
# Software Engineering

## Portfolio 5

## Merging: Theory and Practice

Student Name: Marvin Wee Shing Rong

Student ID: A3730

Lecturer: Dr Lynn

# Overview

Version control refers to the management of documents, computer programs, websites and other collections of information. There are numerous solutions such as Git, SVN, Mercurial, Team Foundation Server, and etc. These applications allow multiple users in a team to access any file at any time, and make changes to the specific file. All the changes are then merged into a common version. In this context, we will be highlighting the uses and advantages of version control software through Git.

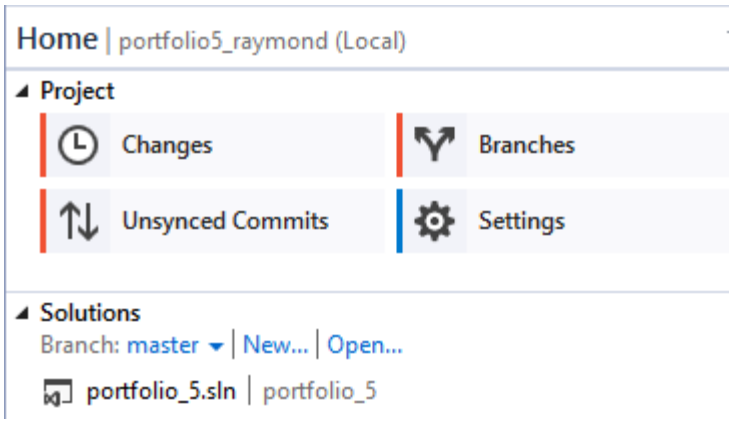
An example of a possible situation would be a team working on developing a system. This system would usually include multiple files containing multiple functions and code. With a version control software in place, team members will have to work on a shared folder of files. And any of these files can only be worked at one at a time. This can drastically reduce workflow and is extremely error-prone.

Implementing a version control software in team based projects can provide an easier way of handling the project as a whole. There will be no question as to where the latest version is, as all changes made will be merged in the end. The effects of changes made can also be easily pinpointed between different versions of the program. This allows users to experiment with new functions without having to disrupt the entire project.

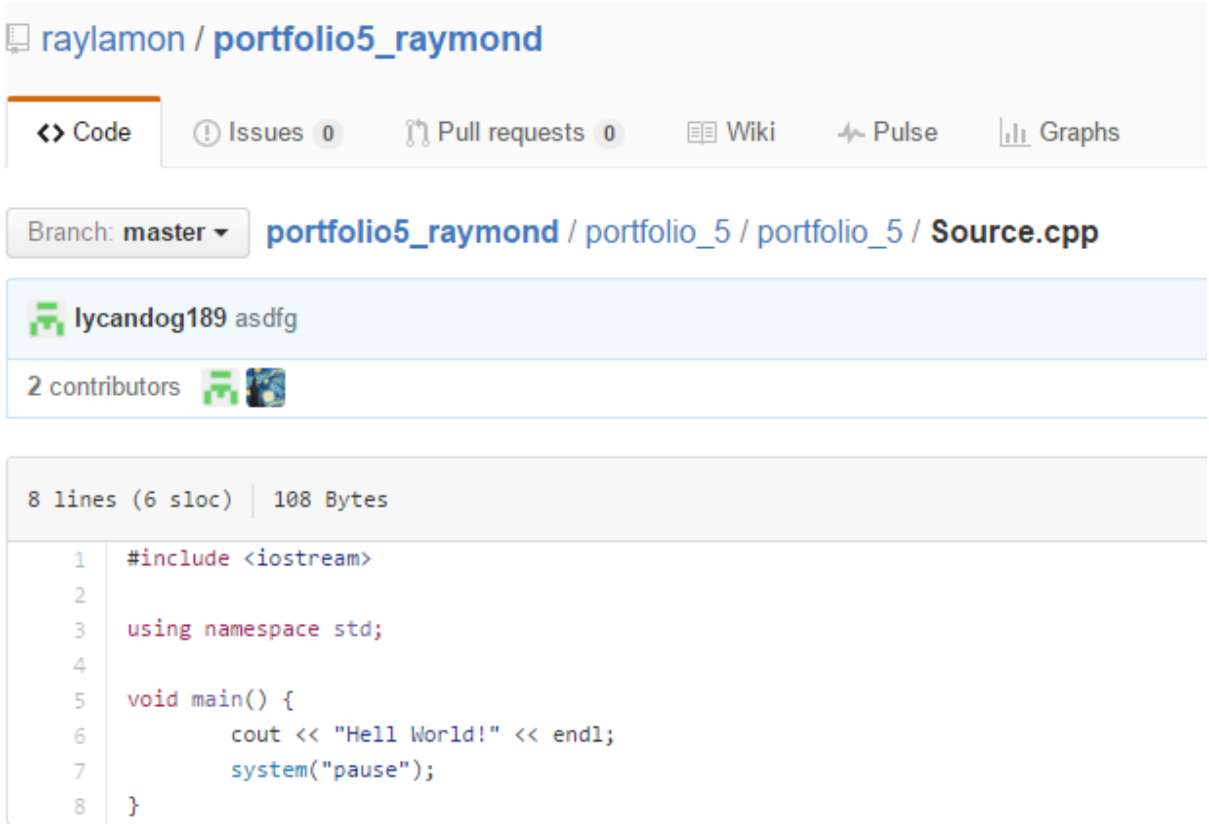
However, that is not to say version control software can only be used in team projects. Individual users can also benefit from automatic backups and sharing between multiple devices to provide ease of access and ease of mind.

