

PROJECT DOCUMENTATION

1.0. Title

COFAC-19

Meaning: Chris and Obed Fight Against Covid-19

1.1 Authors/Team members

Chris Gomez

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1.2. Abstract

The novel coronavirus known as Covid-19 has had a considerable impact on our society and changed how we engage our lives. It has managed to overwhelm the governments to the point that many countries had to shut down. Furthermore, there have been many epicenters of the virus since its advent in December of 2019. However, not all countries have been affected the same way as they differ in how many confirmed cases, deaths and recoveries are recorded.

The reasons for this are unclear, and new data is being gathered every day that help answer questions and, at times, surface new ones. In our paper we examined the current top three countries with the most cases: Italy, Spain and The United States of America. Alongside these countries we initially display the recorded results of Japan and China, the latter of which is the supposed origin of the virus. Japan was chosen arbitrarily as the fifth country only to give the user an initial summary of five countries. We display the confirmed cases, deaths and recoveries of the mentioned countries and give the user the opportunity to change the country of Japan with a country of their choice and display how that country is affected compared to the remaining countries of Italy, Spain, the United States of America and China. As it stands at the moment of the writing of this paper the United States of America is the country most affected by covid-19 in terms of having the most confirmed cases and deaths.

1.3 Introduction

Countries and hospitals deal with the life and health of their patients with coronavirus every day. Good medical care doesn't just rely on well-trained doctors and nurses and on high quality facilities and equipment. Without accurate, comprehensive and up to date and accessible data, medical personnel may not offer the best treatment or may in fact misdiagnose the condition, which can have serious consequences.

Therefore, this project provides the systematic procedure by which the records of this virus are created, captured, maintained, and disposed of. Our Application also ensures their preservation, accurate and efficient updating and timely availability. Application in question here refers to how we are gathering data and our unique way of presenting that data.

1.4 Related Work

There are a numbers corona virus data source from the research that have been done through the internet, the existing data for covid-19 which have been develop by numerous of companies, universities and individuals offers several function but very overwhelming to users.

In Our project(Application) user is given an option to add then compare how other countries are battling with the spread thus cases, recovery and deaths of covid-19.

Other than the adding to the default countries we already have, this Application also is capable in showing you total cases, recovery and deaths for the world.

1.5 Approach Code Requirement Description

We made a repo on a web-based platform (Github). It simplifies the process of working in group and made it easy to collaborate on the project merging changes in the master branch of the project. We also used a data source API "<https://covidapi.info/api/v1/>";

Java File	Primary Methods
HttpClient.java	static variable named apiUrl

	<ul style="list-style-type: none"> • url used to make api calls <p>specificDataForCountry(country, date)</p> <ul style="list-style-type: none"> • Will make a call to API based on the country name and date. • Confirmed cases, deaths and recoveries will be extracted and saved to an output folder and then to a Json file named output.json. <p>globalStats(date1, date2):</p> <ul style="list-style-type: none"> • Makes a call to API for global results based on a range of dates. • Extracts confirmed cases, deaths and recoveries for the whole world. • Note: Used only for one date and not a range of dates. <p>newHttpGet(url)</p> <ul style="list-style-type: none"> • This method is used in the above methods to obtain data in json format based on the passed in url.
CountryName.java	<p>constructor(filename)</p> <ul style="list-style-type: none"> • takes in the filename of the txt file that contains all the available countries to the API. This file is called ISO.txt. • calls the createMap() method. <p>createMap()</p> <ul style="list-style-type: none"> • Reads in the text file and, through the use of streams, extracts the name of the country and its three letter abbreviation. This returns a map where the country name is the key and the 3-letter abbreviation is the value.
WorldStats.java	<p>constructor</p> <ul style="list-style-type: none"> • Takes in “,” in the constructor which means get world data on covid-19 from Worldometer. <p>extractInformation()</p> <ul style="list-style-type: none"> • Makes a call to the API and extracts confirmed cases, deaths and recoveries for all countries. These values are then assigned to their respective instance variables to be used for the application.
CountryCovidStats.java	<p>constructor(country, date)</p> <ul style="list-style-type: none"> • Class’s constructor takes in a country’s 3 letter abbreviation and a date. <p>extractInformation()</p> <ul style="list-style-type: none"> • Based on the contractor, this method will make a call to the API and fill in the data for the instance

