GitHub Basics 101

Introduction to Git and GitHub

ISTE-GRIET-GitHub

Git is a Technology of creating different versions of softwares to track the progress of a software development.

GitHub is a platform designed using that technology. It was started by Linus Trovalds (Creator of Linux Kernel).

Simply, you can use this to store almost any file and manage different versions of it without thinking of making several copies.

I'll explain "Versioning" in a simpler way.

I made this PPT in the following way.

1. Created a file with name "PPT.ppt" and put some colors as background and some text.
2. There was a lot of useless info as well. So, thought of simplifying it.
3. Created a new file with name "PPT-Final.ppt" and made some changes.
4. File looked a bit ugly due to only text.
5. Created file called "PPT-Final-thinking-its-final.ppt" and made changes in it also.
6. PPT was good but alignment messed up.
7. Created a file called "PPT-Final-Fixed-ones.ppt". So. That is this file.
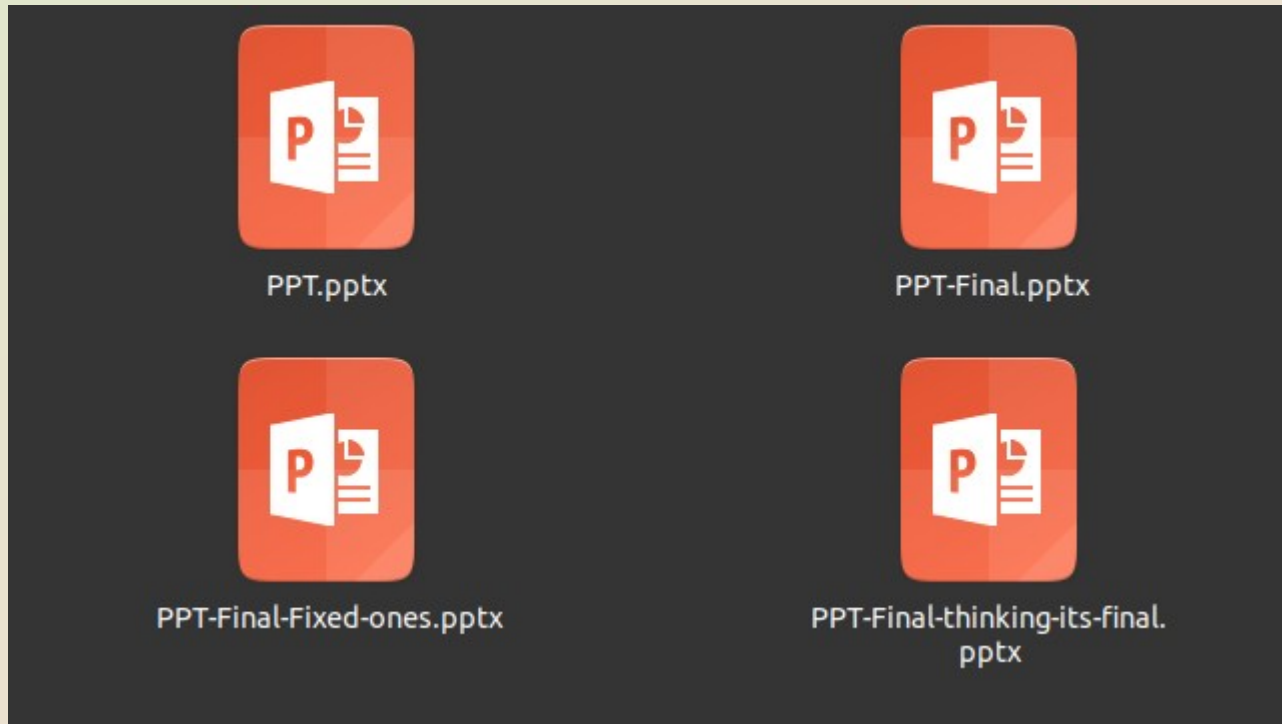
This is weird. Right? If I had more changes, you would lose track of "the actual file".

So, Git was introduced because of that reason. "Versioning".

Before Git, there was something called "CVS (Concurrent Versioning System) and Subversion". These used to have a "Central Server" to keep track of these.

These fellows used to update changes directly to server. The main problem with this is just one. What if two people update at same time?

Now, GitHub uses "Distributed Versioning System". Which means first update in your local files. Then, all the files are updated into the central server.

Why GitHub only?

Git has it's own "Command line tool".

But GitHub has Web based GUI tool also.

That's why we use GitHub primarily.

Other platforms like BitBucket has also these features, but GitHub is more famous, has much better features, easy UI and faster service.

Important Functionality in GitHub

Basic and important functionality which made GitHub special is "forking" – Copying a code from one user to another.

If you want to make changes in his project (as a contribution), you have to copy it, code in your computer, run it, test and confirm everything's good.

Then, you can send "pull request" to the actual project owner. He'll check it and once he accepts, his code will be updated with yours.

Advantages of GitHub

- Show off your skills through the projects you have done.

- Contribute to the open-source projects.

- Get contributions from other developers.

- Maintain track of what and when in your project.

- Release versions of your projects to end users.

- Go back to a working version when something messes up.

Theory's done.

Let's start on "Git installation and basic Commands"

Installing Git:

Basically, we have two versions of Git tools.

1. GitHub Desktop provided by "GitHub" (remember we saying it's a platform using "Git" technology).

2. Git CLI (Command-line tool) { Provided by the people who designed the technology itself. }

For Windows and Mac, we recommend installation of GitHub Desktop

(https://desktop.github.com)

For Linux guys (like me), we can download Git tool by running this command in terminal:

sudo apt-get install git

If you think we need a CLI tool which can run on all platforms, you can head to git-scm.com and download the tool for your OS.

The most dangerous place in GitHub...

Git commands......

We'll show it to you while explaining commands itself.