Danzel Capers

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CSCI 380

Fall 2015

**Homework 3**

I first choose the article “Defining Visual User Interface Design Recommendation for Highway Traffic Management Centres” because it had something to do with my everyday life. Traffic is something almost everyone has to deal with at one point or another. Finding out more about what is happening behind the scene in some control room really caught my interest. After reading this article I’ve learned about what goes into making a visual interface that's meant to relay a lot of real time data to a user so they can make decisions in a short amount of time. From how the use of psychology can be used to take advantage of human traits to have them react or focus a certain way to how a more simple design may result in better responses than a complex design with too much information being represented at once.

I’m going to talk about a few key concepts I took away from this article starting off with a cognitive psychology term called change blindness. This refers to a users not noticing a change in the display, maybe because the user's focus is being drawn to several different sections on the screen. To help relieve this problem the article states it's best to limit the number of elements that are being show on the display at one time to those that are necessary[1]. Even though psychology isn’t my major I still find the human brain very fascinating in how a person will remember a video or animation as a bunch of snapshots of images. This can lead to important information being lost in between the mental snapshots people use to remember an action. This loss in information is one of the drawbacks of using animations in the design of an interface that will be used for split second intake of information and understanding what the information means before applying it to other systems to track the flow of traffic.

Even though the article is geared toward the design of a traffic management system the guidelines used in the article can be applied outside of it. Since the guidelines are based on abstract rules of cognitive psychology it can be extended to other forms of interface design in the same vain. I learned guidelines I can generalise and use in any interface like using motion and sound to get the user's attention to focus on a time sensitive event going on. 3D visuals are less preferred in the case of time sensitive situation because it is more visually cluttered than a 2D image for the human brain[1]. Balancing the amount of data being shown is very important to understanding the information as a whole and picking out anomalies. Too little information and the user can’t see any patterns going on in the flow of data giving. Too much information and the user is overloaded with data that is redundant in some cases and can’t respond in a timely manner if at all. In conclusion I took this article on because of its everyday effect on my daily life and its use of the human brain’s traits to help guide the design of an interface that could best suit the task of managing traffic flow. I’ve found it very insightful in understanding how interfaces should be build with the user and the desired task in mind from start to finish.

**Bibliography**

1. Johanna Haider, Margit Pohl, Peter Frohlich, "Defining Visual User Interface Design Recommendations for Highway Traffic Management Centres", *IV*, 2013, 2013 17th International Conference on Information Visualisation, 2013 17th International Conference on Information Visualisation 2013, pp. 204-209, doi:10.1109/IV.2013.27
2. W. Angner, S. Miksch, H. Schumann, and C. Tominski, Visualization of Time-Oriented Data, Springer 2011.
3. C. Blok. Dynamic visualization variables in animation to support monitoring of spatial phenomena, PhD thesis, Universiteit Utrecht, 2005.
4. Michael Yearworth, Nick Taylor, John Tidmus, Ian Fraser, Peter Still, "A CORBA Service for Road Traffic Information on the Internet", *DOA*, 2000, Distributed Objects and Applications, International Symposium on, Distributed Objects and Applications, International Symposium on 2000, pp. 231, doi:10.1109/DOA.2000.874194
5. Yanliang Qi, Yang Zhang, Min Song, "Text Mining for Bioinformatics: State of the Art Review", *ICCSIT*, 2009, Computer Science and Information Technology, International Conference on, Computer Science and Information Technology, International Conference on 2009, pp. 398-401, doi:10.1109/ICCSIT.2009.5234922
6. N. Koshizuka, T. Muto, K. Sakamura, "Human-machine interface specifications in the "computing everywhere" age",*TRON*, 1995, TRON Project Symposium,, TRON Project Symposium, 1995, pp. 87, doi:10.1109/TRON.1995.494745