Quantitative Methods and Software Development

Having the same problems as hackers is good!

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Your paper is a software project

When you are using quantitative methods, your paper is (also) a software project!

- even if you don't write **code** yourself!
- although typically you do
- there are **dependencies**
- there are **build artefacts**
- created by some sort of **workflow**
- the are collaborators (even if only your future self (see below))
- it takes (a lot) longer than estimated ☺
  ⇒ your code will stay with you (a lot) longer than expected!

But having the same problems as software developers is actually a good thing!

Problem	Best Practice	Tool
collaborative editing of text files	version control	`git`/GitHub
un-do	version control	`git`
re-do	build automation	`make`
maintainability	documentation	the `README` file
replicability and correctness	testing	
big/relational data	relational databases	SQLite/PostgreSQL

…at Software Carpentry

`http://software-carpentry.org/lessons/`

Teaching basic lab skills for research computing