



COMPUTER
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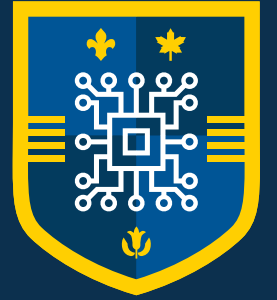
COMPUTER SCIENCE SOCIETY

Intro to Open-Source



What I am going over

Open-source, Open-source licenses, git, github, and why collaborating like this is important.



MEET THE PRESENTER

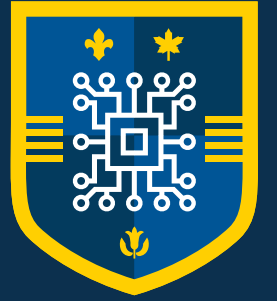
Ryan Prairie

I am Head of Technology for CSS. I have been programming for 8 years. I like Open-Source Software. I have worked for CIBC and BlackBerry. I make a bunch of cool things. I can't spell even a little so I'm sorry if I misspell.

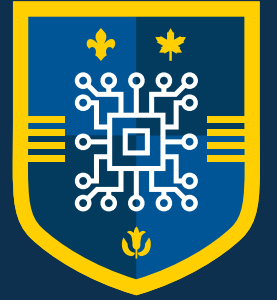
in [linkedin.com/in/ryanprairie](https://www.linkedin.com/in/ryanprairie)



github.com/prairir



What is Open-Source



Open-Source

Open Source is the idea of having all the source of something be open for redistribution. This could include software, hardware, graphic design, or anything in between. Open-source software is sometimes called FOSS, that stands for Free Open-Source Software.

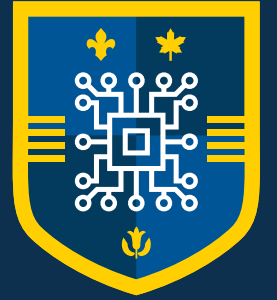
Normally, open-source software is under a license.



Open-Source Terms

The open source initiative defines 10 aspects of open source

- Free Redistribution
- Source code
- Derived Works
- Integrity of The Author's Source Code
- No Discrimination Against Persons or Groups
- No Discrimination Against Fields of Endeavor
- Distribution of License
- License Must Not Be Specific to a Product
- License Must Not Restrict Other Software
- License Must Be Technology-Neutral



Open-Source Licenses

Open-Source software is the intellectual property of the contributors. Because of that, it needs to have a license of what people can do with it. Open-Source licenses can be sorted into 3 categories, public domain, permissive, and copyleft.

Public Domain Licenses

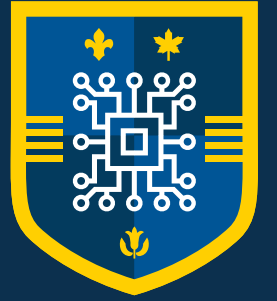
- PD (public domain)
- CC0 (creative commons base license)

