# Data Visualization – Course Work

## Assignment 2

### Quick Facts

- Deadline: **Tuesday, Nov 27, 11:59:59!**
- 3 Tasks: Linked Multivariate Visualizations, Assessing Visualizations, and Lecture Recap on Scatter Plot Matrices
- Submission via OPAL as one single ZIP file.
- You should solve the tasks in groups of two.
- Be prepared to present your answers orally during the course.

### Task 1: Linked Multivariate Visualizations

**Description:** Implement linked visualizations for multivariate data in D3.js.

- Import given dataset from `https://imld.de/docs/lehre/ws_18-19/data-vis/data/cars.csv`
- Implement three visualizations:
  - Parallel Coordinates Plot showing all (suitable) attributes
  - Scatter Plot showing four attributes
  - Star Plot showing six attributes
- Allow selection of a single data point!
  - Selecting of lines/dots in the Parallel Coordinates Plot/Scatter Plot
  - Selection is synchronized between plots
  - Currently selected data point is also shown as Star Plot
- Additional hints:
  - Add a comment with the names of both team members at the beginning of your HTML file!
  - Use comments and document your code!
  - Code quality matters!
  - It's okay to build upon existing examples, but: name your sources!
  - Feel free to add further interactions, try out different encodings!

**Deliverable:** your complete source code **and** a screenshot as JPG/PNG

## Task 2: Assessing Visualizations

**Description:** Reflect on your visualizations created in the first task.

- What are advantages/disadvantages of each of the three visualizations?
- What information is mainly transported by each visualization?
- In this context, what does object visibility and attribute visibility mean?

**Deliverable:** PDF file with your answers/explanations

## Task 3: Lecture Recap – Scatter Plot Matrices

**Description:** Let's talk about the Scatter Plot Matrix!

- Describe the main principle of a Scatter Plot Matrix!
- Sketch an example of a Scatter Plot Matrix for the cars data set
    - Choose four attributes
    - Include three cars
- How many Scatter Plots are required to visualize *n* attributes?

**Deliverable:** PDF file with your answers/explanations