

# An Introduction to Git

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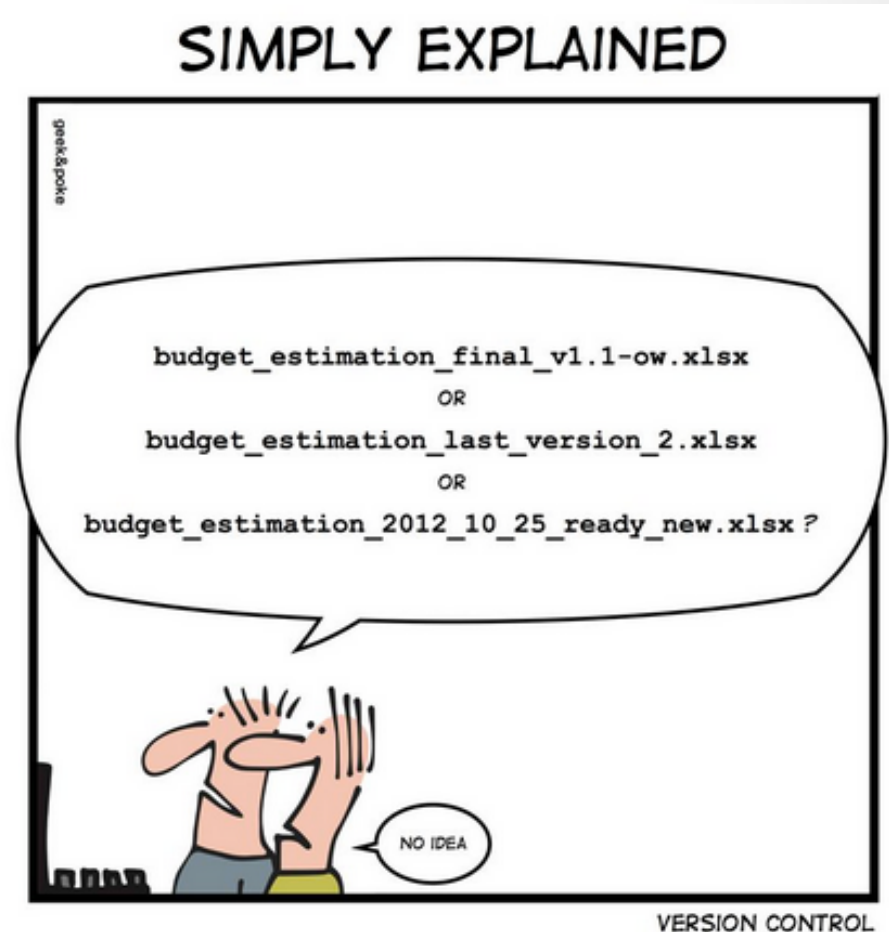
Questions? #RC\_Meetups

Link to survey on this topic: <http://goo.gl/forms/8VidcwOhRT>

Slides: [https://github.com/ResearchComputing/Final\\_Tutorials](https://github.com/ResearchComputing/Final_Tutorials)

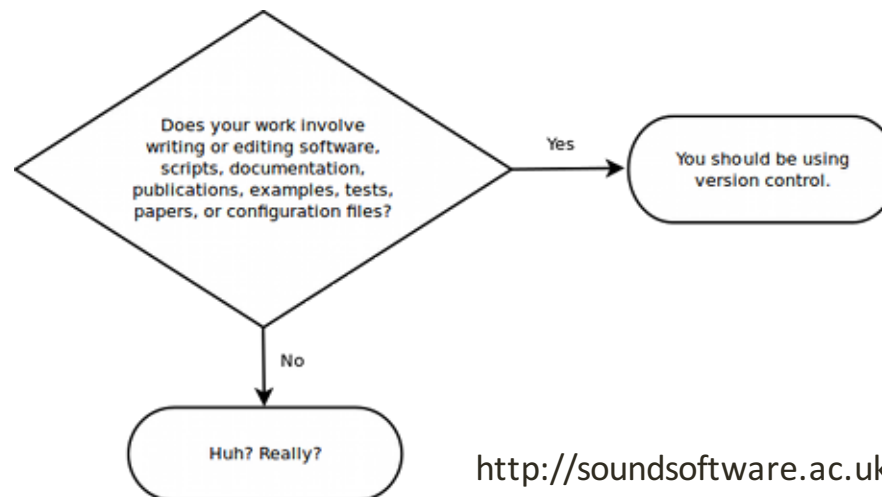
# Outline

- What is version control?
- What is git?
- Advantages
- Remote repositories
- Let's manage some code!