Permissive Licenses

- BSD
- MIT
- Apache

Copyleft

- GPL
- LGPL
- AGPL
- Mozilla

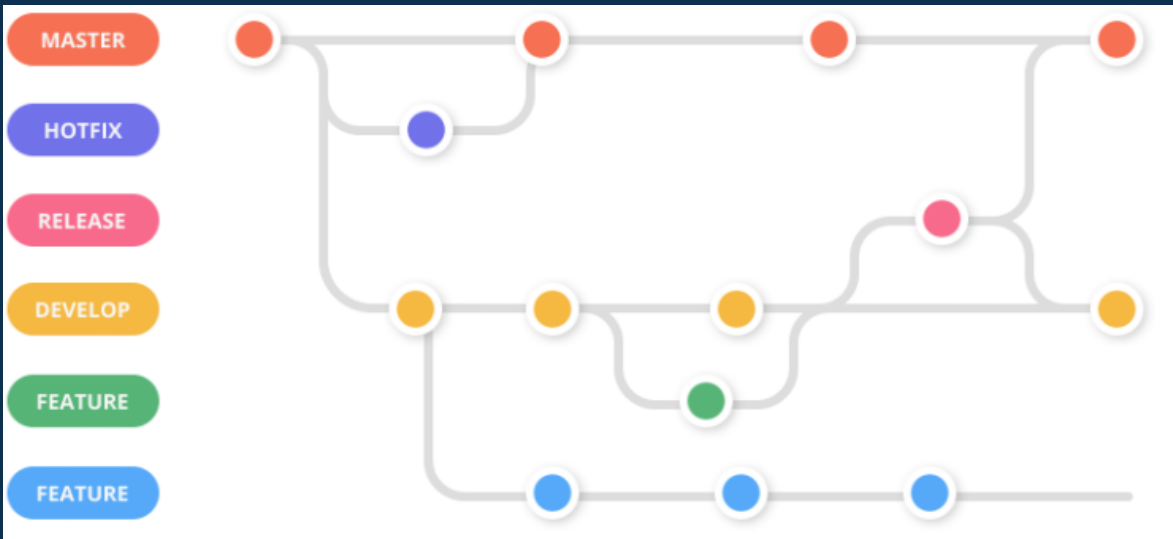


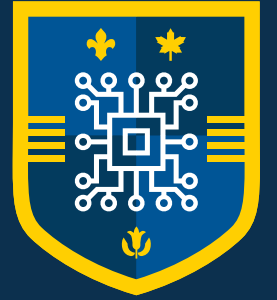
To more practical knowledge



Git and VCS

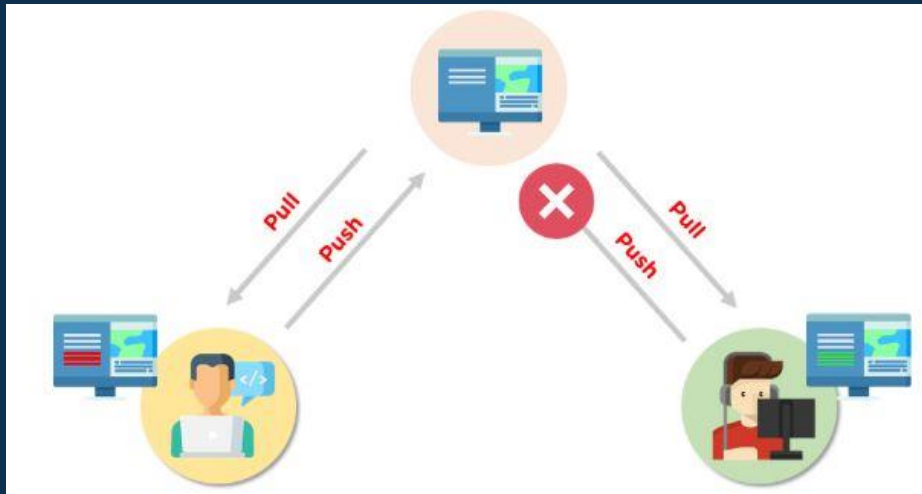
VCS or version control systems are tools to keep track of changes to software. Very good for collaborative works. Git is a very popular type of VCS. Git uses a tree system with branches. Branches can merge, rebase, etc. The nodes of the tree are commits.

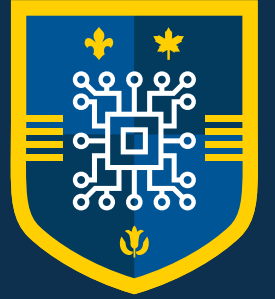




Git Basic Terminology

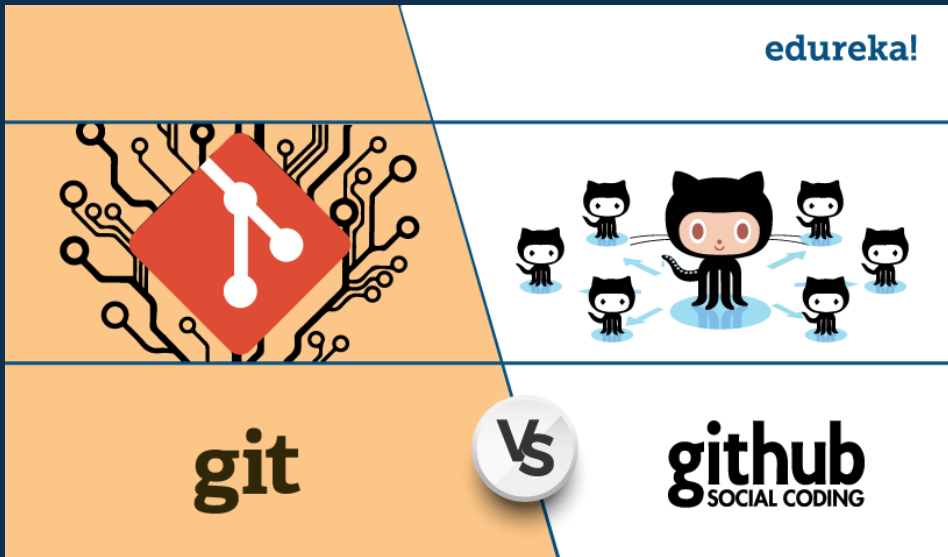
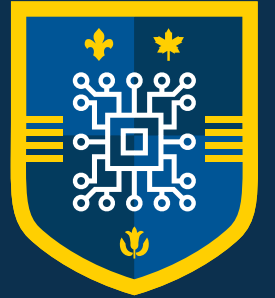
- Pull = get code from remote host
- Push = give code to remote host
- Stage = setting aside a version before committing
- Commit = snapshot of code versions, it acts like the node to the branch
- Branch = a series of isolated changes
- Master (or main) branch = core and root branch
- Merge = getting 2 branches to become 1 branch
- Merge conflict = 2 branches have different versions of the same code/file





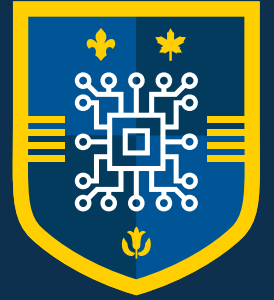
Github

GitHub is a website and company that offers services on top of git. These services include repositories, pull requests (sometimes called merge requests), and repository permissions. GitHub also adds a social media portion with following people and stars on projects.



Github and git differences

Git is an open source command line tool and a program whereas github is a company and a website. Github adds multiple things like Pull Requests.

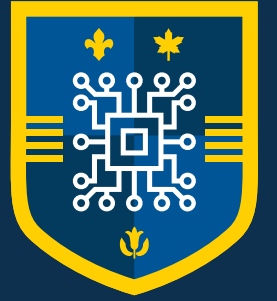


Make a README

Because no one can read your mind (yet)

Common FOSS files

- README.md
- CONTRIBUTING.md
- SUPPORT.md
- ARCHITECTURE.md
- SECURITY.md
- LICENSE or license
- .gitignore
- .github directory
- CHANGELOG.md or CHANGELOG directory



Have any **questions?**

Ask away! We hope you learned something new!



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THANK YOU

FOR JOINING US!

Make sure to tune in next time!