Git & GitHub -
that thing everyone knows but no one *knows*

Who's this boomer

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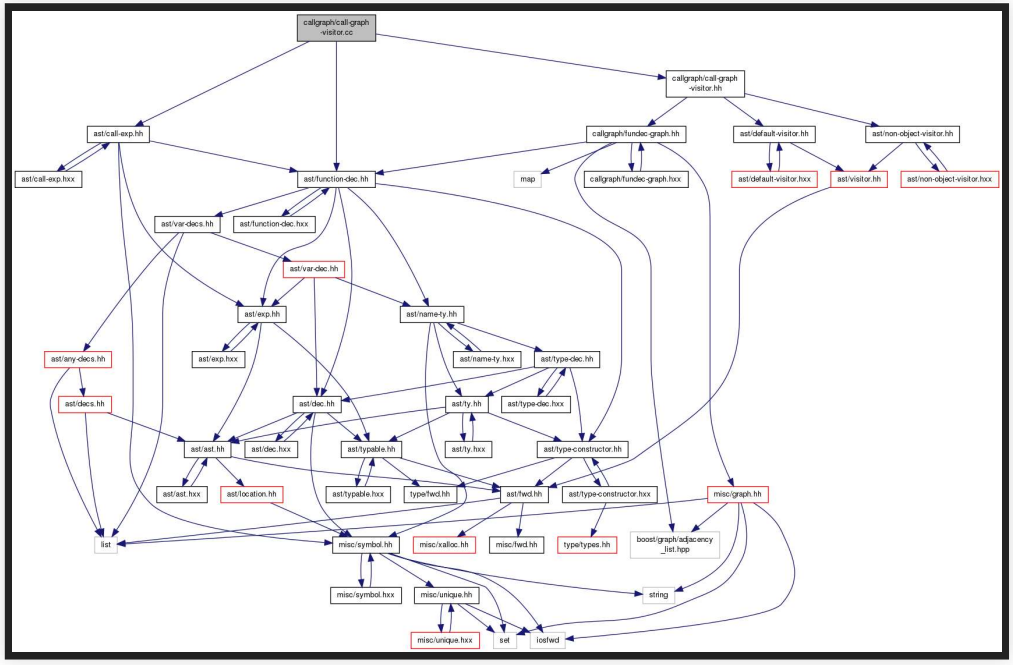
Sourcegraph - Code Intelligence Engineer

I work with graphs



"Inspired" by

Colm "mloc" Ó hIcí's slides

inspired by Adam Gillessen's slides...

What's Git, anyway?

"Git is a free and open source distributed version control system designed to handle everything from small to very large projects with speed and efficiency."

git-scm.org

Okay lets try again...

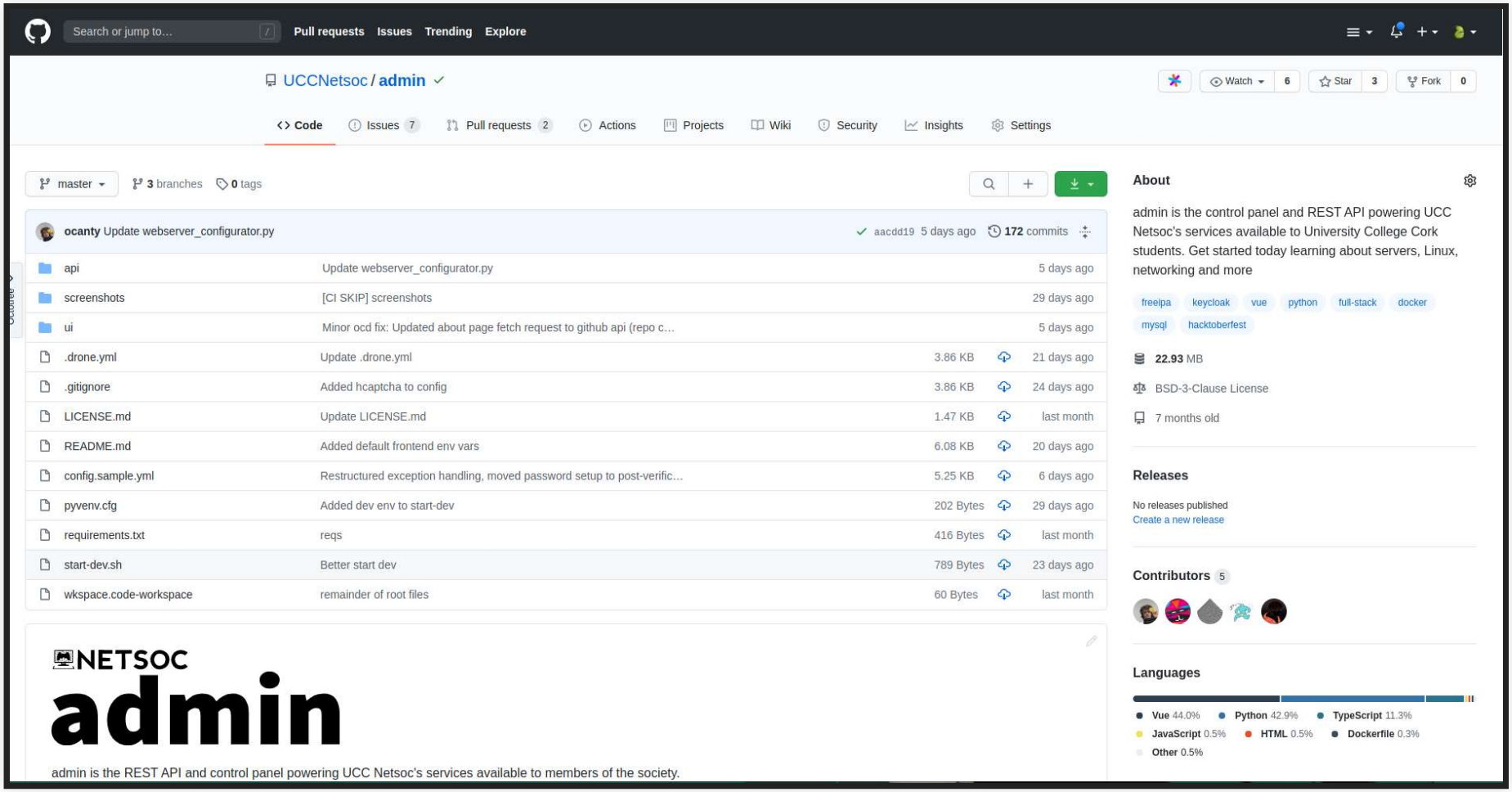
Git is a system in which developers can track changes in files in a timeline and can merge timelines to incorporate other developers' changes in their own timelines

