

GETTING ● STARTED IN OPEN SOURCE



Date: 07/10/2022

Presented By:
Anirudh Panda



WHAT IS OPEN SOURCE?

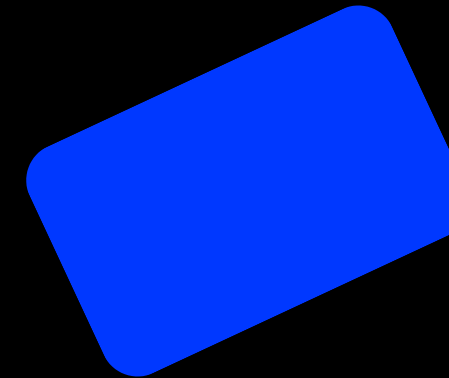
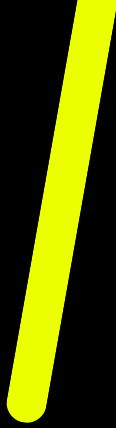


open-source

/əʊp(ə)n'sɔːs/

adjective **COMPUTING**

denoting software for which the original source code is made freely available and may be redistributed and modified.



WHAT SHOULD YOU EXPECT FROM THIS SESSION?

Criteria for Open Source

How does Open Source work?

Pros and Cons of Open Source

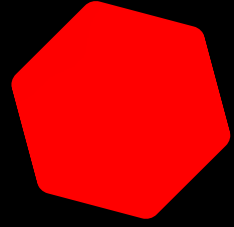
Benefits of Doing Open Source

BONUS:

What is a Version Control System?

