Contributing to Blueprint - Git/GitHub

How to contribute?

All of our projects are hosted on GitHub. Being able to contribute to any GitHub is an essential skill for any developer; let's learn how to do it. ***If you would like a more in depth guide on contributing in GitHub, refer to the Tech Team Onboarding Guide***

Click here to view the Stevens Blueprint GitHub.

What are git and GitHub? What are their differences?

Check out these resources for more detail on how to use the technologies:

- Learn Git in 1 Hour - Video
- Git Book

Git and GitHub are essential tools in the world of software development, used for version control and collaboration. They serve related but distinct purposes, and understanding their main features and differences is key to utilizing them effectively.

Git

Git is a free, open-source version control system designed to handle everything from small to very large projects with speed and efficiency. It was created by Linus Torvalds in 2005 to support the development of the Linux kernel. Git operates on your local computer and allows you to keep track of changes to your files and code. Its main features include:

- **Branching and Merging**: Git makes it easy to branch off your main project to experiment or work on different features simultaneously. You can then merge these changes back into the main project when they're ready.

- **Distributed Version Control**: Every Git directory on every computer is a full-fledged repository with complete history and full version-tracking capabilities, independent of network access or a central server.
- **Speed and Efficiency**: Git is designed to handle large projects like the Linux kernel efficiently, making it fast and scalable.
- **Snapshot System**: Instead of saving changes as a list of file-based changes, Git takes a snapshot of all files and stores a reference to those snapshots. If files have not changed, Git only stores a link to the previous identical file it has already stored.

GitHub

GitHub is a web-based hosting service for version control using Git. It provides a cloud-based platform for developers to store, manage, and track changes to their code projects. GitHub was launched in 2008 and has become one of the most popular platforms for code hosting and collaboration. Its main features include:

- **Repository Hosting**: GitHub allows users to upload their Git repositories to a cloud-based platform, making it easier to share code with others.
- **Collaboration Features**: It includes tools such as issue tracking, feature requests, task management, and wikis for documentation.
- **Pull Requests**: One of GitHub's standout features, allowing developers to discuss and review changes before they are merged into the main project.
- **Forking**: Users can fork a repository, creating a personal copy where they can make changes without affecting the original project. Later, they can submit a pull request to merge their changes.
- **Integration with other services**: GitHub integrates with various third-party tools and services, enhancing its capabilities for continuous integration/continuous deployment (CI/CD), project management, and more.

Main Differences

- **Scope**: Git is a version control system that manages and tracks code changes on your local computer. GitHub is a hosting service that uses Git for version control, providing a cloud-based platform for storing, sharing, and collaborating on code projects.
- **Functionality**: Git focuses on version control and code management. GitHub extends Git's capabilities with additional features for collaboration, such as pull requests and issue tracking.
- **Usage**: While Git is a tool you install and run on your local machine, GitHub is a service you access through a web browser (though it integrates closely with Git).

Joining Blueprint's GitHub Organization

In order to join the Stevens Blueprint GitHub organization you must do the following:

1. Install Git
2. Create a GitHub Account (Instructions here)
3. Send your GitHub username or email associated with your GitHub account to a member of the Stevens Executive Board. Once they said the invite it will appear in your email inbox and you must accept the invitation.

Once you are part of the GitHub organization you can begin working on your respective project!

Revision #7
Created 2024-02-16 10:20:44 UTC by Miguel Merlin
Updated 2025-10-07 20:30:12 UTC by Miguel Merlin