Reviewer's report

Title: Technical development of PubMed Interact: an improved interface for MEDLINE/PubMed searches

Version: 1 Date: 7 September 2006

Reviewer: Marcelline R Harris

Reviewer's report:

General
The authors have presented a clear and well organized discussion of the development of PubMed Interact interface. The advantage over the current search interface is the use of technologies that enable web based, client-side functionalities that the authors suggest will result in a more efficient user experience. The features and functionality provided by this interface are well described, and the figures appropriately illustrate the discussion in the manuscript. I was sufficiently intrigued by the discussion to explore the live version of the interface the authors point to in the manuscript, and look forward to reading future papers on the user testing and evaluation. Even though usability is not a focus of this article, the article would be strengthened with a somewhat expanded discussion about how the functionality enabled by this technology compares to/differs from the current PubMed search interface. That is to say, the paper does not include an explicit problem statement in relation the limitations of the current PubMed interface.

The various web technologies used in the development of this interface are described in sufficient detail to give readers an understanding of how the technologies support the desired functionality. However as mentioned above, it would be useful to have a somewhat stronger "so what" statement of the benefits from a user experience perspective. The goal of improved user control of the data could be highlighted earlier in the paper.

The authors indicate that the paper focuses on the development, implementation, and technical evaluation of PubMed Interact (2nd to last paragraph). This would be a useful statement to bring forward to the front of the paper, and could serve as an outline for the content in the paper. While the paper is very well written, the purpose of the paper was not clearly stated until the end of the manuscript. Then, when I went back to look at the overall structure of the paper, I did not find technical evaluation highlighted in any section heading, although the development and implementation discussion is quite complete.

This is a very interesting paper, and certainly merits publication if the discussion of the technical evaluation is strengthened and more focused in its presentation within the paper.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

While development and implementation are discussed in sufficient detail, the article would be strengthened significantly by an expanded or at least focused discussion of the technical evaluation. For example, was any sort of technical evaluation framework or evaluation tools such as the W3C quality assurance tools for web based software employed in evaluating this interface? What about any sort of software evaluation framework? Of note, there are headings in the paper that clearly highlight development and implementation discussions, but there is no heading that indicates the authors have considered in a deliberate manner the technical evaluation against any external criteria. There are certainly indications throughout the paper that metric based technical evaluations were completed, but this could be better organized within the paper, preferably referencing some sort of standard for technical evaluation.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

The figures are not labeled.

Discretionary Revisions (which the author can choose to ignore)
**What next?:** Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**Statistical review:** No

**Declaration of competing interests:**

I declare that I have no competing interests.