What is Git & GitHub



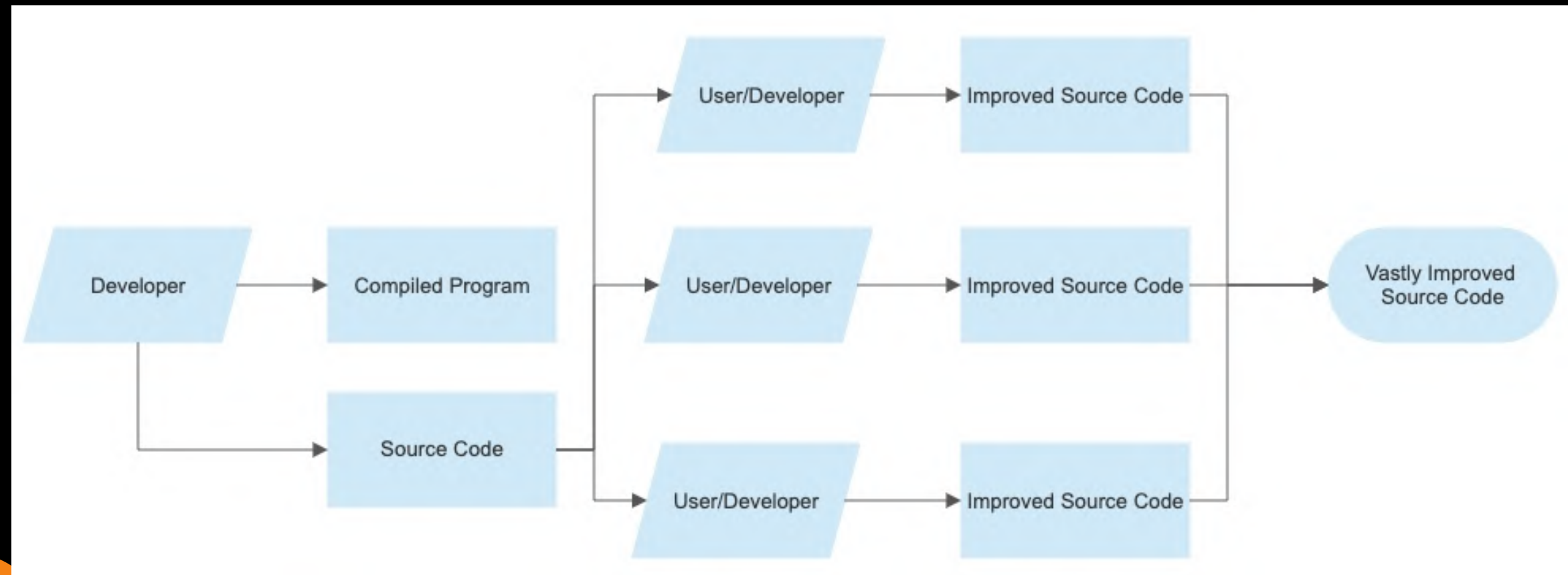


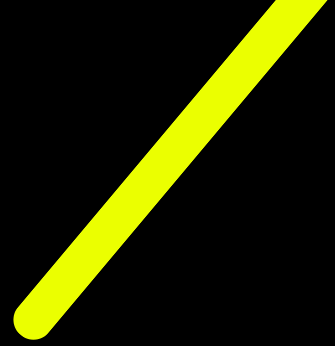
CRITERIA FOR OPEN SOURCE

- Source Code
- Free Redistribution
- Distribution of License
- License Must Not Restrict Other Software
- No Discrimination Against Fields of Endeavor
- No Discrimination Against Persons or Groups
- Derived Integrity of The Author's Source Code Works



HOW DOES OPEN SOURCE WORK?





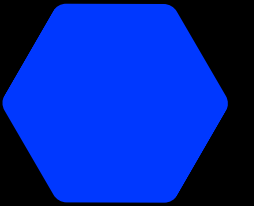
PROS AND CONS OF OPEN SOURCE SOFTWARE

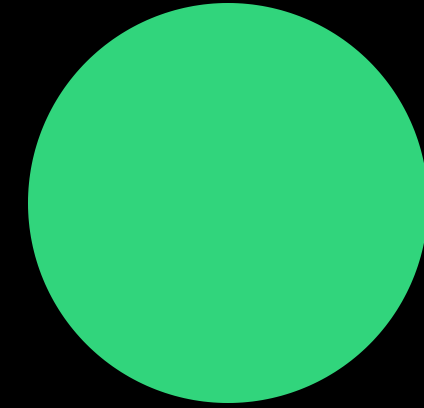
PROS:

- Highly Reliable, if maintained!
- Availability of Source Code
- Build your Networking with like-minded people
- Free and/or Cheaper than Commercial Products.

CONS:

- No Guaranteed Support
- Security becomes a major issue
- Not generally straightforward to use and requires a certain learning curve to get accustomed.





BENEFITS OF DOING OPEN SOURCE CONTRIBUTIONS

Helps in writing cleaner code

Your code can be used globally

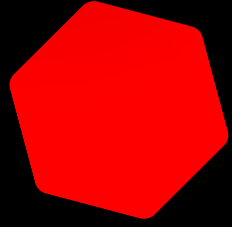
You will learn a lot of both soft & hard skills

You will work with the most intelligent people in the community

A better understanding of technology & SaaS

It helps in being prepared for projects

Gain recognition & monetary benefits



TOP OPEN SOURCE SOFTWARE EXAMPLES

1. Mozilla Firefox
2. VS Code
3. LibreOffice
4. VLC Media Player
5. Linux
6. Blender
7. Python
8. Django
9. React/Angular/Vue
10. WordPress
11. Kubernetes





BONUS: GIT & GITHUB



GIT



Git is an Open Source Distributed
Version Control System.
Git was developed by Linus Torvalds in
2005 the same person who developed
the Linux kernel

GITHUB



GitHub is a code hosting platform for
Version Control and Collaboration. It lets
you and others work together on
projects from anywhere.



HISTORY OF GIT


INNOVATION THROUGH CONTROVERSY



As a result of the **Linux Kernel's** unusual development situation, the developers struggled to find VCSs (version control systems) that fit their needs. They settled for a mix of **BitKeeper** and **Concurrent Revisions System (CVS)**, with a group of core developers working on each system to manage the development of the kernel.

In early 2005, the relationship between the community that developed the **Linux kernel** and the commercial company that developed **BitKeeper** broke down, and the tool's free-of-charge status was revoked. Many Linux core developers that relied on BitKeeper's free software to develop the Linux kernel were now locked out from using it.

