

GitHub and Other Hosting Providers

GitHub

- **Git** began as an offshoot of the Linux kernel development community, initially created by Linus Torvalds himself in 2005
- It was quickly realized it could be used for any project that had similar needs:
 - A large group of contributors
 - A widely dispersed community of contributors
 - A very open development method with frequent releases
- Use of Git grew explosively after the founding of **GitHub** in 2008; in mid-2018, GitHub had almost 30 million users and 60 million repositories!
- Before GitHub projects needed to have their own servers to host repositories and have a good amount of knowledge to setup, administer, secure and protect the integrity of repositories

Other Hosting Providers

There are other sites that offer similar services, including:

- GitLab
- GitKraken
- Launchpad

Public vs. Private

There are two types of repositories on GitHub:

- **Public** - anyone given the proper link can copy, clone or fork the repository, or download its contents; however, unless the owner authorizes them as a collaborator, one does not have permission to upload or make modifications
 - Free of charge
 - OSS projects are almost always hosted on Public repositories if they are using Git
- **Private** - the owner must specifically authorize each collaborator, and only selected collaborators can see the repository, or clone it (make a local copy), or download its contents in a variety of forms
 - Cost money, and there a variety of plans depending on the scale or the number of projects and subprojects that require separate repositories, the number of collaborators and how many institutions they represent and other more advanced criteria

GUI vs. Command Line

- Originally, Git had only a **command line** interface and working this way is quite comfortable to long-time Linux and UNIX users
- While there were and are graphical interfaces to browse repositories, these were essentially read-only, they did not permit making changes or performing many other essential operations
- GitHub and similar sites offer a full **GUI** (Graphical User Interface) that is instantly more familiar to many users and makes collaboration on projects that much easier
- GUI is operating system agnostic (whether you are on a Windows, MacOS, Solaris, Linux, etc. system, you have the same capabilities)
- It is easy to ignore the GUI when working with GitHub and just interact with it over the Internet, totally from the command line; experienced users find this more convenient so there are no limitations involved

