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White Rooms and Morphing Don't Mix: Setting and the Evaluation of Visualization Techniques

INTRODUCTION AND RESEARCH SUMMARY

The research paper states that experimental setting can impact results in a comparative analysis of visualization techniques. Different settings can have different visual perception, concentration and reasoning impacts. Previous work in this field discussed about the range of evaluation approaches but the specific impacts of different settings were not discussed. The paper argues that by choosing a white room setting for evaluation of a technique may not represent the real-world scenarios and the results may vary largely when the same technique is evaluated in other noisier areas. The paper describes an experiment comparing map morphing with juxtaposing maps in different settings such as the atrium and usability lab and was observed that participants scored higher in the atrium setting using the morphing interface and higher in the usability lab using juxtaposed maps. Another observation presented in the paper as a part of this experiment is that having foreknowledge about the recall tests after the map familiarization tasks did not impact the scores. The authors also say that setting is not the only factor and also quote that 'One cannot assume that the same setting means the same to all people'.

WHAT I LIKED

The part where the experiment and the results of the experiment were discussed is what I liked the most. The authors describe the settings in detail, give a clear picture of the maps (tourist map and subway map) and also list out sample questions asked in the activity phase. In this section, the paper also discussed the differences identified between the pilot and the formal study and the differences in the overall results of the two techniques (map morphing and juxtapose) in different settings. The results from the experiment involved 120 participants. The authors also include the participant test behavior which discusses about the participants confidence levels in the answers they wrote down for the recall tests were most of the answers written down were with little confidence or with an option don't know. Another point I liked about the paper was the authors have considered that, an assumption cannot be made since the same setting might not seem the same for another person. Also the author has given a complete explanation of map morphing and why it is a complex visualization has been discussed in detail.

WHAT I DID NOT LIKE

I did not like the background section of the paper. The background details discussed in the paper are only points about other researchers statements that the techniques could be evaluated based on some factors. This section should also point out the motivation behind their idea.

I also think conclusions cannot be drawn that the map morphing technique worked well in the the atrium setting as the participants were not confident about the answers and also this score cannot be an evaluation factor for the experiment conducted.

QUESTIONS

If there was foreknowledge about the recall tests after the experiment, the participant would usually look closer and score better I think, why is it written as the foreknowledge did not affect scores?

How were the overall scores calculated when most of the users said they either did not know the answer or had little confidence in their answers?

CONCLUSION

The paper argues that the setting impacts the evaluation of visualization techniques. I think it is a good observation the paper provided since people in different settings do have different perceptions, disturbances, focus levels etc.

For me, the techniques discussed such as map morphing, juxtaposing of maps, the different spatial presentations of maps and also the complexity involved in evaluation of visualization techniques were new learning points from this paper.