	variables. i.e. confirmed cases, deaths and recoveries.
IndividualStat.java	An enum class with one primary role <ul style="list-style-type: none"> Determine what
Tools.java	createMap() <ul style="list-style-type: none"> Used in JavaFx to get the Country Names and place them in a Map data structure.
GetPieChart.java Note: Three different pie chart classes were made for each section. We did this to divide responsibilities.	pieChart(List countries, Individual stat) <ul style="list-style-type: none"> creates a pie chart based on the country's parameter. displays the particular stat based on the Enum class passed as a parameter. Ex. displays confirmed cases addData(name, value) <ul style="list-style-type: none"> Update pie chart with the new countries data.
GetMulitBarChart.java	multiBar(countries, date) <ul style="list-style-type: none"> Fills in the multi-bar graph with the values found in countries. Values are confirmed cases, deaths and recoveries per country in list.
DeatiledStats.java	DetailedBox <ul style="list-style-type: none"> Fills the confirmed cases, deaths and recoveries for the whole world.
Main.java	Our main entry to the program Will call all the above classes and methods. menuLeft(countries, date) <ul style="list-style-type: none"> Fills in the left zone with all the possible countries that the API can call. This is the on;y interactive part of the application. The application will be able to change one country in the graph to the country chosen. Values in the graph will change depending on the selection.

1.5 Methodology/Results

1.6 Conclusion

1.7 References

1.8 Team Contributions

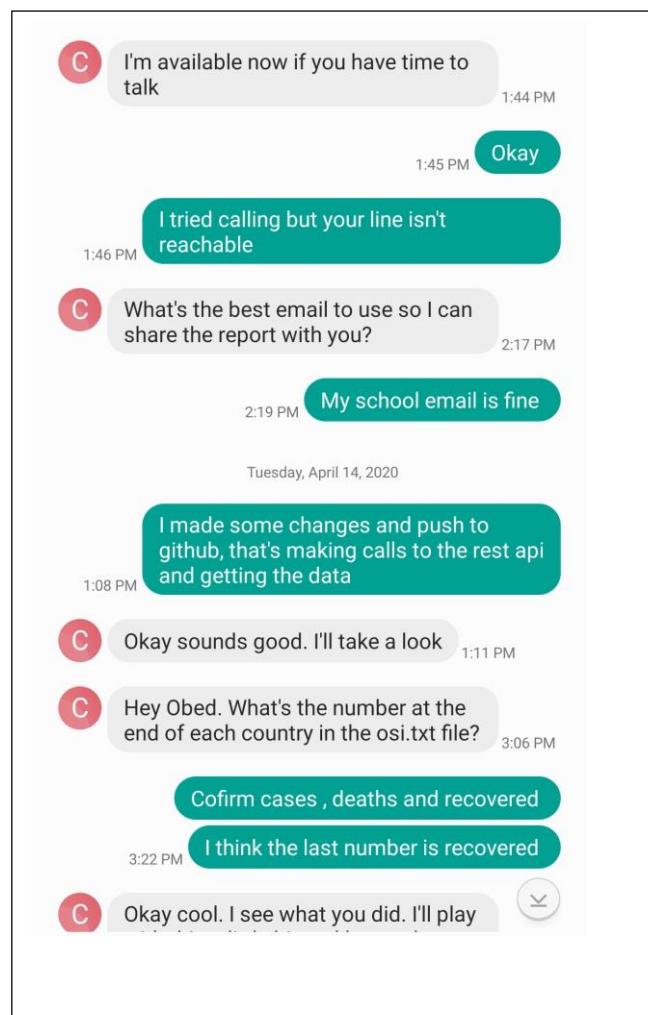
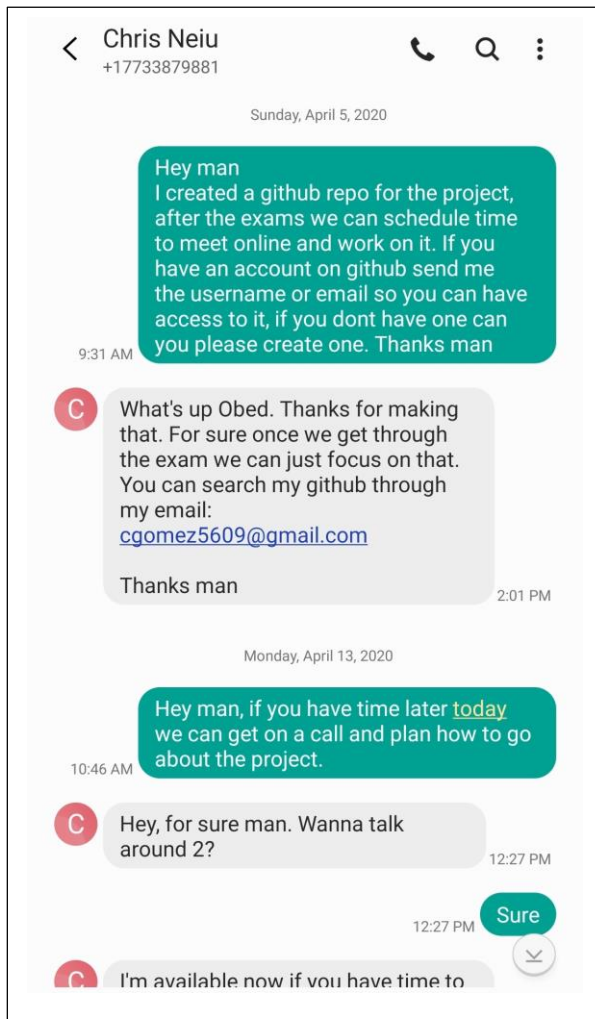
Meeting Days	Accomplishments
04/09/2020	<ul style="list-style-type: none">• Discussed the three datasets available to us.• Discussed how to divide team roles• Will meet on Monday to choose dataset and finalize team roles
04/13/2020	<ul style="list-style-type: none">• We chose the Worldometer dataset for our project.• We are focusing on the issue of coronavirus.• Obed will be extracting data using the API• Chris will design project in an OOD pattern
04/16/2020	<ul style="list-style-type: none">• Assign new roles to each member• Obed is in charge of User Interface using JavaFx• Chris will extract information from the Json file to use in the application.
04/19/2020	<ul style="list-style-type: none">• Changed our questions, thus changed our design• Based on Obed JavaFX application we made adjustments to how we will display our data.
04/24/2020	<ul style="list-style-type: none">• JavaFx graphs display the appropriate information.• The application updates when a new country is selected• Once updated with the new country then the necessary fields are updated as well.

