

(Don't be afraid of)

# Collaborative software development

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# 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](https://www.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](https://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