



Journal of Visualization and Interaction

Reviews for 2024-pomerance-flowcharts-round2

Review #1

Completed: 25-02-2025 18:38

Recommendation: Accept Submission

Conflict Declaration

I declare that I have no known conflicts of interest with the authors.

Review

Authors extensively addressed the most relevant aspects identified in the first round of review. I believe the work is ready for publication.

Openness

n/a

Classification

Systems or design research

Recommendation

Accept

Revisions Requested

n/a

Reviewer Name

anonymous

ORCID

N/A

Review #2

Completed: 26-02-2025 21:19

Recommendation: Accept Submission

Conflict Declaration

I declare that I have no known conflicts of interest with the authors.

Review

My appreciation goes out to the authors for providing a revised manuscript and a comprehensive response to the original set of reviews. The manuscript has improved in several ways. As indicated in my original review, the paper provides evidence of varying consumption / viewing behaviour for a web-based interactive visualization project, one that affords viewers with the freedom to choose between an author-curated linear narrative or an exploratory mode driven by the viewer's own curiosity. It extends prior work and practice by incorporating multimodality into the implementation. Additionally, the authors contribute an open-source framework for producing flowchart-based experiences similar to the one exhibited in the case study, and they document its use by students as part of a course project.

In my original review, one of my requested changes was for the authors to state their research contribution(s) and novelty more explicitly. One revised section where these claims are now more explicit is the first paragraph of the Conclusion (Section 7). The contributions and advances relative to prior work are also clearer now upon reading the revisions to Section 2. While the Introduction section remains unchanged from the initial submission, the authors might consider extending the second paragraph or replacing the third "paper outline" paragraph with some discussion of significance. Currently, the second paragraph describes *what* the authors did, but not *why* it is significant.

With respect to prior work, the authors have now added citations and comments with respect to a couple of the papers that I suggested. It is a pity that there remains no way of documenting the apparent popularity of "choose-your-own-adventure" interactive web-based journalism pieces during the 2010s, but I understand how it can be difficult to cite a practitioner trend. Similarly, the reframing of Section 2.3 from "Multimodal Approaches" to "Sonification and Audio Narration" reminded me of the use of tone-setting music to accompany spoken narration in web-based data journalism (e.g., Neil Halloran's work such as "The Fallen of WWII"), however I am unaware of citable academic work that has explicitly investigated this form of multimodality in data storytelling. With respect to Robertson et al's 2008 study, the authors are correct in that animation was the focus of that study, however spoken narration *was incorporated* into the "presentation" condition of their experiment; though it was not an isolated factor that Robertson et al had a control condition for (i.e., presentation without narration), Sections 3 and 5.5 of Robertson et al's paper describe how the narration manifested in their work.

Next, I requested more details with respect to students' production experience. The revised Section 5.2 now describes the authoring experience, and the outcomes of 13 student projects

are now provided for online viewing via a footnote hyperlink. The authors also provide descriptive statistics about the student creations. The students' authoring experiences are summarized briefly (the final paragraph of Section 5), with a corresponding reflection added to Section 6 (paragraph 4). While a more detailed analysis of these experiences with quotes and references to the design choices made in specific student projects could be illuminating, such data may not be available and would be difficult to gather retrospectively at this point (as the course website indicates that it took place in Fall 2023). In summary, the authoring experience discussion provided in this revision is sufficient.

I also asked the authors to discuss the role of humour in communicating complex / controversial / divisive information-rich narratives. I understand their decision to deem this to be out of scope, despite humour being central to Boyd's book and being remarked upon in viewer comments. Nevertheless, I hope that the authors or readers of this work consider examining the role of humour in data storytelling in future research.

Finally, I asked the authors to reflect on how what was learned could be applied beyond flowcharts. In response, the authors have added a paragraph of future work discussion to the conclusion. The authors may want to consider foreshadowing this discussion in the paper's introduction, particularly for readers who may be looking to apply aspects of this work beyond flowchart-based storytelling.

Openness

I remain appreciative of the openness / transparency efforts made by the authors, as indicated in my original review. The authors resolved a supplemental material access issue flagged in my original review. The provision of the student projects is a great addition (although one possible concern is whether these could be preserved as videos and archived via the OSF repository as well, particularly as browser technologies change in the future and the interactive versions become inaccessible. Similarly, the new Figma tutorial file referenced in Section 4 could also be provided in an archival form (such as PDF) in the OSF repository.

Classification

Empirical Research - Quantitative

Classification

Empirical Research - Qualitative

Classification

Systems or design research

Recommendation

Accept

Revisions Requested

My only further minor suggestion (see my review) is to foreshadow the contribution / significance / novelty claims and the discussion of generalizability beyond flowcharts in the paper's introduction, possibly replacing the outline paragraph. I expect that this will result in more readers continuing to read on beyond the introduction.

Reviewer Name

Matthew Brehmer

ORCID

0000-0001-5524-2291

Review #3

Completed: 28-02-2025 03:28

Recommendation: Accept Submission

Conflict Declaration

I declare that I have no known conflicts of interest with the authors.

Review

The authors have satisfactorily addressed reviewer feedback. Their detailed document reflecting new edits is appreciated.

A final comment (that doesn't require changes): (Section 5.5) I appreciate the deeper reflection on students' use of the prototype, although I still wish there was more discussion about how the prototype's novel structure (open-ended exploration + progressive disclosure) might have affected the way in which they made design tradeoffs or changed the structure of their story.

Openness

The authors have adequately addressed transparency concerns in their response, adding GitHub links to source code and describing details on PII data from their interviews.

Classification

Systems or design research

Recommendation

Minor Revisions

Revisions Requested

In section 3.3 (Methodology), it is mentioned that “only few changes to the prototype’s features were introduced based on” online feedback data. What were these features?

Reviewer Name

anonymous

ORCID

N/A

Metareview

Completed: 2025-03-03 12:34

Recommendation: Minor Revision

Conflict Declaration

I declare that I have no known conflicts of interest with the authors.

Review

We thank the authors for their revisions to this work. It has now received three new reviews from the original group of reviewers who unanimously agree that the paper should be accepted with the observation that some minor changes would usefully improve the work. In particular:

- R1 offers a concrete suggestion on how the introduction might be improved as well as a collection of adjustments to cited works
- R2 requests a minor clarification in the methodology

We refer the authors to reviews for specific details. We suggest that these are useful changes to make that will improve the quality of the manuscript, and so offer a summative minor changes judgement.

Outcome: Minor revision: Reviewers have reached a consensus that the required revisions could be checked by the editor without requiring further input from the external reviewers.

Revisions Requested

We have checked the Open Practices aspect in round-2 manuscript according to the previous review by an Open Practices Chair. Please make the following revisions for the next version:

Although the license file is on the Github repository, it was not on the OSF archive. The top-left corner of this OSF page indicates “Update in progress”, so I believe that the authors have to approve this update for the LICENSE file to appear.

Reviewer Name

Andrew McNutt

ORCID

0000-0001-8255-4258