GitHub

The most popular site for hosting Git repositories.

Expands on Git by providing more tools and a comprehensive UI for collaboration.

Basically, GitHub is to Git what [illegible]


Search or jump to…
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Star 3
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Issues 7
Pull requests 2
Actions
Projects
Wiki
Security
Insights
Settings
master
3 branches
0 tags
ocanty Update webserver_configurator.py
aacdd19 5 days ago
172 commits
api Update webserver_configurator.py 5 days ago
screenshots [CI SKIP] screenshots 29 days ago
ui Minor ocd fix: Updated about page fetch request to github api (repo c… 5 days ago
.drone.yml Update .drone.yml 3.86 KB 21 days ago
.gitignore Added hcaptcha to config 3.86 KB 24 days ago
LICENSE.md Update LICENSE.md 1.47 KB last month
README.md Added default frontend env vars 6.08 KB 20 days ago
config.sample.yml Restructured exception handling, moved password setup to post-verific… 5.25 KB 6 days ago
pyvenv.cfg Added dev env to start-dev 202 Bytes 29 days ago
requirements.txt reqs 416 Bytes last month
start-dev.sh Better start dev 789 Bytes 23 days ago
wkspace.code-workspace remainder of root files 60 Bytes last month
NETSOC
admin
admin is the REST API and control panel powering UCC Netsoc's services available to members of the society.
About
admin is the control panel and REST API powering UCC Netsoc's services available to University College Cork students. Get started today learning about servers, Linux, networking and more
freeipa
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docker
mysql
hacktoberfest
22.93 MB
BSD-3-Clause License
7 months old
Releases
No releases published
Create a new release
Contributors 5
Languages
Vue 44.0%
Python 42.9%
TypeScript 11.3%
JavaScript 0.5%
HTML 0.5%
Dockerfile 0.3%
Other 0.5%

Ok, but why should I use version control?

Because you've probably made a mistake you couldn't fix with Ctrl+Z

OR

You're getting sick of collaborating code over Google Docs

How does it *actually* work

Code is stored in Git as a collection called *repositories*, which can contain one or more projects.

Changes are represented by *commits*, which have an owner, message and a set of changed files.

What does GitHub do different?

A more easily accessible interface and user experience for collaborating with other developers across the world.

Users can "fork" repositories, creating a copy/snapshot of a repository under the users account.

After making changes to this fork, users can create a "pull request" to request the changes to be "pulled" into the main repository.

Forks? Pull Requests? What happened to good ol' copy paste

Me too pal, but worry not.

Different ways to Git Gud

The default intended way is through the command line.

But other ways exist too with pretty UIs and all that. We'll start off with the command line and then show with Visual Studio Code.

Cloning

Downloads a copy of a remote repository to your computer. Inludes all history!

```
# Clone the repo
$ git clone https://github.com/UCCNetsoc/hacktoberfest.git
```

When working with Github, you may want to clone your fork instead (if you aren't a part of the original project).

```
$ git clone https://github.com/Strum355/hacktoberfest.git
```

Making changes

Now that the repo is cloned, you can do whatever you want to the local files.

Once we make some changes, we can use `git status` to see what files have changed:

```
$ git status
On branch master
Untracked files:
(use "git add <file>..." to include in what will be committed)

sample.txt
```

`git status` will show you any files that have been added, changed, or removed.

Making changes

We can now use `git add` to choose the files we want to include in the commit:

```
$ git add sample.txt
```

And then we use `git commit` to actually record the commit:

```
# allows setting the commit message in the quotes
$ git commit -m "hello reddit"
```

And finally, `git push` to upload the changes to the remote repository (GitHub, in this case)

```
$ git push
```

Pull Requests

Now that we've pushed changes to our fork, we can create a Pull Request from our fork to the original repo.

Cue awkward demo

Reviewing

If you're maintaining an open source project, 80%+ of your time will be spent reviewing other people's code.

GitHub makes this relatively easy with pull requests.

Cue awkward demo #2

Questions?

Thanks for listening!

More reading:

- https://git-scm.com/doc
- https://guides.github.com/