# Use Case

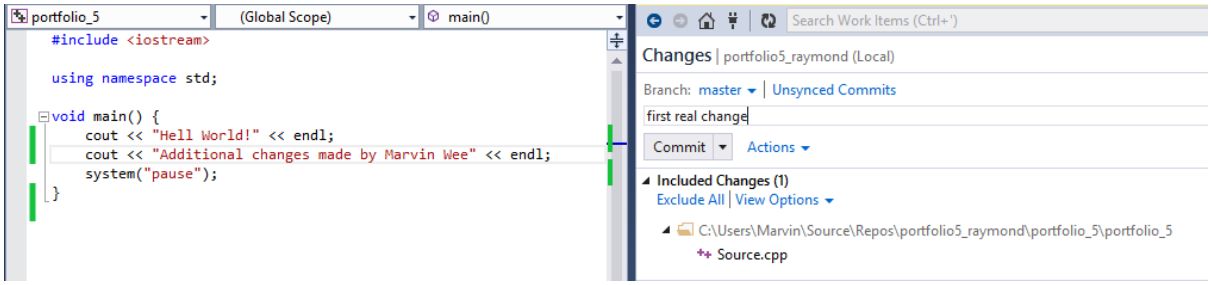
The following screenshots provides evidence of utilization of GitHub through Visual Studio 2013. Login is done via GitHub and accessing a peer's repository (Raymond Lau).



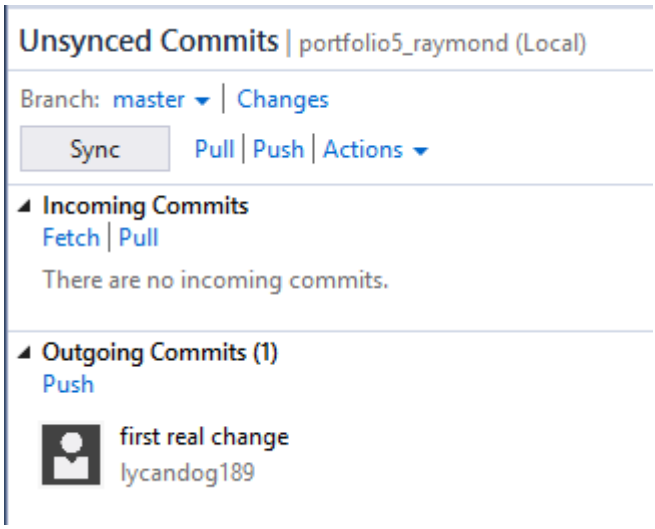

The solution of project portfolio_5 is accessed and cloned to Visual Studio.



