Fall 2013 – LP2

Course Assignments
for

Information Visualization
4DV300 – Fall 13

1st assignment
Deadline for this assignment is Nov 19, 2013.

Task 1 *Read the article*
Read the online article *Perception in Visualization* by C. Healey (see URL below). You are encouraged to 'play' with the applets found on the site as they might help you understand some of the key points presented there. This article might help you solving the other assignments. After reading, answer the following questions related to the article:

1. Describe what *preattentive processing* means and discuss in your own words how it can be helpful for making a good visualization environments?

2. What strategy can be used to show multiple data objects with different attribute values simultaneously in a single image? What visual feature is favored in case of boundary detection?

3. Explain at least two cases where motion is usually used in visualization environments. Which are the most important motion properties? Which motion property would you consider as most useful for preattentive processing?

Article URL: `http://www.csc.ncsu.edu/faculty/healey/PP/index.html`

Task 2 *Popular use of InfoVis approaches*
There are many popular web sites that use information visualization techniques, especially sites from newspapers and magazines. You should, for example, take a look on the suite of data visualizations that the NY Times has created over the past few years, a few examples of which are listed below:

Politicial candidate's names in speeches `http://www.nytimes.com/interactive/2007/12/15/us/politics/DEBATE.html`

Netflix Queues in areas `http://www.nytimes.com/interactive/2010/01/10/nyregion/20100110-netflix-map.html?hp`

Movie revenues `http://www.nytimes.com/interactive/2008/02/23/movies/20080223_REVENUE_GRAPHIC.html`

But or rent? `http://www.nytimes.com/interactive/business/buy-rent-calculator.html`

Olympic medals `http://www.nytimes.com/interactive/2008/08/04/sports/olympics/20080804_MEDALCOUNT_MAP.html?_r=0`

Visit these pages, identify the visual representations, and try to understand all interaction possibilities. Thus, the task is thinking, nothing else.
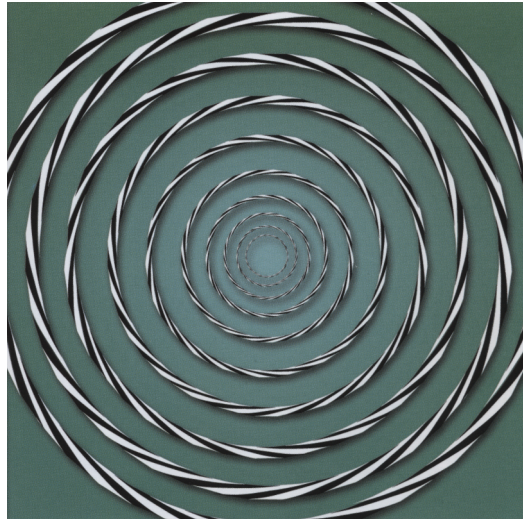

Task 3 *Good and bad visual design*
In this task you will have to find two examples of visualizations, charts or diagrams. One of them should depict a good use of perception theory and one should present a bad use of perception theory. You should write a short explanation about both of them (provide figures of the visualizations too) and discuss the reasons *why* you think they present good or bad examples respectively. You can take the samples from anywhere you like (web, books, magazines, etc.).
Note: Do not forget to reference your examples!

Task 4 *Optical illusions*
Answer the questions regarding the images below them:

1. Are the circles consistently arranged around a common center point? Explain your answer!

2. Which one of the middle circles looks bigger? Explain your answer!

Please prepare a report with your results and upload it in Moodle before the given deadline! If you have questions about the assignments you can contact Björn Zimmer via email (bjorn.zimmer@lnu.se).
Note: Do not forget to include the course code in the email subject field (4DV300).