**W01 Assignment:** Explain Version Control

**What is version control, and why is it important?**

A version control system (VCS) tracks the history of changes as teams collaborate on projects. This is important because the entire project can be recovered and reviewed anytime. Developers can track which changes were made and why, see who made them, and when they happen.

All those involved in the project can have a view of what is expected, so the team stays in tune while working independently. The most used VCS is called Git. Git is a free and open-source version control system designed to handle small to large projects, where the entire collections of files and folders associated with a project are kept updated.

With Git, developers have access to the entire timeline of changes, decisions, and project progression in one place, making it easier for future developers to understand the context and start their contributions.

Git works with commands inserted in a command line interface or from some interface development environment such as VSCode. The basic ones are git clone, git add, git commit, and git push.

To start using Git, create a new repository using git init. Usually, developers use GitHub (used to host Git repositories on their servers) as a central place for team collaboration.

Some commands for using Git:

**git commit:** Saves the snapshot to the project history and completes the change-tracking process.

Committing files:

**git commit -m "Change README file to add an author."**

-m allow a message that describe what commit for. Git will not allow a commit without a message, so contributors in a project will be able to understand the commits made.

**git status:** Shows the status of changes as untracked, modified, or staged.

**git pull:** Updates local files with remote changes.

**git push:** Uploads local changes to the remote repository.