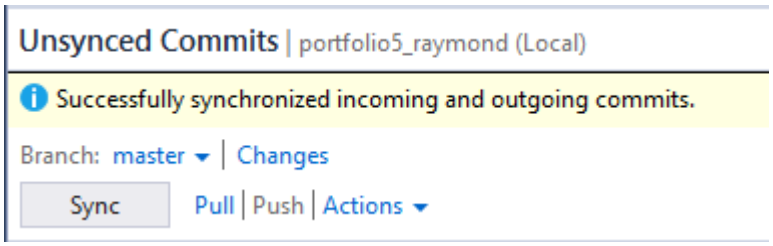

From raylamon's(Raymond Lau) repository, we can access the .cpp file from portfolio_5.

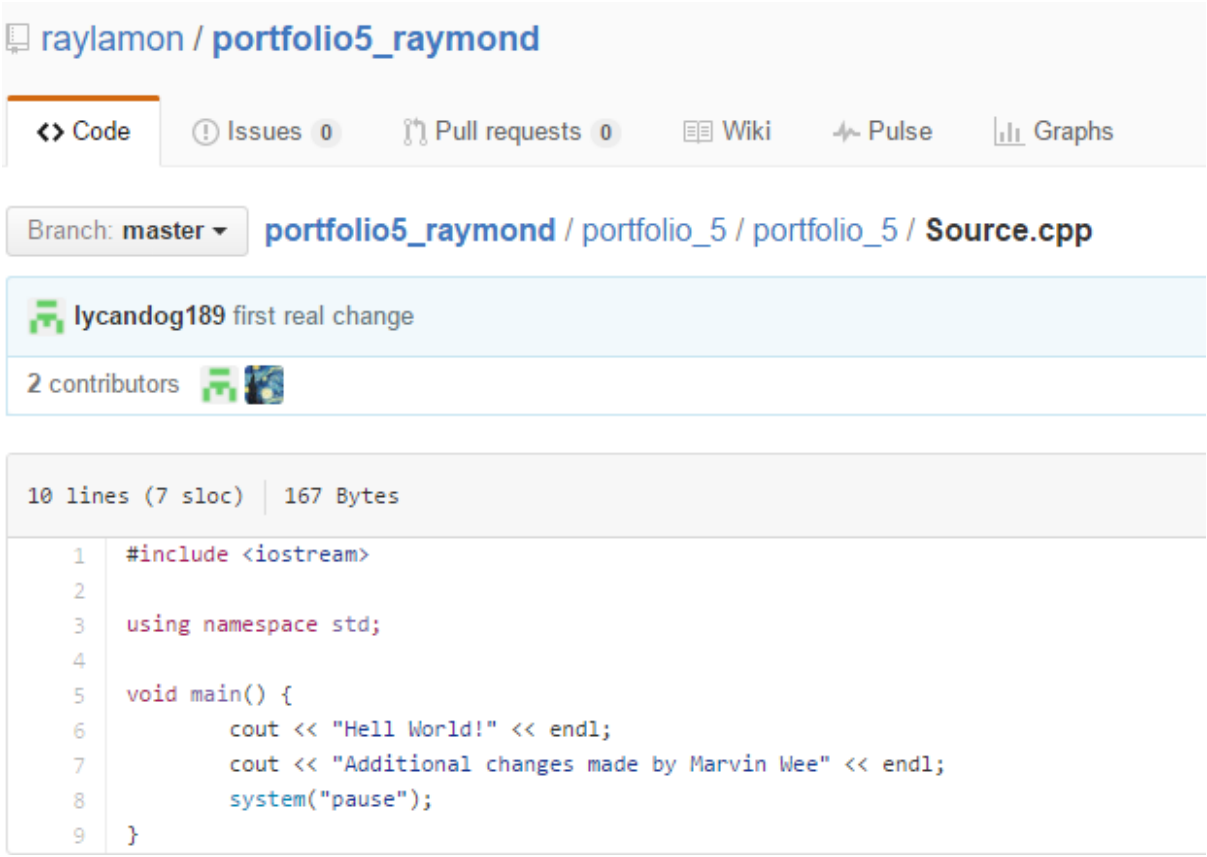



Changes are made by adding an additional line of code Raymond's .cpp file.




The changes will then be synced and merged with Raymond's .cpp file.






As seen above, the changes are synced as proved by the “Additional changes made by Marvin Wee” line of code.