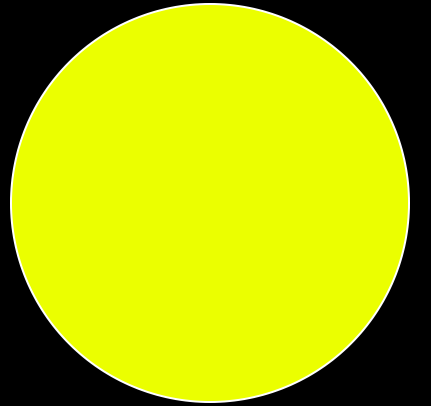
This prompted the **Linux development community** to develop their own tool based on some of the lessons they learned while using BitKeeper. Linus Torvalds, the principal developer of the Linux kernel, began work on a new VCS after seeing no other free options that met their needs.





WHAT IS A VERSION CONTROL SYSTEM?

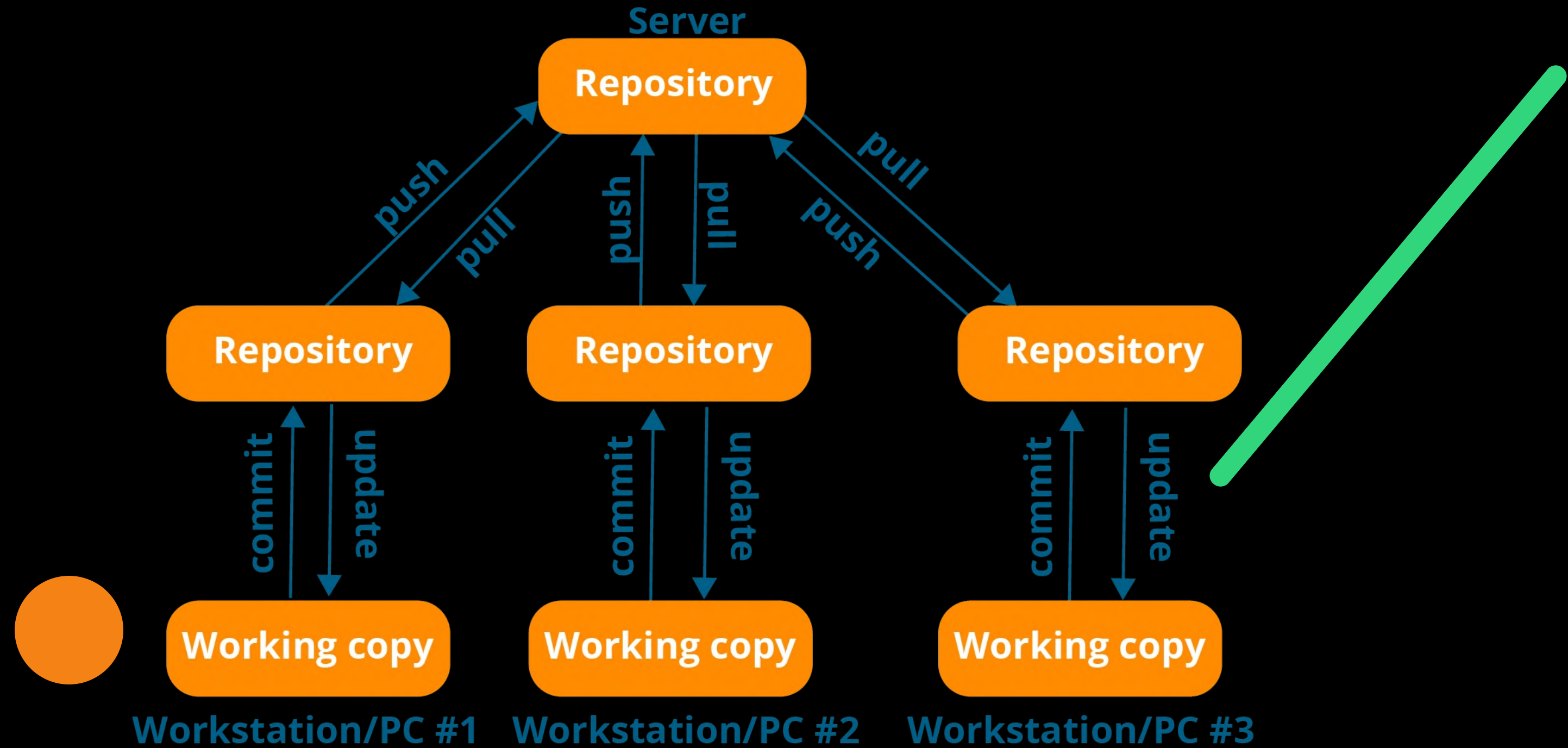
Version control is a system that records changes to a file or set of files over time so that you can recall specific versions later.



