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InfoVis 2014

dr. M. Tory, University of Victoria

dr. J. Heer, University of Washington

prof. H. Hauser, University of Bergen

Dear dr. Tory, dr. Heer, and prof. Hauser,

We would like to thank you for the conditional acceptance of our manuscript for publication in the IEEE TVCG. Furthermore, we would like to express our thankfulness towards the reviewers whose profound and insightful feedback enabled us to improve our manuscript substantially. In this letter, we summarize the changes we have made to the manuscript.

First, we had fixed all grammatical issues and typos addressed by the reviewers. Obviously, we rechecked the whole document carefully on remaining grammatical errors and typos.

We have improved the paper regarding all main issues listed by the primary reviewer (Review 2):

**Misleading terminology** We corrected all misleading terms addressed by the reviewers. In the revised manuscript we use the term *node-link diagram* where we incorrectly used the term *graph*. Further, we use the term *labels* rather than *codes* which has obviously a different meaning in computer science.

**Role of tree coloring** In line with Review 1 and 4, we briefly addressed the role of tree coloring in the introduction (section 1, first paragraph), and also discussed it in the discussion.

**Clarification algorithm** We better explained and clarified the algorithm: with respect to the hue fraction (last paragraph 3.1), and the permutation step (second paragraph 3.1.1)

**User study** Obviously, we were unable to set up another user study with more advanced tasks within this review cycle. However, we think our user study still showed some insightful results, which is also mentioned in Review 1. In line with this review, we briefly summarized the user study results in the introduction (section 1, paragraph 5). Also, describe this with one sentence in the abstract (the last one). Furthermore, we extended the

user study discussion in section 7 (paragraph 5 and 6). We recommended additional user studies as suggested by Review 3, for further research (section 7, paragraph 7).

**Color vision deficiency** Color vision deficiency is indeed a very important aspect of information visualization. We added a section on color vision deficiency (section 3.4) and added a paragraph in the discussion (section 7, second last paragraph). Furthermore, it was not clearly described whether we took questionnaires from the 10 people with color vision deficiency. In fact we did, but we ignored the results since the number of participants (10) was too low to draw statistical conclusions. In the current version of the manuscript, we clarified that we did take questionnaires from them (section 6.2, first paragraph). Furthermore, we described the results briefly (section 6.2, last paragraph).

**Related work** In line with Review 4, we added a related work section (section 2) in which we include and describe the real-world examples addressed by Review 1.

**Presentation problems** We took care of all presentation problems addressed by Review 2.

Below we describe the other changes we have made:

**Picking angle** We described the permutation step of the algorithm better, and illustrated it with a short example (section 3.1.1, paragraph 2). The reason to choose 144 degrees over the golden angle of 137,5 degrees is that, contrary to the blog post addressed by Review 1, the angle is rounded down to the next sibling. In the case of 5 siblings, the golden angle will be rounded down to 72, resulting in the unwanted permutation order of [1, 2, 3, 4, 5]. Notice that in most cases the golden angle and the angle of 144 degrees will be rounded down to the same angle.

**Scalability** In section 7, last paragraph, we discussed to what extent Tree Colors are useful for larger datasets, which is questioned by Review 2 and Review 4.

**User study evaluation charts** In accordance with Review 3, we improved the color scheme used in the user study evaluation charts (Figure 20 and 21). We used the proposed color scheme by Okabe and Ito (2002) that is designed for people with low color vision. Reviewer 1 was confused by Figure 21. In section 6.2, paragraph 6, we described this figure as a diverging stacked bar chart. Since this type of chart is very common for preference and Likert scales, we did not explain it any further.

**Variety of visualization approaches** As suggested by Review 3, we improved the case study by adding a different hierarchical visualization approach. We added a sunburst diagram, a radial icicle plot, that distributes the space better than the layered icicle plot (i.e., there is more space available for the numerous leaf nodes). To satisfy the page limits, we placed

this sunburst diagram in Figure 14, replacing node-link diagram with the Kamada-Kawai layout.

Sincerely,

Martijn Tennekes and Edwin de Jonge