO website for additional information (using the same link idea as the #CovidTrending page).



Screenshots

Bibliography of screenshot reference

(i)

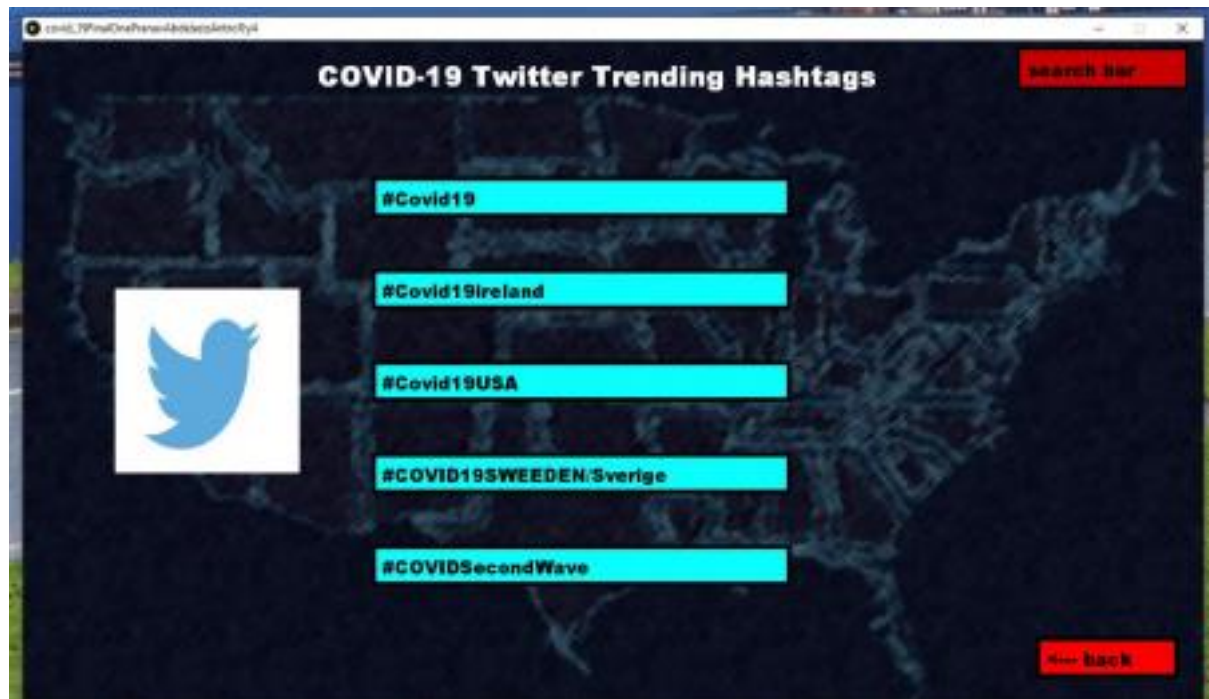


(ii)





(iii)

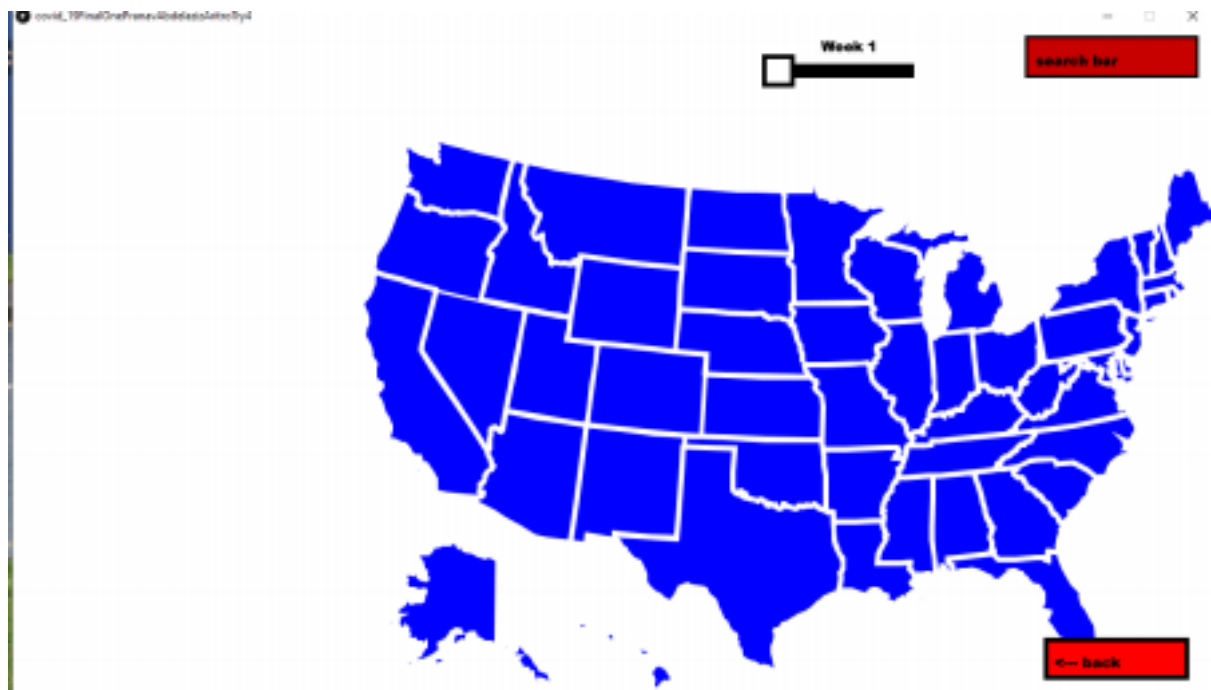


(iv)

