



GEM 3.0 – New Features

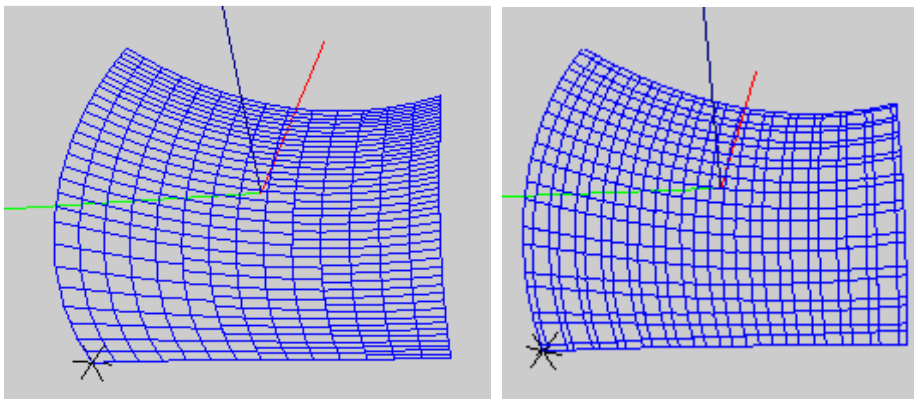
ParaCloud is starting the final beta phase of GEM 3.0. The software includes improvements and new features, bringing more power to the GEM platform. You can experience the new features as they form up towards the official release. You can send us your feedback and bug reports to info@paracloud.com

The new release includes the following:

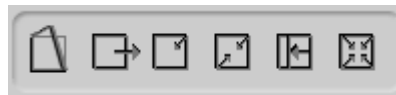
Mesh Subdivision Tools



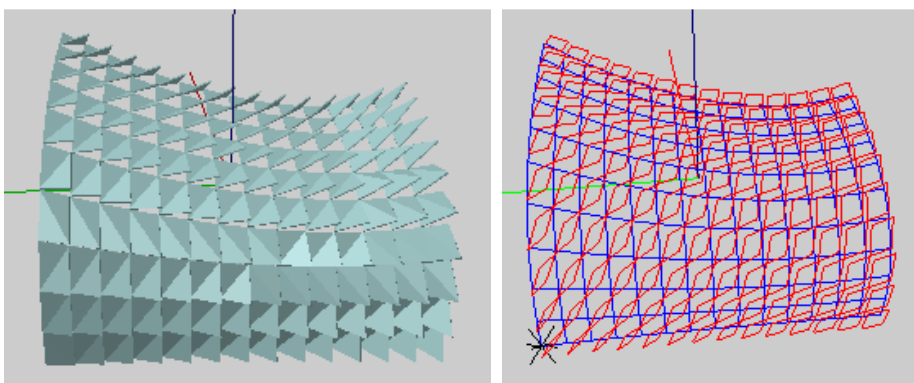
Additional subdivision tools are introduced in version 3.0 includes variable modes of operations. The subdivisions can be assigned by proximity to targets, randomly or using a fixed value. All subdivisions can be assigned by Face Map or globally.



Face Edit Tools



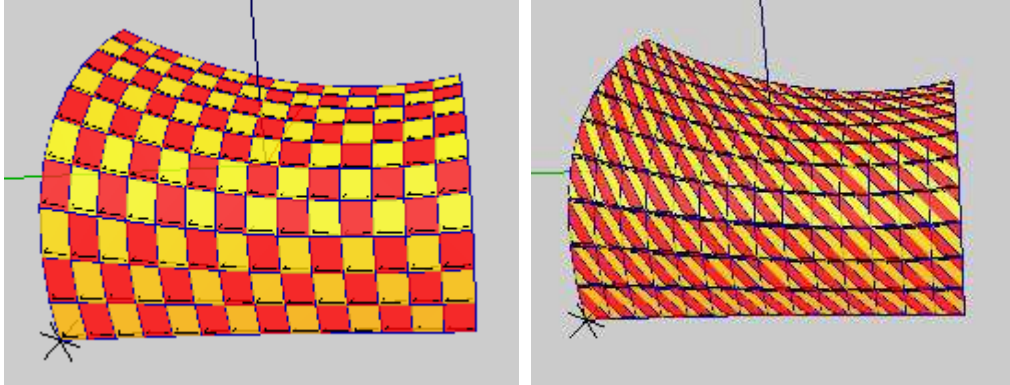
The face editing tools were extended. The new tools includes additional control for the face echo command, echo a single edge, squeeze points, shifting faces and peeling a point normal to the face. The face tools can be assigned by proximity to targets, randomly or using fixed values.





