Git vs. GitHub

Git

Definition:

Git is a distributed version control system designed to handle everything from small to very large projects w

Key Features:

- Version Control: Tracks changes in source code during software development.
- Branching and Merging: Allows users to create multiple branches for experimentation, new features, or bu
- Distributed System: Every developer has the full history of the project on their local machine, allowing for
- Performance: Optimized for speed and efficiency.

Usage:

- Used via command line or graphical interfaces.
- Commands include `git init`, `git clone`, `git commit`, `git push`, `git pull`, `git merge`, etc.

GitHub

Definition:

GitHub is a cloud-based platform built around the Git version control system, providing a web-based interfa

Key Features:

- Remote Repositories: Hosts Git repositories, making them accessible over the internet.
- Collaboration Tools: Pull requests, code reviews, and issue tracking.
- CI/CD Integration: Supports continuous integration and deployment through GitHub Actions and other thir
- Project Management: Tools for managing projects, including kanban boards and project timelines.
- Social Coding: Facilitates social interactions like following users, starring repositories, and forking projects
- Community and Open Source: Large community and extensive support for open source projects.

Usage:

- Primarily accessed via a web browser, but also supports GitHub Desktop, GitHub CLI, and integration wit

- Extends Git commands with additional functionalities like `gh pr create` for creating pull requests.

How They Work Together

- Local Development with Git: Developers use Git on their local machines to manage changes to their code

- Remote Collaboration with GitHub: GitHub hosts the repositories online, enabling collaboration, code sha

- Workflow Integration: Developers push their local Git repositories to GitHub, where they can manage issu

Summary

- Git is the version control system that helps you track changes in your code.

- GitHub is a platform that provides hosting for Git repositories and adds additional collaboration and projec

Understanding both tools is essential for modern software development, as they enable efficient code man