

Critical Review: Exploring Interactions with Physically Dynamic Bar Charts

This essay forms a critical review of Taher et al. [2015].

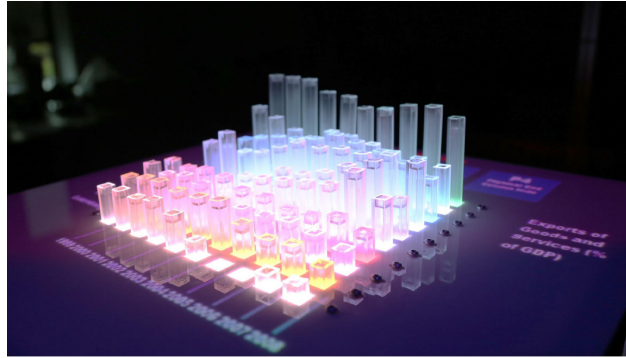


Figure 1: EMERGE: Exploring Interactions with Physically Dynamic Bar Charts using actuating physical rods and RGB LEDs to display international export data.

Table 1: Task-sets and interaction techniques explored during the user study.

Task	Overview	Interaction Techniques
Annotation (<i>Process & provenance</i>)	Selecting and marking individual data points.	Point, pull, press.
Filtering (<i>Data view & specification</i>)	Hiding and refining data for enhanced perception and comparison.	Swipe away, manual press, assisted press, press shortcut, and press to compare.
Organization (<i>View manipulation</i>)	Data arrangement by moving rows and columns.	Drag and drop with immediate transition and hide-all with transition, press with instant transition and hide-all with transition.
Navigation (<i>View manipulation</i>)	Controlling the view of large data sets.	Scroll, directional arrows, directional press, and paging.

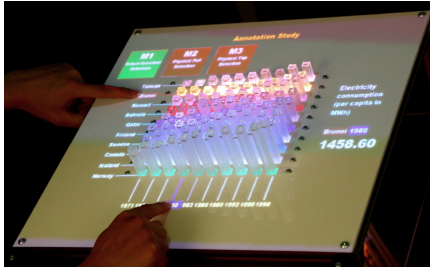


Figure 2: Annotation (Point technique).

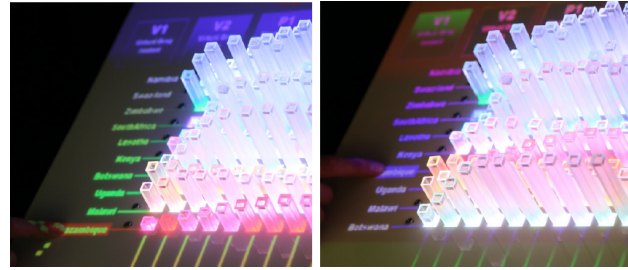


Figure 3: Organisation (Drag and Drop technique).

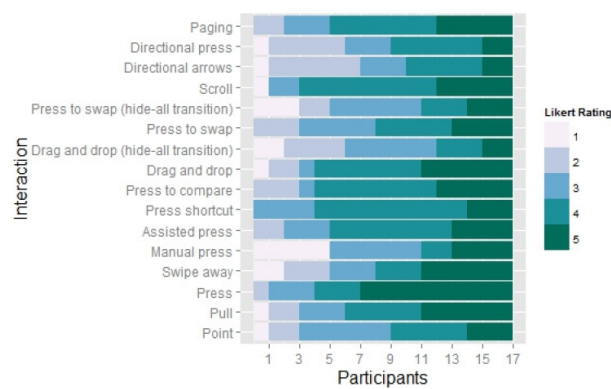


Figure 4: Likert scale ratings for helpfulness of interaction techniques. Range = 1: Strongly Disagree, 5: Strongly Agree.

Word count: 0 words

References

Faisal Taher, John Hardy, Abhijit Karnik, Christian Weichel, Yvonne Jansen, Kasper Hornbæk, and Jason Alexander. Exploring interactions with physically dynamic bar charts. In *Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems*, CHI '15, pages 3237–3246, New York, NY, USA, 2015. ACM. ISBN 978-1-4503-3145-6. doi: 10.1145/2702123.2702604. URL <http://doi.acm.org/10.1145/2702123.2702604>.