How can we help scientists to publish their code?

I have been working with the Research Software Engineering group at the University of Manchester to develop recommendations for overcoming the technical barriers that may prevent scientists from publishing their code. This questionnaire aims to evaluate these recommendations with scientists, to determine how effective they are perceived to be.

1. **What is your job title?**
   Mark only one oval.

   - ◯ PhD student
   - ◯ Research Associate
   - ◯ Software engineer
   - ◯ Academic
   - ◯ Other: _____

2. **What is your research area?**

Storing code in online repositories

The difficulty of using online repositories sometimes deters scientists from using them as places to deposit code.

3. **If repositories had a simple, easy to use GUI, alongside the current command line/GUI interfaces, would this encourage scientists to use them?**
   Mark only one oval.

   - ◯ Yes
   - ◯ No
   - ◯ Other:

4. **Would it be helpful for the repository to 'track changes' to a script, so they don't have to be documented manually?**
   Mark only one oval.

   - ◯ Yes
   - ◯ No
   - ◯ Other:

5. **Which of the following types of training or support would you find useful for learning to use repositories?**
   Tick all that apply
   Tick all that apply.

   - [ ] Practical workshops.
   - [ ] Online training
   - [ ] Guidance/details about the various types of repositories and their features
   - [ ] A glossary of the terminologies relating to repositories
   - [ ] Other:

6. **Would you like your institution to have a central repository, which could be used to store all data and code internally?**
   Mark only one oval.

   - ◯ Yes
   - ◯ No
   - ◯ Other: .....

7. **Would you like a central internal repository to be compatible with an external one, such as Github, so any code and data can be published externally when required, and anything updated in an external Github repository would automatically appear in the internal one?**
   Mark only one oval.

   - ◯ Yes
   - ◯ No
   - ◯ Other: .....

8. **Comments:**

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Training in computational research

9. **In which of the following areas would you find training/support helpful?**
   Tick all that apply
   Tick all that apply.

   - [ ] Data management planning
   - [ ] Computational research skills
   - [ ] General software engineering skills
   - [ ] Awareness about intellectual properties issues
   - [ ] Awareness about open source licensing systems
   - [ ] Other: .....

10. **Comments:**

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Scientific Reproducibility

A number of institutions, including Cambridge University, hold workshops where students learn about reproducibility standards and then try to replicate the analysis of a published paper in their field, providing both theoretical and practical experience of reproducing research.

11. **Do you think it would beneficial to offer this type of experience at other universities?**
Mark only one oval.

- ◯ Yes
- ◯ No
- ◯ Other: .....

12. **What level should this kind of course should be provided at?**
Tick all that apply
Tick all that apply.

- ☐ Undergraduate level
- ☐ Masters level
- ☐ Doctoral level
- ☐ Postdoctoral level
- ☐ Other:

13. **Should this kind of course be optional or compulsory?**
Mark only one oval.

- ◯ Compulsory
- ◯ Optional
- ◯ Other: .....

14. **Should the course to be provided internally, or by an expert body, such as Software Carpentry?**
Mark only one oval.

- ◯ Internally
- ◯ By an expert body
- ◯ Either
- ◯ Other: .....

15. **Do you think the course should be short and intensive, or spread out over a longer period?**
Mark only one oval.

- ◯ Short and intensive (over a few days)
- ◯ Spread out over a few weeks
- ◯ Completed over a time period suiting the student
- ◯ Other: .....

16. **Comments:**

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Computing environments supporting reproducibility

There are some specialist platforms that allow you to save a 'snapshot' of your data and analysis software, so it is easy for someone else to download and run your experiment.

17. **Would you be interested in using this type of technology for your own research?**
Mark only one oval.

- ◯ Yes
- ◯ No
- ◯ Other:

18. **Would you be interested in using this type of technology to rerun other people's research, or use their analysis code?**
Mark only one oval.

- ◯ Yes
- ◯ No
- ◯ Other:

19. **Do you think this will have any effect on scientific reproducibility?**
Mark only one oval.

- ◯ Yes
- ◯ No
- ◯ Other: .....

20. **Comments:**

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Other suggestions

21. **Would having access to research software engineers (developers who specialise in scientific software) on campus be something that could help scientists to produce code that they would be happy to publish?**
Mark only one oval.

- ◯ Yes
- ◯ No
- ◯ Other: .....

22. **Would you want to become part of a research software engineering community, where people could discuss code publishing and open science?**
Mark only one oval.

- ◯ Yes
- ◯ No
- ◯ Other:

23. **Would you be more inclined to focus on making analysis code and data available if more publishers required it?**
Mark only one oval.

- ◯ Yes
- ◯ No
- ◯ Other: .....

24. **Comments:**

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25. **Finally, do you have any other recommendations that may help scientists to publish code and data?**

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