Superfacets-2d Readme

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About

The program was implemented in C++ on QtCreator IDE (version 2.6.2) under Linux Mint Maya 32 bit. It is based on Qt 4.8.3.

Compile

Qt creator

Just open the .pro file with Qt-creator and build/run it

qmake-qt4

Alternatively, it is possible to build the program from terminal using qmake.
First, create a build folder:

user@machine: mkdir /path/to/build/directory

Then, move to this new directory and run qmake-qt4:

user@machine: qmake-qt4 /path/to/pro/file -r -spec -linux-g++

specifying the path to the folder which contains .pro file.
Finally, run make:

user@machine: make -w

Run

Go into the build directory and type

./Superfacets.

If the executable is called without parameters, it just displays the possible options and terminates.

Command line options

Option	Parameter	Command
-m	meshfile	Specifies the name of the mesh to be loaded. Formats accepted: .off and .tri
-nseg	n	Number of desired segments
-r	radius	Approximate desired radius (mutually exclusive with -nseg)
-flood	F	Flood initialization (F=1) or regular grid (F=0). Only valid with option -r
-a	alpha	Weight of the angular distance
-e	eta	Weight of the convex angles (default=0.2)
-out	fileout	Output .seg file in which the program saves the segmentation
-h	[]	Put an header in the segmentation output file (mesh size, timestamp)
-vis	[]	Open a window to visualize the segmentation output
-ov	segmfile	Just visualize an already computed segmentation
-nIter	iters	Desired maximum number of iterative steps (default=50)
-mult	factor	Multiplication factor for the expansion threshold (default=2)
-debug	[]	Prints a lot of debug informations during its execution

Visualizer

Specifying the command line option **-vis**, a visualizer is opened at the end of the segmentation. This allows to see the output segmentation applied to the mesh, to rotate the object dragging the mouse on the screen and to move it with the keyboard.

In addition, it is possible to visualize a previously computed segmentation stored in a .seg file (e.g. for comparison purposes): calling the program with the option **-ov** followed by the segmentation file it opens the visualizer window applying the segmentation to the input mesh.

Pressing the key **S** it is possible to save a screenshot of the model as a .png file: a dialog window opens and asks the user for the desired file name. When OK button is hit, the image is saved. An example is shown in Figure 1

By default, the surface of the mesh is visualized. If the user wants to change that it is possible to visualize the edges (pressing **L**) or the vertices (pressing **P**). To switch back to the surface visualization, press the key **F** (Figure 2).

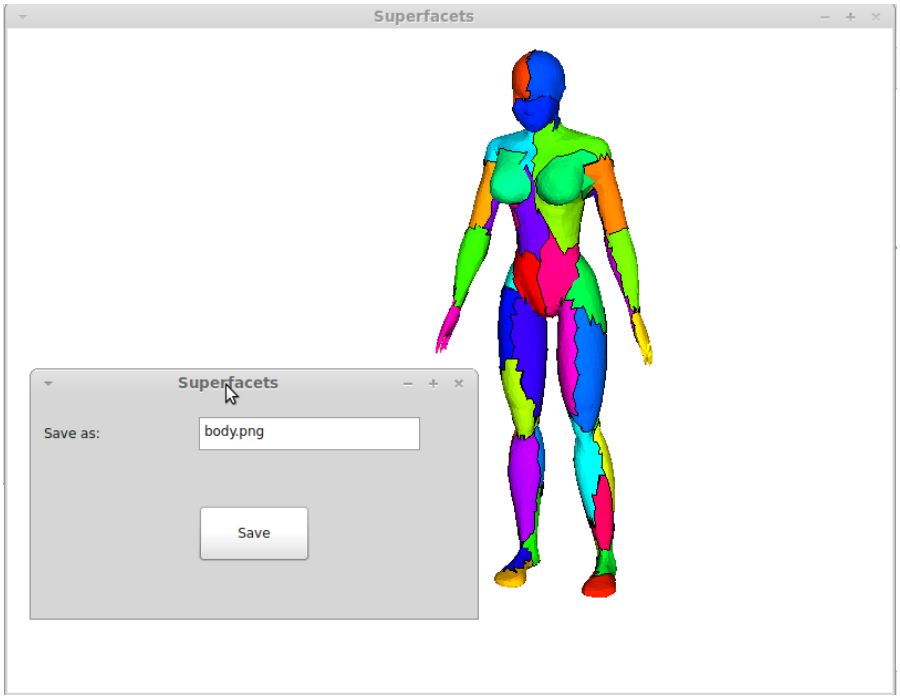

Figure 1: Example of image saving

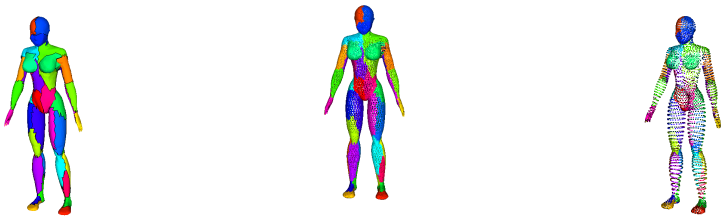

Figure 2: Different visualizations: surface, lines and points