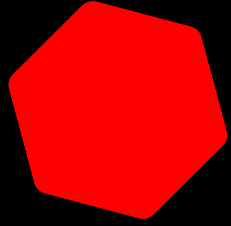
- For example, You have created an **App** that is on the **1.0** version. Suppose you want to add a feature and so the **App** is upgraded to the **1.1** version.
- But after a few days, the App is crashing because of the feature. So now you want to roll back to the **1.0** version.
- So here **VCS** comes into the picture. You can track all the changes to files made from a particular **checkpoint (commit)**



Distributed version control system



Working of DVCS



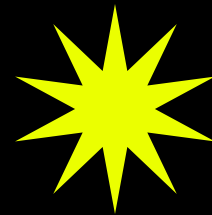
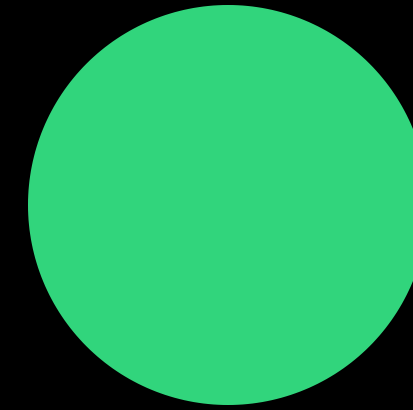
COMMON GIT COMMANDS

Most Used :)

- `git --version`
- `git init`
- `git status`
- `git add <filename>`
- `git commit -m "Your message"`
- `git diff`
- `git log`
- `git clone`
- `git remote`
- `git push`
- `git pull`
- `git branch`
- `git merge`
- `git stash`

We will learn
more about
this in offline
mode

 **IN CASE
OF FIRE**
> `git commit`
> `git push`
> `git out of here`
locaweb



CONFIGURATION OF GLOBAL VARIABLES

```
git config --global user.name "[firstname lastname]"
```

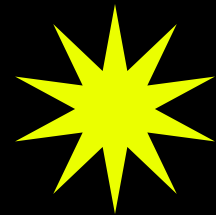
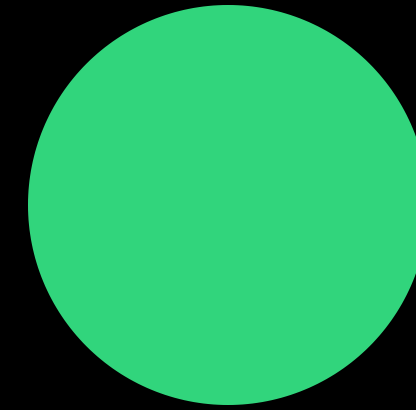
```
git config --global user.email "[valid-email]"
```

git --version: Returns the version of the git installed in the machine.

git init: Creates an empty git repository or reinitializes the existing one.

git status: Showing the working tree status and giving the list of files changed.

→ If time permits



HOW COLLABORATION WORKS AT SOFTWARE COMPANIES?

- Suppose the code for an application is hosted on a platform like GitHub.
- The repository will have 2 branches which are main and develop.
- **Main:** This contains the code of the application that is currently in Production.
- **Develop:** This branch has the latest stable code for the application.

OPPORTUNITIES IN OPEN SOURCE

- Digital Ocean - Hacktoberfest
- Google Summer of Code GSOC
- Google Season of Docs GSOD
- MLH Fellowship
- Outreachy
- Season of KDE
- CNCF Mentoring Initiatives
- Julia Season of Contributions
- Segment Open Fellowships
- Open Mainframe Project Mentorship Program
- FOSSASIA Codeheat
- Linux Kernel Mentorship Program
- Hyperledger Mentorship Program
- Open Summer of Code
- GirlScript Summer of Code GSSoC
- RedHat Open Source Contest
- Summer of Bitcoins
- Summer of Haskell



Pitch





OPEN SOURCE RESOURCES

Websites that can help you find Open Source related stuffs

- opentek.in (shameless plug)
- <https://hacktoberfest.com/>
- <https://swoc.getsocialnow.co/>



ANY QUESTIONS?