Assignment 3, due Friday, May 22 2015

Visualizing geographic data using D3.js

Create a web page that visualizes the provided file **`bezirke_income.geojson`** and visualizes it using the D§.js library. The result should be a simple choropleth map of Austrian districts. Use the setup used in lecture 6 as a starting point (available as a downloadable .zip file in TUWEL).

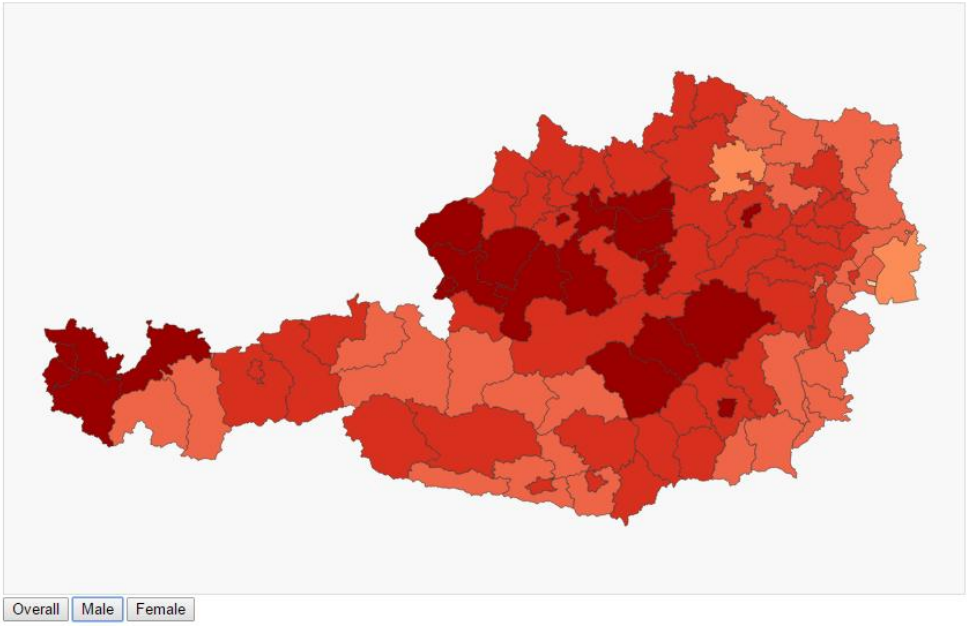
Don't forget to update your project diary (use a .txt file) every time you work on the assignment!

Basic requirements:

- Render the district's geometries to SVG path elements using D3's path generator.
- Choose a suitable projection supported by D3, and set up its **`scale`** and **`translate`** parameters programmatically to show the area covered by geometry.
- Each feature in the provided GeoJSON file (Austrian political districts) contains a properties object including the following fields:
  - **`income_med`** Overall median income
  - **`income_med_m`** Median income of male workers
  - **`income_med_f`** Median income of female workers

  Add three buttons to the bottom of the map that let the user switch between visualizations of the three values as fill color of the path elements.
- Create a single quantized color scale to show all income values. Choose a suitable **`domain`** for the scale, and select a range of colors (minimum: 5 classes) using http://colorbrewer2.org/ for the **`range`**.
- Your final web page should be named **`PCT03_<Matrikelnummer>.html`**, where <Matrikelnummer> is your Matrikelnummer (Student ID #), e.g. **`PCT03_12123456.html`**. Do not modify or rename any of the other files in the setup, and submit only this main html file. (All necessary CSS, HTML and JavaScript must be contained in this file).

The basic result could look like this (display will change upon clicking the buttons):



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Assignment 2: Visualizing geographic & statistical data in the browser

Bonus points will be awarded for each of the following additional features:

- Create a map legend using D3.js. The color values, or another suitable representation of your metadata, must be used as data values used to create the legend programmatically.
- Add a 'click' event handler to the path elements that shows detailed information about the selected district next to the map.

You are <u>not</u> allowed to:

- Use any external scripts, CSS, images etc. as you will submit only the html file. All necessary CSS, HTML and JavaScript must be contained in this file, and no images can be used for this assignment.

You are encouraged to:

- Structure your code to encourage clarity and re-use.
- Name functions and variables according to your taste and needs.

Don't forget to update your project diary (use a .txt file) every time you work on the assignment!

Grading will be based on the web page meeting the above criteria. For grading, your page will be looked at in Google Chrome, current version. You need to understand the code you submit and may be asked about its details at a future lab interview. Bonus points may be awarded as specified above.

Submit your html file + the project diary file in TUWEL using the assignment submission module. Don't submit any other files; we will test your html file in an environment resembling exactly the setup used for lecture 6 (+ the file bezirke_income.geojson)!

Due Date: Friday, May 22 2015