

## Information Visualization – Exercises

### **Due date:**

Please hand in the solution for this exercise no later than May 10th, 23:59.

Solutions by e-mail to [huberma@in.tum.de](mailto:huberma@in.tum.de), [nestler@in.tum.de](mailto:nestler@in.tum.de) and [schlegem@in.tum.de](mailto:schlegem@in.tum.de) are acceptable.

### **Exercise 1 (H) Java development environment**

In the course of the following lessons we want to develop interactive visualizations which can be embedded into websites and can be viewed by anybody without much setup cost. One language to develop such applications is Java using Java Applets. In this exercise you will have to setup a suitable development environment to be able to create new applets and applications.

You should preferably use the Eclipse IDE, but are free to use any editor/IDE you feel comfortable with.

- a) Download Eclipse from <http://www.eclipse.org> (or any other java development environment) and install it to a suitable location
- b) Learn how to write applets using java. Information can be found for example at <http://java.sun.com/docs/books/tutorial/deployment/applet/index.html>. Also pay attention to applet security considerations.
- c) Program a „Hello World“ example applet to verify your setup

### **Exercise 2 (H) *prefuse* development**

For the development of our visualization applications we will use the *prefuse* visualization toolkit, which offers a rich selection of out-of-the-box usable visualizations. *prefuse* is available either as a Java or a ActionScript library, of which we use the first one.

- a) Download the *prefuse* toolkit from the *prefuse* website <http://prefuse.org/>
- b) Build the distributed source into a binary java library (in .jar format)
- c) Integrate *prefuse* into your IDE. Make sure the classpath includes the new library.
- d) Write a test to make sure the new library is found (e.g. `include import prefuse.data.Graph;`)

### **Exercise 3 (H) Simple Visualization**

After the previous two exercises you should have a complete development environment to create new visualization applications. To become more familiar with the *prefuse* framework, you should get an overview of the documentation available at <http://prefuse.org/doc/manual/>. Pay especially attention to the part „introduction > example application“.

- a) Read the introduction from <http://prefuse.org/doc/manual/introduction/>
- b) Build the simple visualization at the end of the tutorial
- c) Modify the example application to be an applet instead. You may have to embed the XML data directly into a string variable for this example.

**Exercise 4 (H) Presentation (ongoing work)**

You should make yourself a simple website with one page for each lesson on your „Hallen“-Account and whenever you complete a solution to one of the exercises, you should embed the corresponding applets into that page. Send a link to that page to all your tutors.

So after this lesson this site should contain two applications for the previous three exercises.