

Assignment 1

January 23, 2014

Outline

- 1 Organization
- 2 OpenMesh
 - General Information
- 3 Homework
 - Reading Material
 - Submission
- 4 Deadline

Office Hours

- SAL 219
- Wednesday 11:30 - 13:30

Piazza

`piazza.com/usc/spring2014/cs599dgp`

- Questions
- Answers
- Assignments
- Solutions

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General Information.

- C++ library
- Half-edge data structure
- Basic geometric operations
- Reading/writing 3D models

C++ Templates.

- Template meta-programming to allow customization.
- We will be using default parameters.

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OpenMesh

- **Similar to STL**
- Mesh is a container
- Iterators
 - Enumerate vertices, faces, halfedges
- Circulators
 - Enumerate adjacent items: vertex-vertex, vertex-face, ...

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Container

- Contains vertices, faces, halfedges
- Random access
- Custom attributes
 - Vertex
 - Face
 - Halfedge

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OpenMesh Tutorials

`http://openmesh.org/`

- Building a cube
- Using iterators and circulators
- Using custom properties

Compute Vertex Valences

- Number of vertices in the 1-ring
- Custom vertex attribute

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Framework

Components

- CMake build system
- FreeGLUT

Framework

Code

- Reads and displays a mesh
- Placeholders for your code

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Submitting Code

- `http://www.dropitto.me/usc-cs599dgp`
- `ididit`
- Can submit multiple times

Deadline

January 30, 00:00 hrs