**What is Git**

These are software version control repositories that let programmers view code and then push back updates to the cloud using Git or Mercurial command line tools. Their uses are as follows;

They are used for the creation or importation of repositories in which code is stored. GitHub allows one to create an account to hold and import repositories, and organizations in which brand new repositories are held.

More so, GitHub aids in discussion and management of work. GitHub allows project managers and developers to organize, coordinate, track and update work, build securely, manage teams and projects and to have relevant conversations on team discussions that span across projects and repositories.

Further, they aid in the tracking of project files. As projects continue to grow, more project files continue to be created and such files need to be tracked so that one can have a record of what they have done and can be able to revert to specific versions should they ever need to.

\*They are also used to commit, push and pull changes made in a software project. Through Git GUI users are allowed to make changes to their repositories by making new commits, amending existing ones, creating branches, performing local merges and fetching/pushing to remote repositories.

Furthermore, they are used to develop code. Git helps developers keep track of the state of their code and allows collaboration through coordination of work among programmers cooperating on source code during software development.

\*Also, they are used to test and fix bugs or assigned issues. Bugs and issues are easily fixed using Git branches which are independent development routes and thus the whole project doesn’t have to be put on a standstill, depending on the severity of the bug, as the bug free branch can be added back to the main branch later on.

**Git workflows and git branching practices.**

In addition, they aid in the creation of a Git workflow which in turn eases team collaboration and fosters production of quality software. A solid workflow in an organization creates efficiency and effectiveness in a software project through creation of a strict branching model or design centred on project release and by allowing changes by multiple users to all be merged into one source.

Easy resolution of merge conflicts. A Git conflict occurs when two developers modify the same line of code. However, Git makes merge conflict resolution easier as all the developer needs to do is choose the correct one and which one to discard from the two sections Git will display.

Moreover, Git is used in the tracking of bugs using GitHub issues which also aid in the improvement of a project. GitHub issues aid in the tracking of anything wrong with the source code or that which can be improved especially in projects with many collaborators.

Easy sharing of code snippets and files using GitHub’s gist. Code snippets and files can easily be shared using Gist without one having to go through the hustle and bustle of copying and pasting. However, gist’s are mainly used to share code techniques and functions which aren’t complete applications.

In continuation, Git is used in group milestone tracking using Gitlab. This provides a way to track issues and merge requests created to provide a broader goal in a certain period of time. Milestones allow one to organize issues and merge requests into one cohesive group with an optional start and due date.

Creation of project management boards. Project management boards on GitHub enable developers and programmers to organize and prioritize work. One can create project boards for specific feature work, comprehensive roadmaps or even release checklists. Project boards provide one with the flexibility to create customized workflows that suit one’s needs.

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