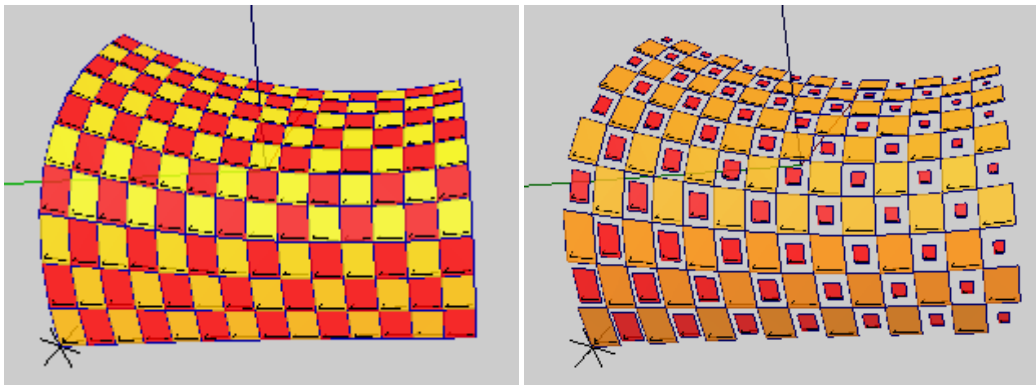
Face Map Tools

The new face map tools include Checkerboard, Alternate Map, Sequence Map and First Ten options. The mapping tools makes it easier to handle components population and separating the mesh file for Ribs output.



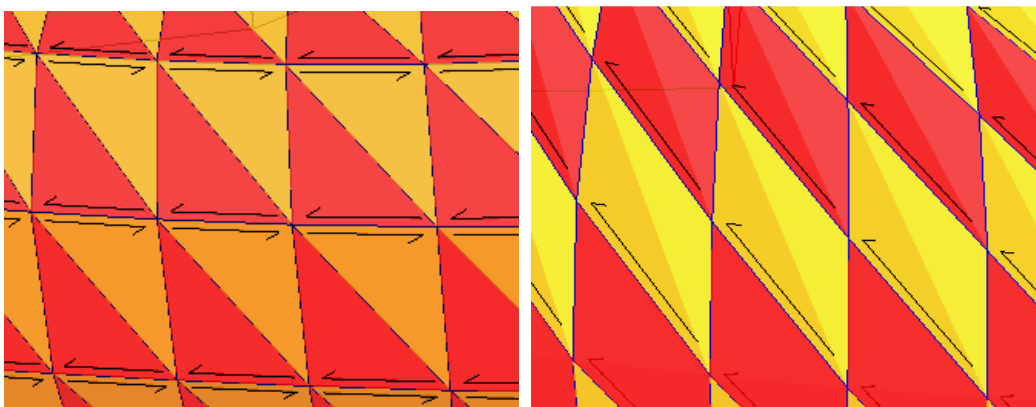
Selective Face Editing

All Face Editing tools can be applied to active color (Echo, Shift, Squeeze and Peel). Using the FaceMap Toggle applies the transformation to the active color.



Join Faces

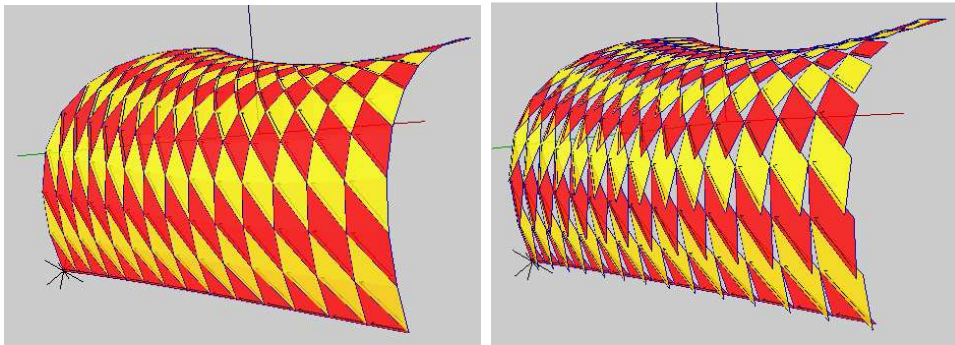
Join adjacent faces along the direction arrow to form a single face.





