Course Assignments
for

Information Visualization
4DV805 – Fall 2022

Assignment 4

Deadline for this assignment is October 31, 2022 at 23:55.

Task 1 *Answer the questions*

Answer the following questions. Some of them are related to the next several lectures, so you might want to listen to the lectures first. But you can already start with task 2.

1. What is the difference between Overview + Details and Focus + Context? Try to describe pros and cons of each approach.

2. What is the difference between the Graphic Fisheye and Logic Fisheye views? Can they be combined? If yes, how (an example perhaps)?

3. What are Polyfocal Displays? What are they used for? Draw the transformation function for Polyfocal Displays.

4. Describe the idea behind Magic Lenses. Can you provide an example of a magic lens not discussed in the lectures together with a short description?

Task 2 *Visualization of Multidimensional Data*

Your last assignment is to design and implement a visualization tool for a multivariate data set. You can use external libraries for visualizing the data if you want. We have used a slightly adapted data set from `https://archive.ics.uci.edu/ml/datasets/automobile` . You should check the website for the information about the attributes.

Before you begin to create your visualization, think about the data set and what would people like to do with it. What would one want to know and see, how can he/she find specific information, what other tasks would one like to perform with the data? Your visualization should help users in performing these tasks. Simple visualizations such as bar charts or scatter plots are not enough to pass the assignment — you may, however, think about combining multiple representations and complementing them with some interaction techniques. You should demonstrate that you have acquired some knowledge about the field and understand the techniques.

You should submit a report with an explanation about how to use your tool. You should explain how the user is able to perform various tasks (your visualization should support at least one task). Also, we would like to have your opinion about the advantages and disadvantages of your design. You should also send your source code together with a **runnable (executable) application**.

The data set can be found in Moodle and here:
`http://cs.lnu.se/isovis/courses/fall22/4dv805/assignments/cars.csv`
Please note: you are not allowed to modify the format or the contents of the provided data set file!

Please prepare a ZIP archive with your implementation, a (PowerPoint) presentation, and the PDF report. Upload it to Moodle by the given deadline! If you have questions, you can contact Angelos

Chatzimparmpas via email (angelos.chatzimparmpas@lnu.se). You will have to present your work on November 01, 15:15-17:00, room D1167V.
Please note: any kind of plagiarism is not acceptable!