(Don’t be afraid of)
Collaborative software development

Tom Doel
Why software collaboration?

- Essential part of developing translational software
- Software craftsmanship skills
- Engagement with academic and software community
Open source

• Not everything has to be open source…

• …but rapidly becoming a standard part of the software development process (e.g. Google, Apple, Facebook, Amazon etc)
Open source in academia

- Increasingly important for journals to ensure reproducibility of results
- Increasingly important for funding organisations to promote transparency, public benefit and engagement
- Increases visibility and uptake of your work
- Not just for big projects (ITK, VTK, XNAT etc)…
- …also about the small things - tools, examples, standards etc.
Collaborating on your projects
Tools

- GitHub, cmiclab (GitLab)
  - Version control - git
  - Issue tracking
  - Automated testing
- Planning tools - e.g. Trello
- Team communication - e.g. Slack
Making your code open source

• TIG has an open source policy

• Great way to promote your work, collaborate, and learn essential skills

• You can develop privately on cmiclab and then mirror to GitHub when you are ready to go public

• GIFT-Surg on GitHub: https://github.com/gift-surg
Collaborating on other projects
Contributing to open source

• Does a project want your help?
  • Project has a “how to contribute guide” -> YES!
  • Issues have tags like “help-wanted” or “first-pull-request” -> YES!
  • Project has lots of contributors -> YES!

• If in doubt, contact a project member

Dive straight in?

• https://libraries.io/first-pull-request
• https://libraries.io/help-wanted
Developing your skills
Academic resources

• UCL Research IT Services
  • UCL Research Software Development
  • UCL Research Programming Hub
• Software Sustainability Institute
  • https://www.software.ac.uk
Online training

Learning a new language “properly” with support and mentoring:

• e.g. http://exercism.io
Meetups

• Once or twice a month

• Talks, discussions, coding sessions

• Usually run by volunteers. Mix of experience.

• Examples
  • Many are on meetup.com
  • London Ruby Group (LRG)
  • London Java Community
  • London Software Craftsmanship Community

• Meetups especially targeted towards women and under-represented groups in tech:
  • codebar.io/london
  • Ladies who Code
  • COED:CODE (Systems programming)
Hack days

• Good way to gain experience, meet people and try out ideas

• Different types of hack day:
  • some are volunteer-run with no fixed agenda
  • some are based around specific platforms (e.g. ITK, XNAT)
  • some are run by companies and might be more like a recruitment event

• Example: NHS Hack Day
  • Good “first hack day”; very friendly, no software experience required