

Dr. Spencer Smith, Associate Professor
Computing and Software Department
Faculty of Engineering
McMaster University
1280 Main Street West
Hamilton, Ontario, Canada L8S 4K1
Telephone: (905) 525-9140 ext. 27929
email: smiths@mcmaster.ca
Web: <http://www.cas.mcmaster.ca/~smiths>

January 25, 2025

Dr. Anthony McGoron
Editor-in-Chief
Critical Reviews in Biomedical Engineering

**Re: Revisions to CRB-57015, State of the Practice for Medical Imaging Software
Based on Open Source Repositories**

Dear Dr. McGoron:

Thank you and the reviewers for the feedback on our submission. The reviewers provided thoughtful and constructive comments. In response to your e-mail, dated January 3, 2025, we have revised the paper to incorporate the requested revisions. We provide a summary below. The revised submission also includes a “diff” version of the paper showing the additions and deletions.

Some of the reviewer’s questions are best answered by citing our related work. Therefore, the new version undoes the redaction originally added for the double blind review.

Reviewer #1

1. The relative priorities of each software quality were set equal. Couldn’t some different weighting have been considered? Perhaps one that comes from interviews with developers or cited in papers?

The reviewer is correct that other weightings could be considered. We left this out of the scope of the original submission because of space considerations and because determining a meaningful alternative weighting is difficult. Although Nguyen-Hoan et al. (2010) (A Survey of Scientific Software Development) provides survey data on the relative importance of various software qualities, their list of qualities differs from ours. Moreover, they looked at the quality priorities for all scientific software, where as we are focusing only on medical imaging software. The priorities for medical imaging software likely differ from the priorities for other scientific applications. Most likely, the priorities differ between different medical imaging applications as well. shows the Not aware of a study focused on medical imaging practitioners. Interviewing a statistically significant number of developers is beyond the scope of this paper. However,

developers can see the impact of a different weighting themselves. Point to spreadsheet. Say what text is added to the paper. Put it in blue?

2. In addition to github, could any other reference have been used, such as the number of citations in papers or relevant websites in the field?

Citations and websites are a good idea, but don't have this data. Papers unreliable because people don't tend to cite scientific software. cite Katz to support this. Changes to paper.

3. Where are the quality ratings for each software?

Double blind review meant didn't show citations, but citations have the full quality ratings. The overall quality rating is given in Figure 2. The actual numbers are not as relevant as the ranking.

4. Caption tables above them, not below them.

This has been fixed in the revised manuscript.

5. What are the possible reasons for the differences between the ranking found and that of GitHub, in addition to the impossibility of installing some of them?

Add content from the arxiv version. "Further reason for discrepancies between our ranking and the community's ranking is that we weighted all qualities equally. This is not likely how users implicitly rank the different qualities. As a result, some projects with high community popularity may have scored lower with our method because of a relatively higher (compared to the scientific community's implicit ranking) weighting of the poor scores for some qualities. A further explanation for discrepancies between our measures and the star measures may also be due to inaccuracy with using stars to approximate popularity. Stars are not an ideal measure because stars represent the community's feeling in the past more than they measure current preferences (Szulik2017). The issue with stars is that they tend only to be added, not removed. A final reason for inconsistencies between our ranking and the community's ranking is that, as for consumer products, more factors influence popularity than just quality."

6. Some software could not be installed. What problems were found? Why not remove it from the list?

Say the problems from installability section. Didn't remove because only affected a few qualities. Favoured including with a warning.

Reviewer #2

1. The introduction section should contain the scope, significance of the research by summarizing current understanding and background information, stating the purpose of the work, and

highlighting the potential outcomes. Also, there's no need to divide various subsection in the introduction.

Response.

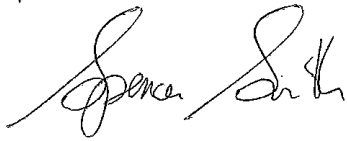
2. The title of the table should be placed above the table.

This has been fixed in the revised manuscript.

3. It is not recommended to include tables in the conclusion.

Move it.

Best regards,

A handwritten signature in black ink, appearing to read 'Spencer Smith', with a stylized, cursive script.

Spencer Smith