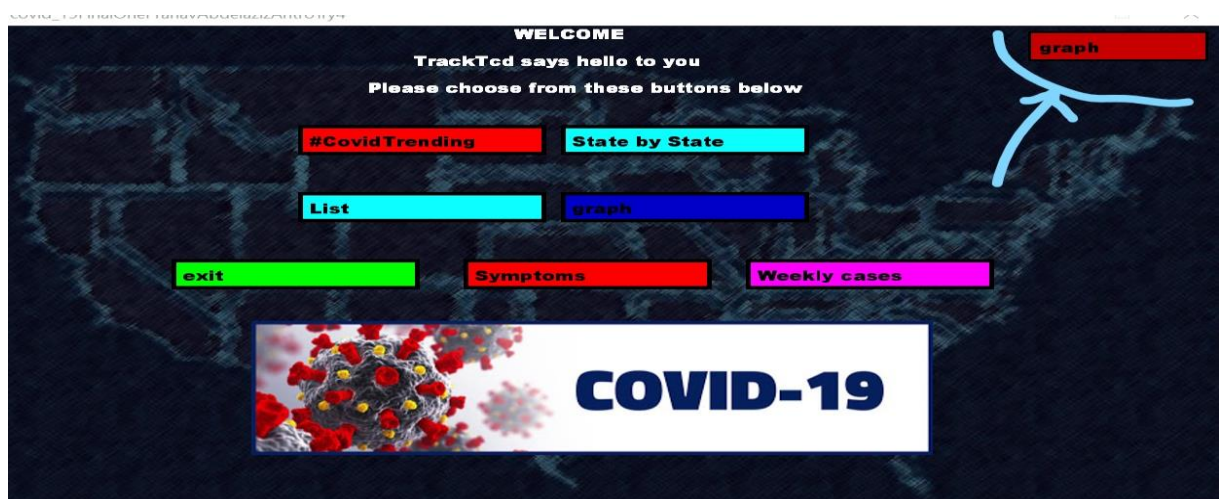




(V)

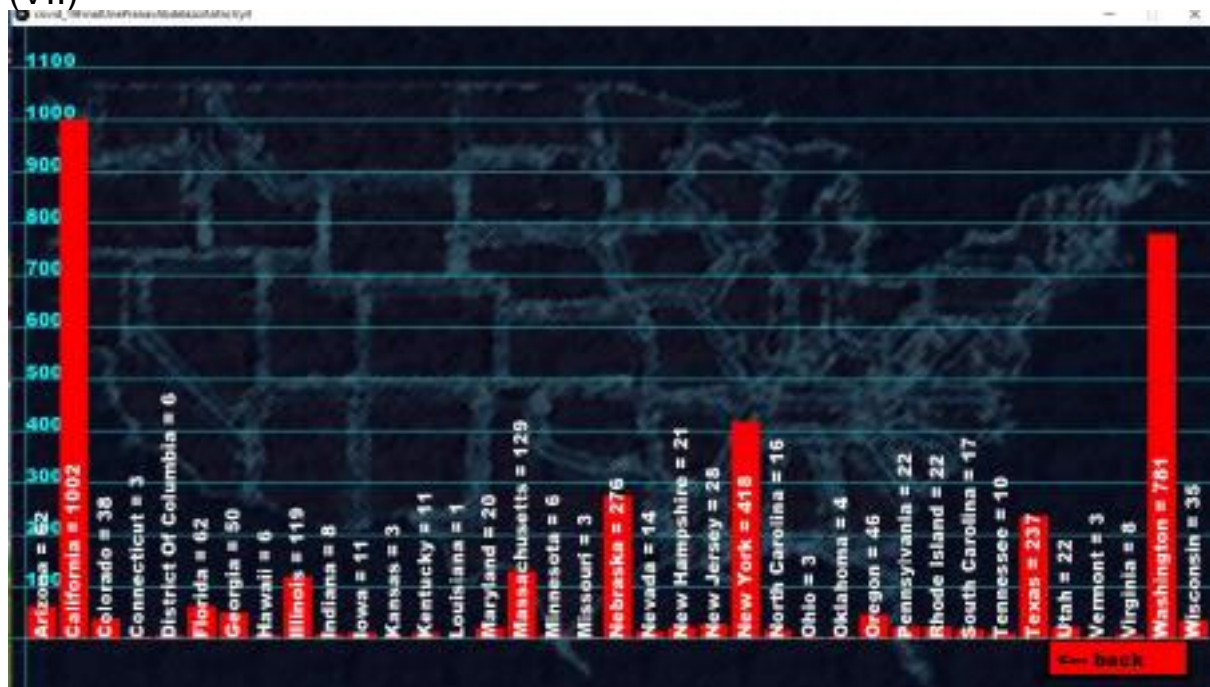


(VI)





(VII)



(VIII)





(IX)

