



## Processing. A first encounter

27 October 2009

On the 27th of October, you will have the opportunity of a first encounter with Processing, the programming system and language for designers and artists. Stefan Kreitmayer will do this with you. I am sure, others will also be helpful since they already know at least some of Processing.

Processing is very easy to get into. It is strongly oriented towards graphics. It allows you to develop your first programs from examples that we will study a selection of. You will always see a display window that you control through your program. Next to it you see the window containing the code. Your operations and understanding will jump back and forth between the two. That's pure joy!

Processing creates Java code, and the syntax you'll learn is Java syntax. Isn't that great?

I predict that within one hour of the course, you will run a first program that contains some of your own decisions (variables and data). Within four hours, you may have your first own programming running.

For this meeting, please bring your laptop! If you do not have one, but a friend would give one to you to use for the afternoon, make use of such an opportunity. We should have as many machines as possible. A few of you will be working in pairs.

Most of the afternoon will be hands-on experience. But Stefan will need some time for explanation, question, and discussion. Please, pay close attention to what he says and demonstrates. Always immediately ask when you do not understand something.

Stefan will do the following with you:

(1) Download Processing (it is OpenSource; [www.processing.org](http://www.processing.org)), and install it on your machine. The system must be ready and working on all machines before anything else can be started.

(2) Do a first example, without prior to that doing much talking about languages and history etc. Just follow Stefan's advice exactly which example to select and to start, and then what to do. The first example of code will be short and simple. It will still be totally new for some of you. Remember how difficult it often is to read a poem. Some of you will immediately tell you what the lines of code mean. Force them, through your questions, to explain as precisely as ever possible. The first contents you will encounter are these:

- the program as a list of statements
- the statement

- constants, variables, and their notations
- the principle of data type and a few concrete such types, like float and integer
- declarations of variables
- assignment statement

In this first round of learning, always playing with the one example, you will experience the interplay of code and display window, and how easy it is to change code and run it again.

(3) There may be a second example, just to allow for more first experience. You will learn a bit about lines, strokes, coordinate systems, colors. Not too much yet.

(4) The third example will involve an iteration. This is a more complex statement, a compound statement (not a simple one). With it, the extreme power of programming starts to appear.

The example will also show you the strict structure, in Processing, of the setup and draw functions. You must understand their hidden semantics quite well.

At the end of this you should do an assignment that changes the iteration and the operation that is iterated.

You will understand that many topics, dozens, will be left out at such a first attempt. In particular: no input, no interaction, no arrays, no objects and classes, not even functions will be possible.