CS 171 Design Studio 1 - International Trade Data

This design studio is synchronized with Homework 2. You will sketch multiple solutions to visualize the international trade data, specifically the top trade partners of each country. Details on the data format can be found in the homework, for the purpose of this design studio it is sufficient to know that each country comes with a list of their top ten bilateral trade partners. For each of these trade partners you are also given the trade volume. Remember that you also have rich data about the individual countries.

This design studio consists of three parts - analysis, sketching and reflection. You can work in groups for parts one and two, for part three you should team up with another group that was not involved in your design and critique each others work.

Do note the contact details of your partners on your sketches. Even as you work in groups, every member of your team should make his/her own sketches and write down notes and ideas. Include pictures/scans of the sketches in your homework submission and briefly describe them. Type up your notes if your handwriting is hard to read for others.
There is no need to hand in anything at the end of this design studio, submission is part of the homework.

As you design your solutions, be aware that you will have to implement at least one of them. We recommend that you design one ideal solution, independent of your ability (regarding skills and time) to implement it. If you judge that your ideal solution will be beyond the scope of the homework implementation, you should develop a second solution that you can implement which still allows users to address (parts of) the tasks.

Note that members of your group can choose different solutions to implement.

PART 1 - ANALYSIS

Individual or in small groups (1-3 people); Time: ~30 minutes
Take a look at the data and the examples in the homework.

- Who would be interested in using this visualization? List all user-types that you can come up with. Prioritize the user list and pick up to three for which you design.
- What potential domain tasks could be interesting for the different user types? List them.
- Think about how the user tasks relate to basic visualization tasks.

A couple of pointers specific to the dataset:

- Think about trends regarding geographical proximity. A hypothesis could be that countries deal mainly with their neighbors. One potential task could be to identify whether there are countries that mainly deal with partners far away.

- Are top trade flows mutual, i.e., do countries have each other as their top trade partners?
- Try integrating other data attributes - e.g., to ask whether larger countries differ in their trade flows from small ones, whether countries are landlocked, share the same language, are part of a bilateral / regional trade agreement (Eurozone, Nafta, ..), etc.

PART 2 - SKETCHING

Individual or in small groups (1-3 people); Time: ~30 minutes
Design alternative visual representations for representing the data and the tasks you identified. You should design for an interactive system, i.e., you should not assume that you have to fit all content onto paper.
Here are some points you should consider:

- To get a feeling for the final visualization, try to draw a realistic-sized example.
- Experiment with fundamentally different layout strategies. Try node-link diagrams, lists, scatterplots, bar charts, etc…
- Experiment with a detail-first (i.e., search for one country to start with) and an overview approach.

PART 3 - REFLECTION

Group of 3-6 people; Time: ~30 minutes
Take your analysis and ideas and share it with a group of your fellow students. Discuss your priorities and your designs. Do you find a consensus? Briefly document your feedback and how it shaped your final design.