

## Readings Data Processing, Week 5

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**Opgave 1.** *Ware argues that human perception involves 2.5 dimensions. Given this assertion, when might a 3D visualization be useful and why?*

*Oplossing.* 3D visualisation might be usefull if we want to see how the moon circles the earth. In this way teh space-time structure is even more clear than on a 2D visualisation. Without the 3D visualisation it is hard to imagine what the effects are of the moon on some counties.  $\square$

**Opgave 2.** *In Chapter 6, Ware presents some implications of pattern recognition and visual working memory on design. Provide an example that harnesses some of these principles (perhaps an advertisement, visualization, or interface) and discuss how the design takes these principles into account. Please include a screenshot, photo, or website URL.*

*Oplossing.* For this exercise i will use a Youtube video clip:

[https://www.youtube.com/watch?v=h\\_UhKcAy6xc](https://www.youtube.com/watch?v=h_UhKcAy6xc)

This videoclip wants to entertain the viewer by letting him place his finger in the middle of the screen and 'let him do' all kinds of stuff like popping balloons. This clip uses pattern recognition and the visual working memory. There are not a lot of objects one time on the screen, so that the working memory will not get overloaded. It are patterns that we know already. Because of the finger that is participating in the clip the attention stays with the clip.  $\square$

**Opgave 3.** *Pick two concepts covered in Lecture 9 - Interaction (e.g., Brushing & Linking) and relate them to the taxonomy presented in Heer & Shneiderman Table. How do the interaction concepts fit to their taxonomy?*

*Oplossing.*

- Filtering: This concept filters out data to focus on relevant items. It selects items to highlight, filter, or manipulate them.
- Brushing and linking: This concept sorts items to expose patterns. It coordinates views for linked, multi-dimensional exploration. It also organises multiple windows and work spaces.

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**Opgave 4.** *Cockburn et al. describe various interface design paradigms, among them the fisheye view. How would the fisheye view improve the usability of a visualization, and under what circumstances might it not?*

*Oplossing.* The fisheye view can help us focus on what is important without ignoring the other stuff. But it can also change the perspective of the viewer. There is a thin line between showing what is important and changing the data. □