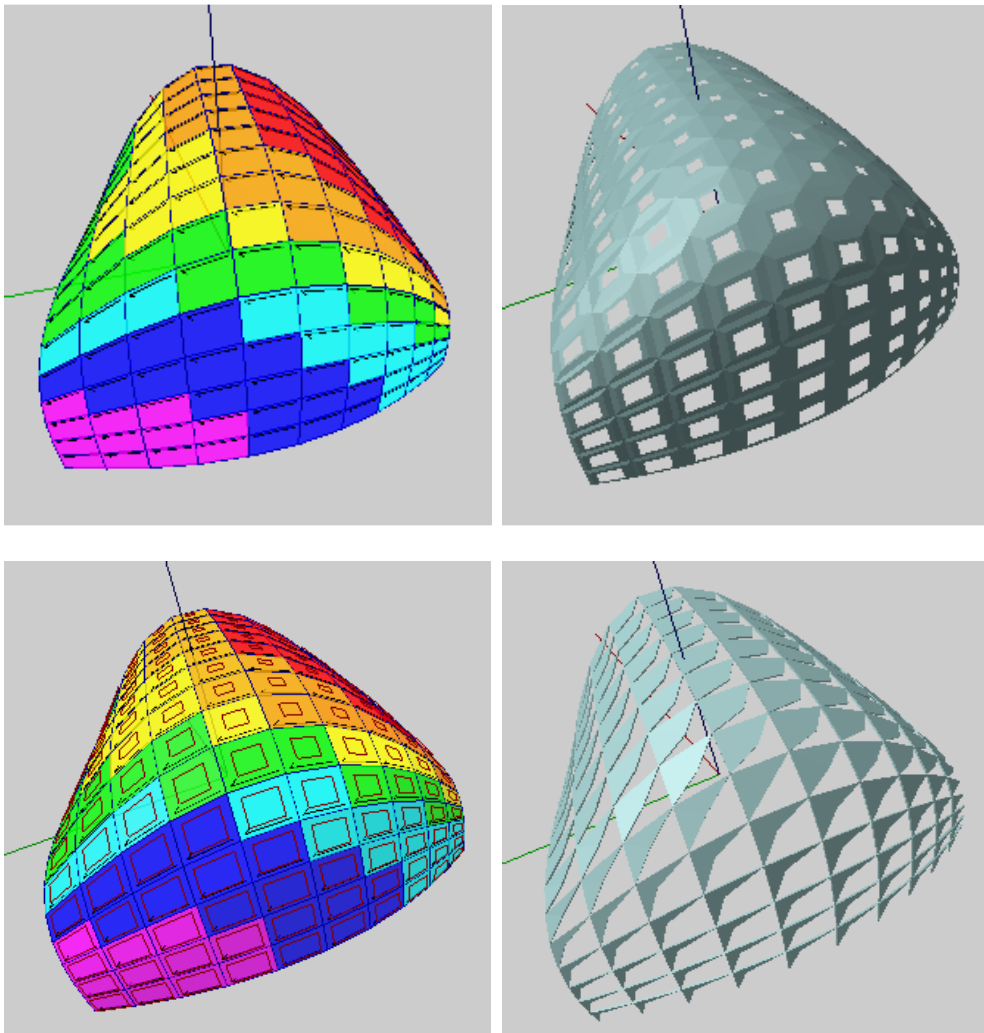
Flatten Quads

Flatten quad faces by moving the first point of the face to the plane of the other three.



