# COVID-19 Voice Assistant

Internship report submitted in fulfillment of the requirements for the Degree of

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**In**

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**By**

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# 1. Project Objective-

The coronavirus has caused widespread destruction across the world. Millions of people are infected and Millions are dead. The pandemic is still on the rise and as the rights to know that how much this virus has affected our lives as we continue to wage a war against it. So, I created the project with a voice that addresses the current situation of the world.

A corona-virus web scrapper voice assistant, the idea is that I am collecting all data related to the corona-virus like cases, death, cases by country, death by country, people tested, total case recovered and many more data and then I am setup a voice assistant that can serve that data to us.

# 2. Project Description-

In this project, I build a COVID19 voice assistant using Python. The project mainly covers the web scraping, voice assistance and multi- threading in python. The most interesting part of this project is its result. When you run the program the console says “Listening…”, say “number of total cases” and the assistant would reply with the number of COVID19 cases across the world. Now say, “total deaths in India” and the assistant would reply with this number. Now say, “total Cases in India” and the assistant would reply with this number. You can say, “update” and the assistant will update the values for you which may take some time. You will have to say “stop” to exit from the running application. I just built a voice assistant that updates you about the coronavirus by only using your voice.

## 3. Skills/Technologies Developed-

- Web Scraping

The project makes use of a tool called Parse Hub. Parse Hub is free web scraper that is very powerful and is easy to use. This tool allows you to scrape the web merely just by clicking on the elements you would like to get out from that website. We will be scraping from the website for statistics which is **Worldometers** that is regularly kept updated about the coronavirus information. Parse Hub is doing behind the scenes is constructing a JSON format of what you are linking above. After you are done with the linking, hit 'Get Data', which may take a while. Then make sure, on the next screen you note down the API key, Project token and Run token.

- Voice Assistant

The requirements for this part of the project are the following python packages: requests, json, pyttsx3, Speech Recognition, **re**. So, pip install all these packages.

Use your API key, project token and run token in their respective variables.

The class Data has the following methods:

Get data(): fetch the data from parse hub using your most recent run for the project on their servers and return it.
get_total_cases(): get the total cases of COVID-19 around the world.
get_country_deaths(): get the total number of COVID-19 deaths in the world.
get_country_data(): get the number COVID-19 cases and deaths in any particular country.
get_list_of_countries(): get the list of all the countries.
The speak() method initializes the pyttsx3 engine to say a text passed into it as a parameter.
The get_audio() method listens to the speech input by the user through the microphone using the recognize_google() method by Google and returns the input text.

Finally, the main() function is responsible for recognizing the input speech using regular expression patterns and classify them as patterns for cases and deaths in world or cases and deaths in any country.

The matched pattern calls that particular function and speaks the number out loud.

- Multi threading

As of now, your assistant speaks only the data you fetched initially. It is important to keep the data updated, as this global pandemic is still on, it would be soothing to hear it when your assistant says that the number is declining. This function is the update() function. The function, doesn't fetch from the last run on parse hub, but instead initializes a new run on the parse hub servers for your project. This will take a while. The most interesting part is to reduce this time. So, we make use of multi-threading using the multithreading library in python. By doing this, we ensure that the voice assistant is running on one thread and the updating of data takes place parallely on another.

## 4. Conclusion-

Using Pares Hub gives you freedom and simplicity for scrapping a website. We don't have write Beautifulsoup and much more code for scrapping a website. Python has inbuilt library like pyaudio and other things we provide simplicity in writing a code. I am here work using regex search pattern so rather than using like some ML or AI model to setup the voices I kept it simple and this will easily add some new pattern

Project Link:- https://github.com/shivank86/corona-virus-Voice-Assistant