Main features
- **Open source platform** for 3D mesh processing, available on Windows, Linux and Mac OS X.
- Based on the class *Polyhedron* of CGAL, and also on Qt, libQGLViewer, OpenGL, Boost and FFmpeg.
- Supports both **static and dynamic 3D meshes** (formats OBJ, OFF, PLY, SMF and X3D).
- A large set of processing tools is already available (simplification, subdivision, segmentation, compression, watermarking, Boolean operation, perceptual metrics).
- Allows a **quick start for both users and developers** by providing highly detailed tutorials and simple integration mechanisms.
- **Modular architecture** where components are implemented as dynamic plugins.

### Architecture

**MEPP application**

- MEPP kernel (core)
- Viewer, Scene
- Polyhedron: Halfedge data structure
- Vertex, Halfedge, Facet
- MEPP GUI (interface)
- Menus, Toolbars
- Plugin, Component / Interface

### Components

- **Basic processings**
- **Curvature and segmentation**
- Normal cycle curvature [CM03], geodesic neighborhood, Variational shape segmentation [CAD04].
- **Boolean operation**
- Fast and exact Boolean operations algorithm [LBD10] between 3D meshes: union, intersection, difference (two 80K vert. meshes in about 2.5 seconds).
- **Perceptual quality metrics**
- Recent metric from [Lav11]; it computes a score that predicts the perceived distortion between two objects, as well as a distortion map.
- **Compression and watermarking**
- Recent progressive compression algorithm [LLD12] applying for colored meshes, and a join watermarking scheme [LDL11].
- **Minkowski sum**
- Exact Minkowski sum of convex polyhedra [BDD09].

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