Member Name	Roles	Contributions
Obed	API	Used API to retrieve JSON data in various formats.
Chris	Object Oriented Design	Design code in an Object Oriented Design
Obed	Java Fx	Overall design and code for JavaFX application.
Chris	Extract JSON data	Created, parsed and extracted all the necessary data from Json file.

Questions:

1. How many confirmed cases for each country? top 5
2. How many deaths for each country? top 5
3. How many recovered for each country? top 5
4. If a new country is picked, how does it compare to the other countries.

Multiple screenshots of group interaction



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C Hey Obed. What's the number at the end of each country in the osi.txt file? 3:06 PM

Cofirm cases , deaths and recovered

I think the last number is recovered 3:22 PM

C Okay cool. I see what you did. I'll play with this a little bit and let you know Thursday what I find. 3:27 PM

Sure 3:27 PM

C Hey Obed. Is there anyway to read in the Json into some text file? Right now it prints to the console. And then how would we parse through it? 4:36 PM

Yeah save it to a text file 4:38 PM

The api output for country name was in ISO so I scraped online for the corresponding full name, and saved it in a file "ISO.txt" 4:41 PM

C Got it. Thank you 5:17 PM

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C I pushed some new files onto our repository. Take a look then we can have a quick meeting to see what's next. It's only a snippet. Now we just have to figure out what questions we want to answer about our project. 1:48 PM

Ok will take a look 1:52 PM

What time do you want to talk, same time as class time? 3:00 PM

C Do we have class tonight? 3:34 PM

I dont really know 3:34 PM

I'm asking someone. 3:35 PM

C I'm meeting with dr Trana in a bit so I can ask her then I'll let you know. From what I remember I thought she was going to go over concurrency in case you wanted to do the extra credit homework 3:37 PM

Great 3:37 PM

C So there is class. She said that if you are planning on doing the homework then you should attend but if not then

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C So there is class. She said that if you are planning on doing the homework then you should attend but if not then you don't have to. 5:03 PM

Alright thanks man 5:05 PM

C Let me know what you decide 5:07 PM

Will be joining the class, we can have a discussion after the class 5:08 PM

C Sounds good. 5:09 PM

Do you want to talk 7:08 PM

C For sure. Call me when you're ready 7:09 PM

Saturday, April 18, 2020

C Small problem. I'm trying to do top 5 confirmed cases and top 5 deaths but it takes pretty long to run it because it's making a call to the api for every country. And some countries don't have everything up to date. So instead how about we just show the fatality rate for a specific country. Meaning

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Sunday, April 19, 2020

How will the data for the questions we have on Google docs look like?

I made some changes on the javaFX, what I have is just a template, lemme know what you think. The output for the questions we have will be really helpful for me. 5:12 PM

C Hey Obed. I just pushed some files to github. If you run the main method you'll get an idea of how it will look. If you want me to make any changes I can. I'm looking at your fx app right now 5:55 PM

C I LOVE your design. Nice job 6:12 PM

C When you have time let's have a quick meeting 6:33 PM

When?

I'm free you can call me now 6:35 PM

C Just pushed the files to github. Run the main method and you'll see how you can add the info to the graphs