Solar Orientation Analysis – Population Map and Design Operators

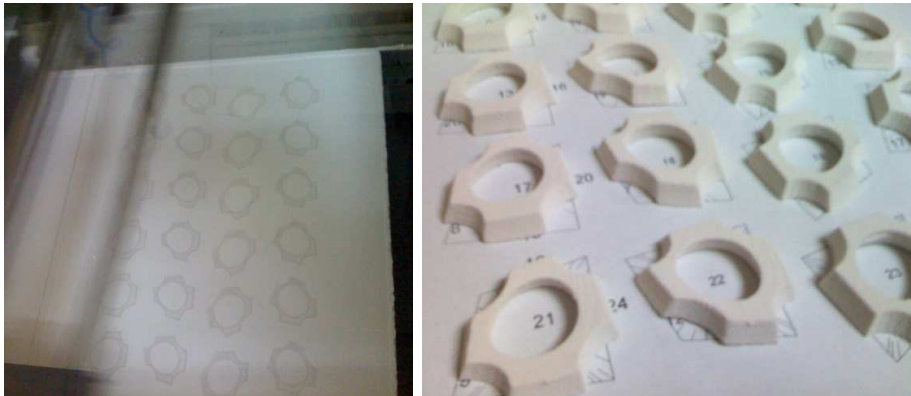
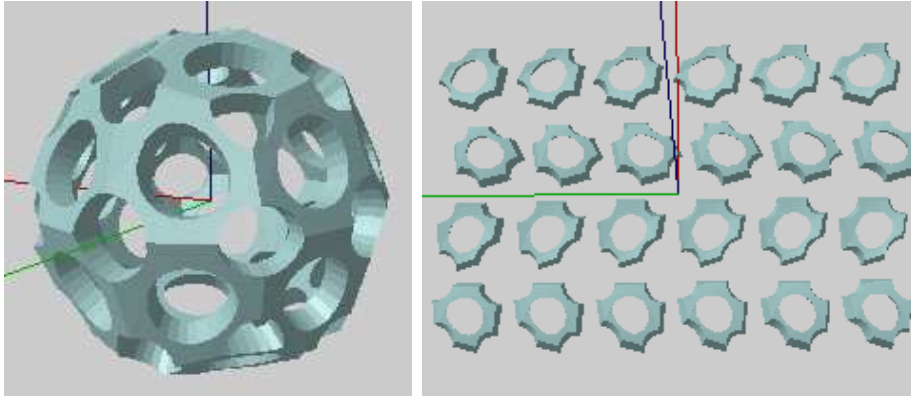
Create a FaceMap for Components population based on the face relative orientation towards the Sun. The relative direction can be used to drive the Face Tools (Echo, Shift, Squeeze and Peel)





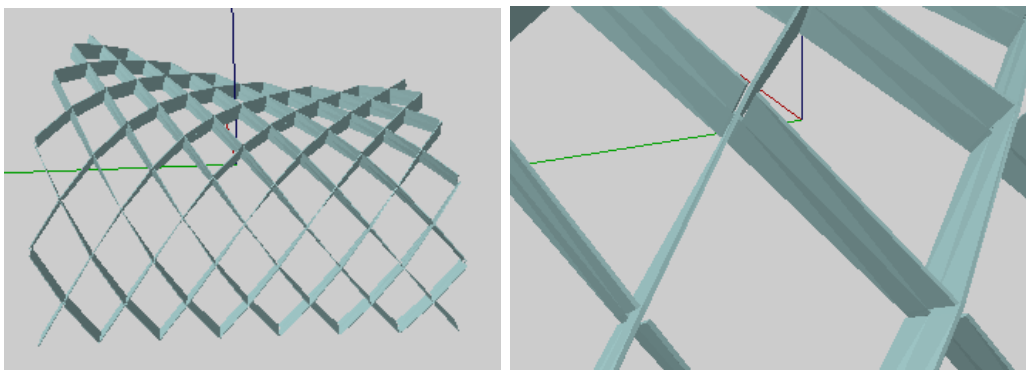
Unfolded Components Layout for 3D Printing / Shop Drawings

The unfolded layout tool aligns the mesh faces to the Top Plane of the World Coordinate System. This tool creates an organized output for 3D printing or CNC milling of the components. The assembly sequence is documented in a separate DXF file containing the Face ID and Assembly Markers.



Ribs

The Ribs option allows creating 3D ribs structures along the mesh edges or diagonals. A notching system is created automatically by specifying the material thickness. The Ribs output can be easily unfolded in your CAD system for Laser Cutting.





Action Sequencer

The action sequencer provides an editable parametric control over the modeling activity in a GEM session. The sequencer documents the tools and parameters used and allow editing the values. The sequence can be applied to the same mesh or to a new mesh loaded into GEM.

