FIT5147 Data exploration and visualisation S1 2017

Programming Exercise 3: D3 (5%)

Programming Exercise 3: D3

Please carefully review all the requirements below to ensure you have a good understanding of what is required for your assessment.

1. **Due Date**
2. **Instructions & Brief**
3. **Assessment Resources**
4. **Assessment Criteria**
    1. **Grading Rubric**
    2. **Word Count (& Penalties)**
5. **How to Submit**

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1. Due Date

This specific due date and time can be **viewed below in the Grading Summary**.

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2. Instructions & Brief

In this assignment, you are required to create an interactive visualisation using D3. The visualisation will present network data and provide tooltips when the user hovers above the visual elements. **It is an individual assignment and worth 5% of your total mark for FIT5147.**

Relevant learning outcomes for FIT5147:

6. Implement interactive data visualisations using python, R and other tools

Details of task:

The data you are to use can be found in Moodle. It is a trading data between different locations. You do not need to worry about map projections, we have already converted the locations into screen positions (in pixels). **The data is fictional.**

It contains:

- Screen position in pixels of different locations
- Trade amounts between different locations This network is un-directed, you do not need to draw arrows.

Your job is to

1. Read in the data using D3.
2. Draw the locations as circles, and make the radius of circles proportional to the total trading amount.
3. Draw the trading as lines between the locations, and make the thickness of lines proportional to the amount.
4. Interactive tooltip:
    1. When the mouse hovers on a circle, the name of the location and its total trading amount should be displayed in a tooltip.
    2. When mouse hovers on a line, the two names of its linked locations and the trading amount should be displayed in a tooltip.
5. Circles should be rendered on top of lines.

Your code should be generic and work with other data files of similar format, i.e. your code should be able to load and visualise the two data files attached without any changes except the file name.

The data is available at the bottom of the page.

3. Assessment Resources

D3 needs a static server to load local data files.

One simplest way is:

1. Install Python (on Windows, Python should be installed by default for most Linux and Mac OS)
2. Adding Python to your system path (on Windows)
3. Use a terminal (command line) to enter your project directory/folder
4. Running the command:
   python -m SimpleHTTPServer 8000
5. Then you can open ***http:///localhost:8000/*** in your browser to access your D3 visualisations.

Here is an example of loading a local JSON file using D3:

http://bl.ocks.org/Jverma/887877fc5c2c2d99be10

And the official document for this function:

https://github.com/d3/d3-request/blob/master/README.md#json

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4. Assessment Criteria

The following outlines the criteria which you will be assessed against.

4.1 Grading Rubric

Demonstrated ability to read data into D3 [1%]

Demonstrated ability to create basic SVG elements using D3: Circles [1%]

Demonstrated ability to create basic SVG elements using D3: Lines [1%]

Demonstrated ability to link data to visual properties: Proportional radius and thickness [1%]

Demonstrated ability to create an interactive visualisation in D3: Tooltip [1%]

4.2 Word Count & Penalties

N/A

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5. How to Submit

The code for the final interactive visualisation should be submitted through Moodle. Ensure that all necessary files for the visualisation are included.

- data-02.json
- data.json

Submission status

Attempt number	This is attempt 1.
Submission status	No attempt
Grading status	Not graded
Due date	Sunday, 14 May 2017, 11:55 PM
Time remaining	6 days 6 hours
Last modified	-
Submission comments	▸ Comments (0)

Add submission

Make changes to your submission

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Programming Exercise 2: R (5%)
Programming Exercise 3: D3 (5%)
DataViz Design (5%)
Sample Data for the DataViz Assignment
Data Exploration & Vis Project: Detailed Descr...
Interim Project Presentation (5%)
How to submit an assignment in Moodle
Faculty Style Guide
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Week 4: Module 2 | Making Sense of Tabular Data
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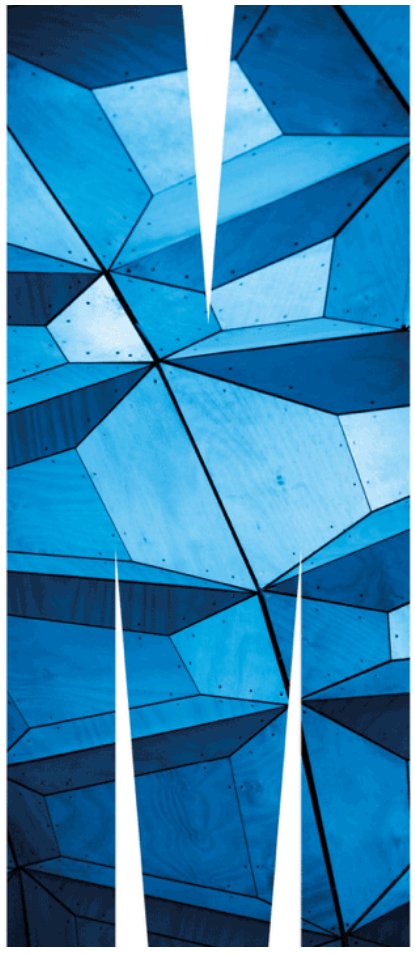

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