T-61.5010 Information visualization

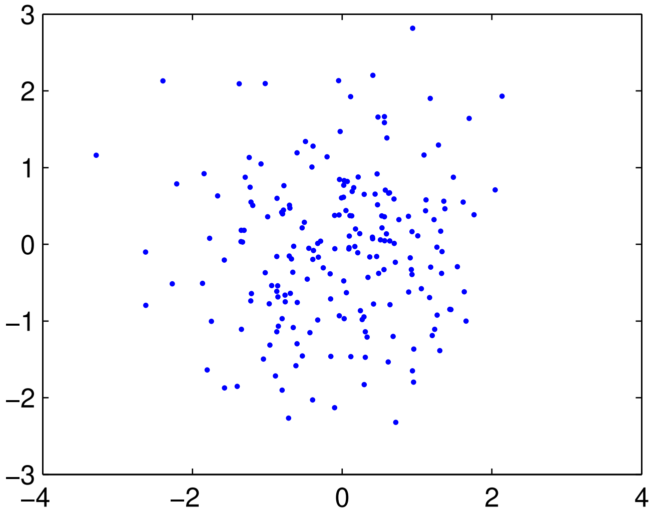
Exercise 4. Fri Mar. 2, 2007, 12-14 T2

- Attention
- Focus & context
- Graph drawing

1. Find an example of both good and bad website design. Consider issues related to structuring of information (Is the site easy to navigate?) and visual attention (Is relevant information easily found on a page?). Explain and justify your choices. (Focus and context!)
2. Construct a mind map of the most important things you have learned so far on this course. Use Graphviz (neato) to visualize the graph. Try different parameter settings.
3. Download the iris dataset from the course website (`http://www.cis.hut.fi/Opinnot/T-61.5010/2007/problems.shtml`) and study its 2-dimensional PCA projection. Compare this to the projection you obtain by using some other method of your choice, e.g., Eigenmap.

   (please turn page!)

4. Consider the 2 dimensional data presented in the figure below (uncorrelated gaussian noise with $\mu = 0$ and $\sigma = 1$).



How would you project this cloud of points to one dimension such that

a) continuity

b) trustworthiness

is preserved? Is it possible to create a projection where both measures are good?

5. Select one of the previous lectures and come up with *three* suitable examination questions related to its contents. The first question should be about briefly explaining 4-6 new concepts appearing in the lecture. The second question should be of the form "Write a 1-2 page essay about XYZ.", where XYZ is some of the broader topics the lecture is about. The final question should be similar to the ones discussed in the weekly problem sessions. Some of your questions might appear in the examination! You can get *bonus points* for this problem *only by handing in your answers* at the lecture on Thursday Mar. 1!