

# Version Control for Researchers

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<https://43ravens.ca/training/meopar-atm-2019-06-11/>

# What Is Version Control (VC)?

Use software tools to keep a running record of 1 or more files.

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## Why You Should Use VC?

- Lets you revert to earlier versions of your work
- Provides a record of what changed when
- Lets you mark significant points in time
- Allows you to play "what-if?"
- Facilitates organized collaboration (with your future self, as well as with other people)

# What You Should Use VC For

- Model Code
- Python, R, Matlab, etc. Scripts
- Plotting Scripts
- Processed Data Files & Scripts That Made Them
- Complicated Marking Spreadsheets (especially if shared)
- Thesis
- Papers
- ToDo List
- ...

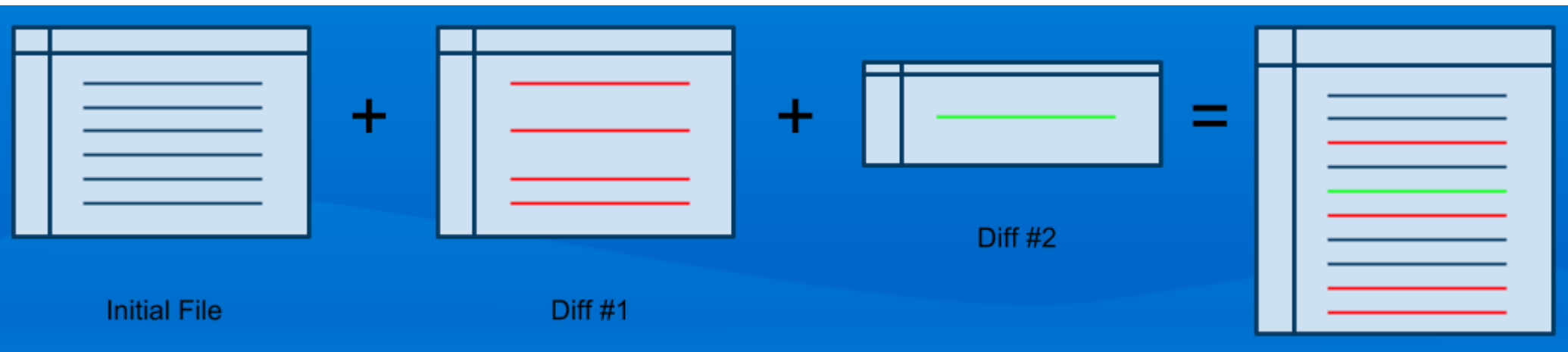
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# Key Concept

- Data Differencing
- Given a file, and a complete set of diffs between 1 state and another, any intermediate state for which there is a diff can be reconstructed.





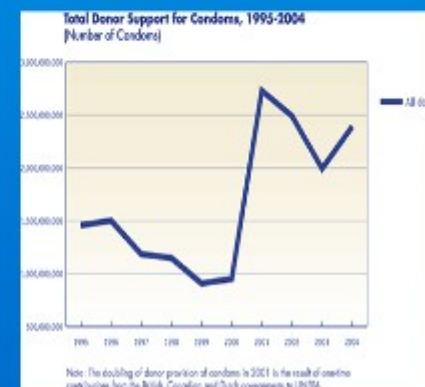
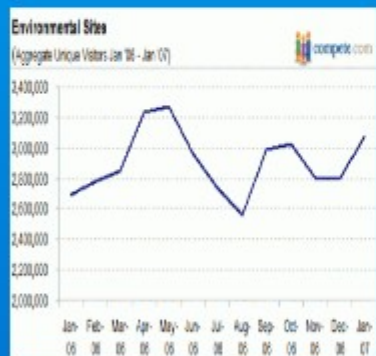
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# Version Control Tools

[https://en.wikipedia.org/wiki/Revision\\_control](https://en.wikipedia.org/wiki/Revision_control)

# Ad hoc

## "FINAL".doc



FINAL.doc!



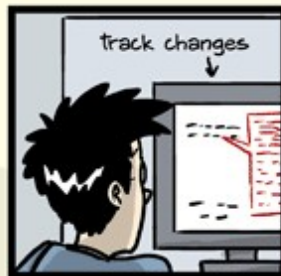
FINAL\_rev.2.doc



FINAL\_rev.6.COMMENTS.doc



FINAL\_rev.8.comments5.  
CORRECTIONS.doc



FINAL\_rev.18.comments7.  
corrections9.MORE.30.doc



FINAL\_rev.22.comments49.  
corrections.10. #@\$%WHYDID  
ICOMETOGRADSCHOOL?????.doc



JORGE CHAM © 2012

# Version Control Tools

- Ad hoc

thesis2.tex, JFM-21mar.doc

pooh.txt, ...

- Mists of time...

SCCS

RCS

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- Old School  
(Client/Server)

CVS (Concurrent Versions System)

SVN (Subversion)

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CVS (Concurrent Versions System)

SVN (Subversion)

- Distributed & Open Source

GNU arch

Darcs

Monotone

Bazaar

Git

Mercurial