# What is Version Control?

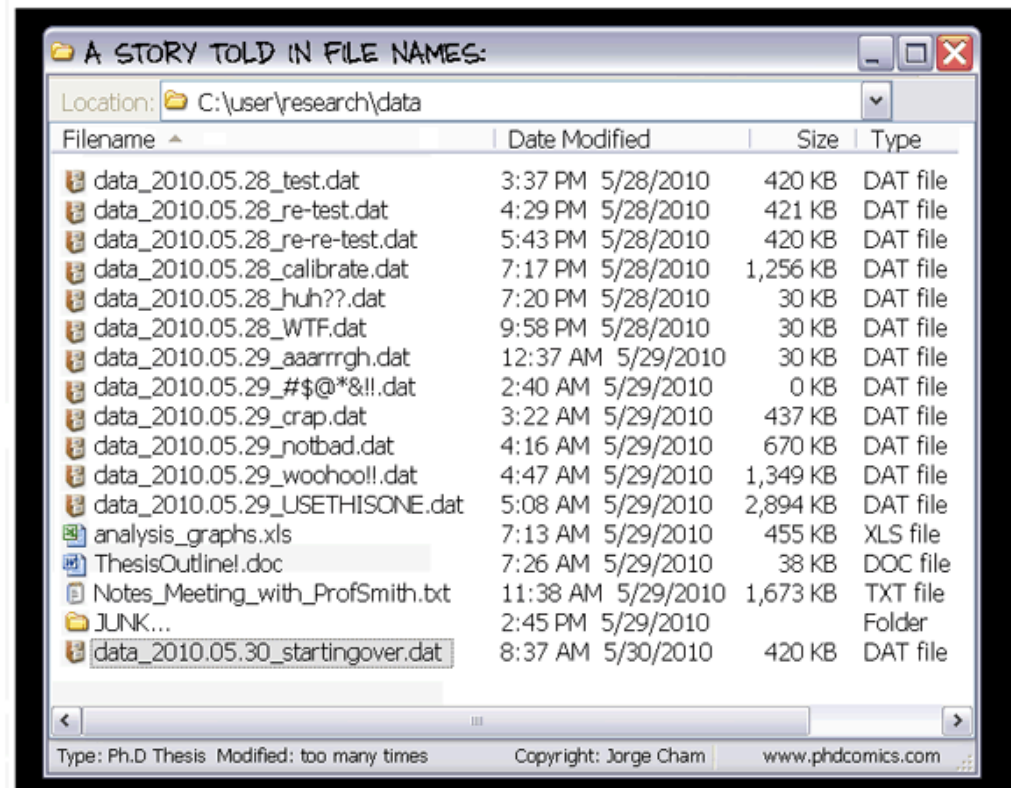
- Version control records changes to a file or to code
- Keeps track of:
  - What changes are made
  - Who makes them
- By keeping track of changes, you can recall previous versions later



<http://soundsoftware.ac.uk/why-version-control>

# Version Control and You

- Probably already using version control
- Rename files
- Copy into another directory
- Easy to overwrite



# Version Control Advantages

- Revert files back to a previous state
- Easy recovery
- Multiple backups
- See who might have changed a file that is causing issues
  - History of changes by who and when
  - More efficient tracking of documents, code



# How Does Git Operate? – Typical Work Flow in Git

- **Create a file**
- **Make changes to the file**
- **Save the changes to the file**
- **Make more changes**
- ...

# Git Lingo

- Repository
  - A folder that houses all the files that are part of a project
  - Files are tracked or untracked
- Tracked
  - Git is monitoring a file as part of a project
- Staged
  - Files that are kept in a cache before committing
  - Build next commit step by step
- Commit
  - A snapshot of the project at a single point in time

# Let's Work on Some Code

- `Git_tutorial_doc.txt`



# Example

- Create two files on your local computer
- Make changes to the files
- Stage those changes
- Commit those changes
- Push them up to a remote repository
- Pull down the files from our github site

# Questions?

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