Open-Source **Master Doc**

General Information:

- All contributions **must** be done through the organization on GitHub. This will help us keep track of everybody's contributions and centralize our efforts.
- All projects listed are viable for volunteer hours unless marked otherwise.
- When possible, projects are marked with languages they use (ex: Python 🐍)
- After you've made a contribution, click here to log it for volunteer hours.
- New to open-source? Check out https://opensource.com/ for dozens of guides, articles, and other sources of information concerning open-source projects.
- Have any suggestions for us? Check out this Google Form.
- For a compository of all the helpful links scattered throughout this document, check "Index" at the bottom!

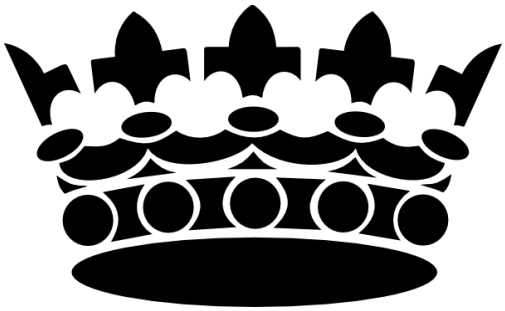
Tips:

Successful pull request?
Log your hours!

1. Look at the **README.md** (the description of the project when you open GitHub) first before you decide to contribute.
2. Read the **issues** on GitHub to see if there are any that look like you can solve or might want to try solving.
3. A good way to start is looking at **COVID-19 Dashboards**, since you can make changes to the code and see its response pretty quickly. Additionally, many dashboards are coded in relatively simple languages like **Python** and **R**.
4. Although you can't get volunteer hours unless you successfully contribute to the project, contributing to open source is still worth it even if you can't get hours. By downloading people's code and trying to fix minor problems, you'll gain exposure to plenty of valuable technologies.
5. If you're stuck, try looking for projects that have issues involving **Documentation** (updating READMEs, etc.). Updating these will usually involve getting familiar with how the project works from a coding perspective and a user perspective and adding some of the information you learned for others to read. It's a great way to start.
6. This Video describes a typical contribution workflow:
    a. Read the project's **README**
    b. Read the **issues** and find one you might want to solve
        - Optionally comment on the issue saying "I'll get this" or "I'll take this one on"
    c. Fork the project to your GitHub account

    d. Follow the project's instructions to download the project, run it, and try to figure out how everything fits together
    e. Try to solve the issue
    f. Make a pull request to the initial repository
7. After you've made a fork of a project to work on an issue, **you can work with a team to solve that issue.** They just have to make changes to your fork!

