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Brief GitHub tale

Git was developed in 2005 by the creator of Linus operating system kernel, Linus Torvalds. Git can be considered as a workspace; it allows multiple developers to work on one project while being able to track the changes/history. One of the major features of Git is that it is a distributed version control system. Meaning every developer works on a copy of the repository/project while having its entire history included. This feature would also prevent changes to the original project files. This outspread allows flexibility and fast operation.

Git workflow is a recipe or instructions for how to use Git to assist developers to organize and improve work efficiency. One of the most common and widely used models of Git workflow is the branching workflow feature. This feature organizes the development process of the related branches. The branching workflow features include but are not limited to main branching (the main branch of the project, the root of all branches within the project.), branching (developers create a new branch for specific tasks that connect with the main branch.), commits, pull requests, merge requests, code review, etc.

A repository or often abbreviated as “repo”, is an online storage space. A repository keeps its entire history of changes/commits to any files or directories. A repository is a safe place to store your code, it serves as a backup of the codebase, protecting against data loss and such. Repositories have access control, only those who have prior authorization can edit the codebase or commit anything.

There are two types of repositories, local repository, and remote repository. The local repository located in one’s own computer, they would commit changes to that repository and then push it to a remote repository as wanted. Remote repository is the original, located on a server or an online platform (in this case, GitHub). Multiple developers can push their code to this repository.

Next up is the commits feature. This specific feature allows developers to capture the changes they made to the codes, keeping it as a record. Commit often contains a message that describes the changes. Each commit contains information regarding the changes made, the author, and a unique identifier.

Push feature refers to uploading local commits to a remote repository, to share the changes one made to other developers. The push command uploads the committed changes from the local repository to the desired remote repository. Pull is an operation that downloads the changes from a remote repository to your local repository. It’s the 180 degrees turn of push.

Merge combines changes from different branches into a single branch (most likely the main branch). This allows developers to make new features, bug fixes, and code improvement. A merge conflict occurs when there are conflicting changes between branches or commits that are being committed. GitHub have a feature to automatically resolve the changes, but sometimes it is what it is.