

# Group 8: Project Final Deliverable

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## 1. Project title

COVID-19 Stats Discord Bot

(Web Services theme)

## 2. Team members and roles

Walesia Robinson II, Project manager, preferred email: [lisalynn@terpmail.umd.edu](mailto:lisalynn@terpmail.umd.edu)

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Chabi Baskota, Other (code), preferred email: [cbaskota@terpmail.umd.edu](mailto:cbaskota@terpmail.umd.edu)

## 3. Summary of accomplishments

Our final result for this project was the successful creation of a Discord bot that retrieves COVID-19 related information from various APIs. Once invited to a server and called by the users, the bot introduces itself and guides the user through its features - outlining proper formatting so that the users can successfully query the desired information. For every country and individual U.S. states, the bot returns the new positive tests, number of total confirmed cases, current hospitalizations, cumulative deaths since the start of the pandemic, new daily deaths, and the date that the data was last updated. We tried to account for as many test cases (mainly input validation) as we could to prevent a lot of breaks or “dead ends” in our code.

## 4. Summary of learning

It was very fulfilling to be able to apply what we’ve learned this semester and build a tangible product that has real-world applications. JSON was the preferred format for all of the APIs that we used. It is particularly favored by web services and databases because it is fast, easy to read, and flexible across modern programming languages. We learned that Python comes with a built-in function to handle JSON data. Once we got to work, we realized that working with the data was just as similar as working with dictionaries in class. Learning how to work with Discord’s API and libraries was particularly interesting. We read about so many different kinds of bots that users have contributed to the community: from memes and music to games and scheduling — it was fun to familiarize ourselves with the process so that we can create more involved implementations as we progress through our education.

Aside from the technical things we learned during this project, our group faced some challenges getting the final code together due to varied schedules and other circumstances. Thankfully with an

extension, we were able to get our bot working with all the features as initially planned. We learned that it is important to get an early start on projects in case any technical issues arise. Getting “unstuck” when running into coding problems is an essential programming skill, and that becomes significantly less stressful when you allow yourself plenty of extra time to take a break and logically work through them.

## 5. Next steps

For future contributions to this project, we can add more features to our bot to include:

- Function that returns FAQ-style references so that users can query certain COVID-19 related information like how to prevent the spread if you are sick, social distancing guidelines, what kind of symptoms are most common, information about testing, etc.
- Function that returns the latest news/posts regarding COVID-19, (ie. top related posts from reddit / recent news articles via Reddit API or JSON News API).
- Hosting bot on a virtual private server for near 24/7 online status.

## 6. Individual contributions

Walesia Robinson II:

- \$covid check <states>: statistics for each individual U.S. state
- testing bot in server + flowchart for bot code
- debugging
- adding code to handle input validation and error messages

Chabi Baskota:

- \$covid US: statistics for the US
- troubleshooting and debugging
- finding test cases that break code
- video presentation - coordinating

Yafet Kassa - Yafet:

- \$covid help function
- technical troubleshooting
- flowchart for creation of Discord bot
- video presentation - demonstrating

Bryce Hawkins:

- \$covid check <country>: statistics for each individual country
- technical troubleshooting
- video presentation - editing

Gerson Hernandez:

- \$covid all: retrieving latest worldwide covid statistics
- technical troubleshooting
- testing for breaks in code
- video presentation - demonstrating

**7. Include everything for your project in the ZIP file (including previous updates/code-snapshots, where available). Make sure you follow the rubric in the Team Project information doc.**

- We were also able to create a video demonstration of our bot's various features for ease of accessibility
- Also included in our Github README - Test case(s) that ended up breaking our code:
  - Too many API calls from [www.covid19api.com](http://www.covid19api.com). They recently phased in rate limiting for free users. Too many requests to the API within a short period of time will require a 5-minute waiting period before new calls can be made.