Projects



COMING SOON

College Mapper Pro™, a TAMS Open Source Project

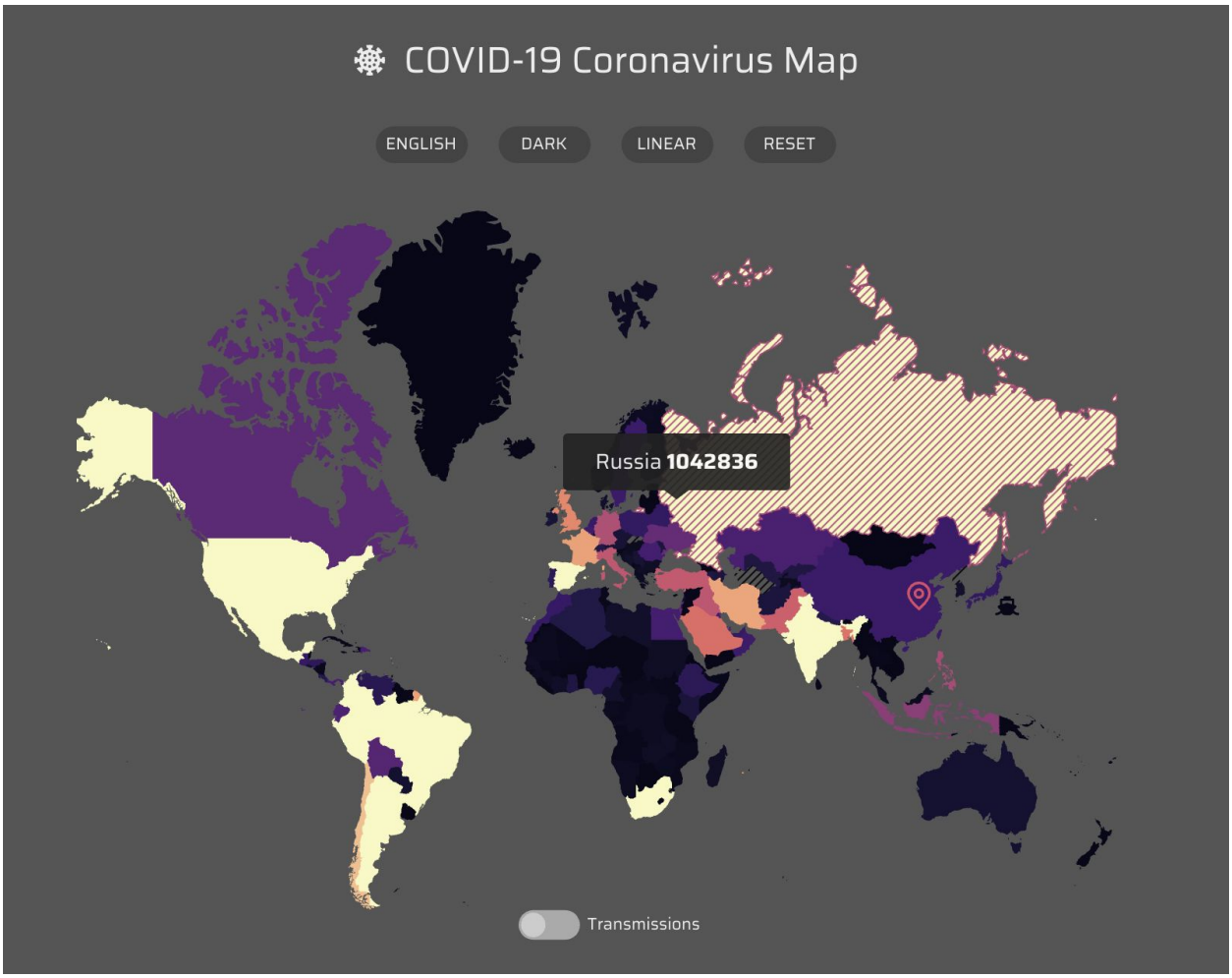
Beginner Contributions

Contribution Difficulty Level: **Easy**

If you're a beginner to programming **or** open source, these are great ways to learn your way around GitHub and basic issue-solving. Also, a great way to fulfill those **Hacktoberfest** quotas.

30 Seconds Project

- This project allows you to practice your git and coding skills at the same time. All you have to do is write original scripts that do some cool thing in a language, and make a pull request with that new file to their project. While you can't get volunteering hours out of this, you can practice a new language and/or using GitHub.
- **Note:** Not viable for volunteer hours.
    - Javascript
    - Python
    - React
    - Interview Questions
    - CSS



Dashboards

Contribution Difficulty Level: **Medium**

Dashboards are a great way to get started with open source contributions, especially given their increased relevance since the outbreak of the pandemic. Additionally, dashboards use a diverse array of technologies, including Python, R, React, Jupyter Notebook, vanillaJS, and more.
See other COVID-19 related projects on GitHub.

South Africa COVID-19 Dashboard

- GitHub
  - Python/Jupyter Notebook

Cuba COVID-19 Dashboard

- GitHub
  - Javascript
  - Python 🐍
  - CSS

UK Coronavirus Dashboard

- GitHub
  - React

Animated Coronavirus Map

- This one is honestly pretty cool and I'm thinking of trying to contribute
- https://covid19.health
- GitHub
  - React

COVID-19 Health Assessment Dashboard (CHAD)

- https://afit.shinyapps.io/covid19/
- GitHub
  - R
    - **R** is actually pretty easy to learn and really fun to work with if you've never used it before. It's pretty much Python-level (in fact, many Python libraries we commonly use today were inspired by inbuilt R constructs!)
  - Project has issue desiring **User Documentation**

General

Contribution Difficulty Level: **Challenging**

General includes varied projects that serve a humanitarian purpose. Many of these projects are relatively hard to contribute to and/or get involved with but can make some of the most impact. Furthermore, they tend to be associated with big name organizations or nonprofits.

[Article on 5 Open Source Projects]

Election Guard

- a set of open source software components that can be used to create and publish end to end verifiable elections as well create a publishable artifact for ballot comparison audits.
- Project by **Microsoft** (hey, I've heard of them before!)
- Description
- GitHub
    - Python 🐍
    - C++ version coming soon

Ushahidi

- Open Source data collection + visualization software; used for election monitoring, crisis response, human rights data + more.
- Website
- GitHub Org Profile
- Web Platform
    - PHP
- Pattern Library
    - CSS

OpenMRS (Open Medical Record System)

- a collaborative open-source project to develop software to support the delivery of health care in developing countries.
- Website
- GitHub Org Profile
    - Java
- They have a custom system for contributing so it's a little challenging to start contributing. But, if you really want to help it would be awesome. Check out how to contribute here.

ODK (Open Data Kit)

- Provides free software to aid in data collection, it has been used for disaster relief, monitoring pandemics, and much more. It is used by large companies like Google and charities and other humanitarian organizations like the Red Cross and the Carter Center.
- Website
- GitHub
    - Java
- Since it's a bigger organization, there is a more set way of doing things, but it's quite easy to get used to. More information can be found on their contributing document on GitHub

Folding at Home

- "Together, we have created the most powerful supercomputer on the planet, and are using it to help understand SARS-CoV-2/COVID-19 and develop new therapies. We need your help pushing toward a potent, patent-free drug." - Using user PCs to perform computations relevant to COVID-19 research.
- Website
- GitHub
    - Python 🐍
    - C++
    - Jupyter Notebook
    - Javascript

Potential Projects

If you have a project you want to work on but aren't sure if it would be good for volunteer hours, submit your idea to this Google Form and we'll take a look!

Guidelines/Things to ask yourself when researching projects:

- Who does the project serve? It will only be eligible if it either serves **charities/non-profits**, or is one itself
- What does it do? The project needs to serve a **humanitarian** cause.
- Do they invite **anyone** to contribute or is it limited to a certain group? It needs to actually be possible to contribute to!
- Is the project **active**? There are plenty of projects online that are not being maintained anymore, make sure you are careful to check their GitHub page to see if they are still active

Required Information

- Link to their GitHub page
- Link to their home page
- Any other important links you may want us to add (we will poke around ourselves so it's fine if you don't have any)

Index

Google Forms

- GitHub Accounts
- Contribution report
- Project Ideas
- Suggestions for the Committee

Workshops/tutorials

- Intro to Git and GitHub
- Linux Cheat Sheet | GitHub cheat sheet

Helpful Websites

- TAMS Open Source Organization Page
- https://opensource.com/
- Making a contribution

- Hacktoberfest