MONASH University

MONASH BUSINESS SCHOOL

Proposed research software standards

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We propose that high quality open source software should be treated as a research output and points awarded appropriately. The points are to be awarded by a software assessment committee appointed by the Deputy Dean Research, comprising at least five people with relevant expertise, at least one of whom should be external to the faculty.

Submissions to the committee should include the following:

- Evidence of previous peer-review if any, such as acceptance on CRAN or via ROpenSci.
- The full source code in a version controlled repository such as github.
- The scope of the developer's contribution, including information about the state of the project before their contribution, and the state afterwards. This should include links to the relevant code diff/pull request(s).
- Evidence of new features (e.g., a new method to do something the software could not do before) OR evidence of improvement of general features (e.g., improved memory management or linear algebra code used throughout the project).
- Evidence of user-facing and/or developer-facing documentation.
- Testimonials from feature users (for added features) OR developers (for low-level improvements).

The committee should obtain at least one review from an anonymous and external reviewer (at least two reviews if the submission includes no previous peer-review).

The committee should consider the following issues:

- Where a software output implements a method proposed in a paper by the same author, the software should be assessed as to what it contributes beyond the methodology in the paper.
- Software that is maintained and developed over many years and many versions may be granted additional points over time.
- The comments of the external reviewer(s).

The assessment committee may award 0–3 points for each submission, taking account of comparable quality standards for journal articles.

If a committee member has a conflict of interest (e.g., s/he has coauthored the software submission), the remaining committee members should consider the relevant submission.

This proposal is consistent with international trends to recognize and support research software development (SFDORA, 2012; Doerr et al., 2019; Barba et al., 2019; Druskat, 2019; Anzt et al., 2020).

References

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