Assignment 2, due Friday, April 24 2015

Visualizing geographic & statistical data in the browser

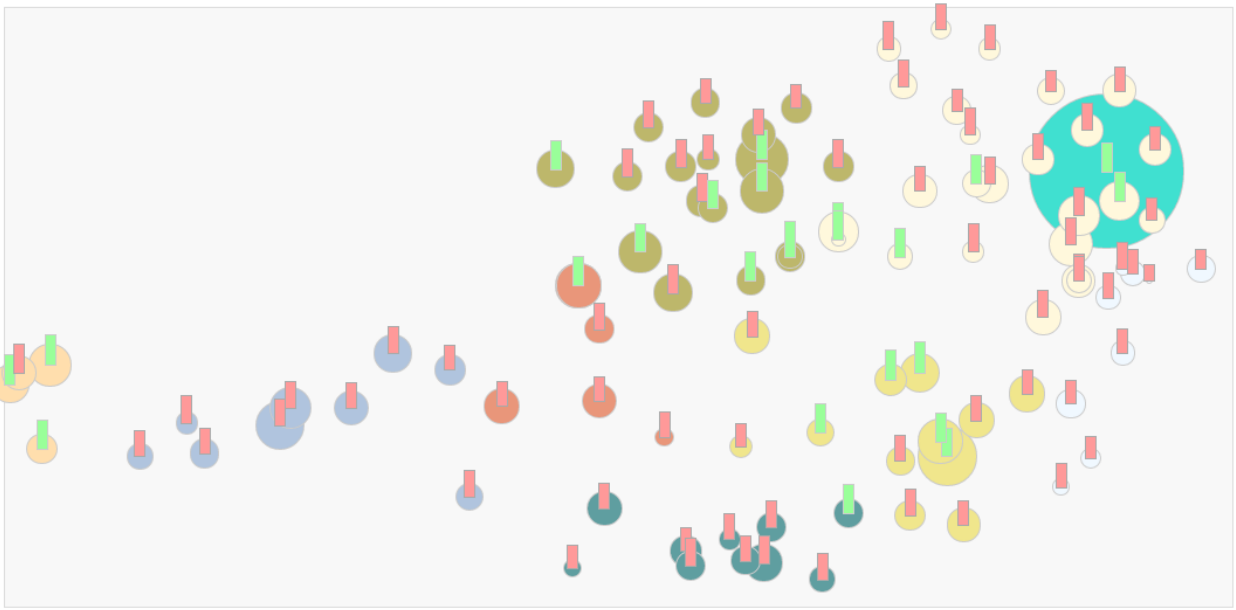
Create a web page that reads data from the provided file **`income-AT.csv`** and visualizes it. Similar to the result of lecture 4, a simple thematic map of Austrian districts should be created. Use the setup used in lecture 4 as a starting point (available as a downloadable .zip file in TUWEL).

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

Basic requirements:

- Lay out the elements representing the district data as a Mercator-projected thematic map, roughly covering the available map area.
- Represent each district (level 3 administrative area) with a filled circle, its area being proportional to the districts population (field **`population`**)
- On top of the circle, starting at its center, there should be a vertical bar representing the median income of that district. (The height of the bar should be proportional to the **`income_med`** field value)
- The color of the bar should be green if the district's median income is above the national average for Austria (€ 2318), red if below.
- A "tooltip" should show the place name and the population/median income when moving the mouse over the circle/bar.
- Your final web page should be named **`PCT02_<Matrikelnummer>.html`**, where <Matrikelnummer> is your Matrikelnummer (Student ID #), e.g. **`PCT02_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:



(Continued on page 2)

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

- Instead of the single bar, create 2 bars next to each other, one for the median income for males (field **`income_med_m`**) and one for females (field **`income_med_f`**). If you implement this, you may change the color scheme to indicate male/female (e.g. blue/red) instead of above/below average)
- Instead of showing an absolute value, create bars showing the *difference* to Austrian median income (€ 2318). Draw the bars going from the center of the circle upwards if above, downwards if below the national average. (Hint: `height` cannot be negative in CSS, so you have to adjust the positioning!)
- Create a map legend using HTML + CSS, explaining colors used in the map and circle and/or bar sizes.

A submission implementing bonus features 1 & 2 could look like this:

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

- Use any other JavaScript libraries besides the d3.js and mercator.js files provided for lecture 4.
- 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.
- Use any functions of d3.js besides d3.csv().

You are encouraged to:

- Structure your code to encourage clarity and re-use.
- Name functions and variables according to your taste and needs.
- Choose you own set of colors and experiment with other style attributes (`border, opacity` etc.)

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 4 (+ the file income-AT.csv)!

Due Date: Friday, April 24 2015