



9.1.6 Editors - UV Editor - Header - UV menu

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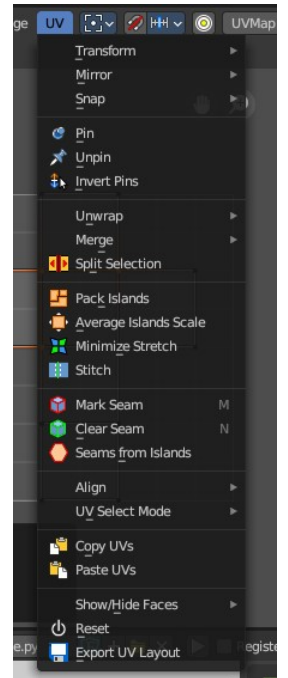
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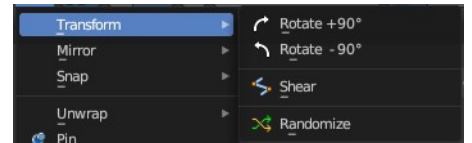
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UV menu

The UV header menu contains all the UV related operators in the UV Editor.



Transform



Rotate + 90°

Rotates the selection by 90 degree clockwise.

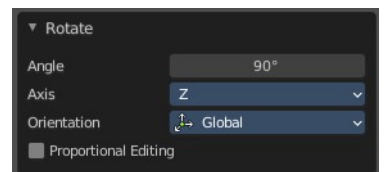
Rotate - 90°

Rotates the selection by 90 degree counter clockwise.

Last Operator Rotate

Angle

The rotation angle.

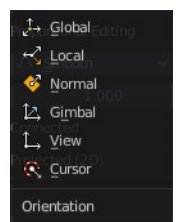


Axis

Defines one axis of the imaginary shear axis plane.

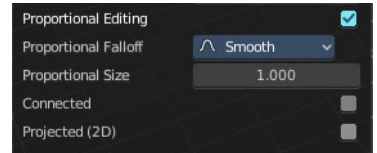
Orientation

Choose the orientation for the shear action.



Proportional editing

Enables proportional editing. Activating proportional editing reveals further settings.



Proportional Falloff

Adjust the falloff methods.

Proportional Size

See and adjust the falloff radius.

Connected

The proportional falloff gets calculated for connected parts only.

Projected(2D)

The proportional falloff gets calculated in the screen space. Depth doesn't play a role. When it's in the radius, then it gets calculated.

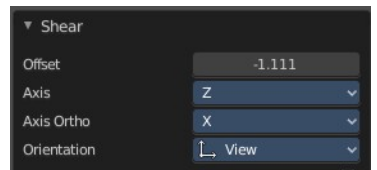
Shear

Shear shears the selection.

Last Operator Shear

Offset

Adjust an offset.



Axis

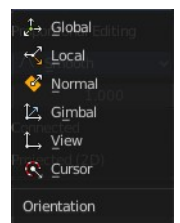
Defines one axis of the imaginary shear axis plane.

Axis Ortho

Defines the other axis of the imaginary shear axis plane.

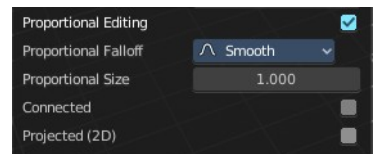
Orientation

Choose the orientation for the shear action.



Proportional editing

Enables proportional editing. Activating proportional editing reveals further settings.



Proportional Falloff

Adjust the falloff methods.

Proportional Size

See and adjust the falloff radius.

Connected

The proportional falloff gets calculated for connected parts only.

Projected(2D)

The proportional falloff gets calculated in the screen space. Depth doesn't play a role. When it's in the radius, then it gets calculated.

Randomize

Last Operator Randomize

Random Seed

The seed for the randomization.

Randomize Location

Randomize the location values.

Location

The maximum distance the objects can spread over each axis.

Randomize Rotation

Randomize the rotation values.

Rotation

The maximum allowed rotation

Randomize Scale

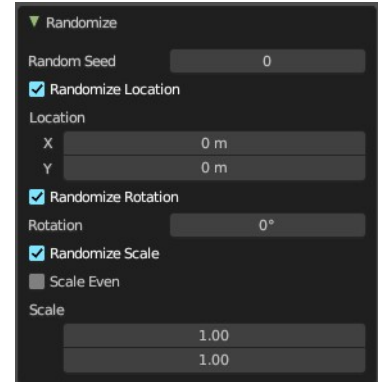
Randomize the scale values.

Scale Even

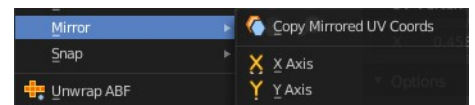
Randomize the scale values.

Scale

The maximum scale the objects can scale over each axis.



Mirror



Copy Mirrored UV coords

Copies and pastes the selected UV geometry on the X axis based on a mirrored mesh.

Use UV Select Sync must be off. The tool does not work with Use UV Select Sync on. And it is not fully reliable as our example shows.



X

Mirrors the selection in X axis. The mirror point is the pivot of the selection.

Y

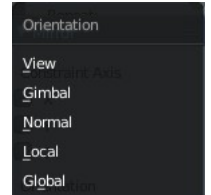
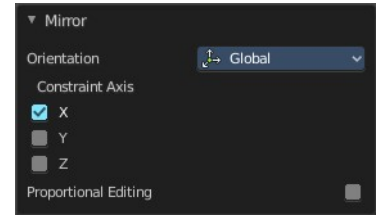
Mirrors the selection in Y axis. The mirror point is the pivot of the selection.

Last Operator Mirror

The Last Operator Mirror panel gives you tools to adjust the mirror action.

Orientation

Orientation is a drop-down box to choose the type of orientation for the mirroring action.

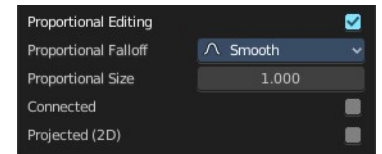


Constraint Axis

Constraint Axis gives you the possibility to define the mirror axis. You can choose more than one axis here.

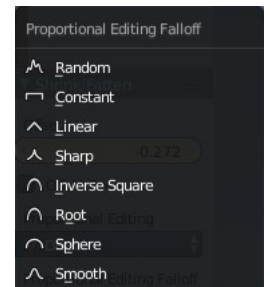
Proportional Editing

Activates proportional editing.



Proportional Editing Falloff

Proportional Editing Falloff is a drop-down box to Choose a method for the falloff for the proportional editing.



Connected

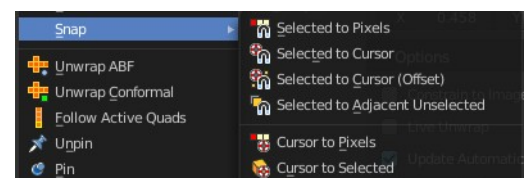
The proportional falloff gets calculated for connected parts only.

Projected(2D)

The proportional falloff gets calculated in the screen space. Depth doesn't play a role. When it's in the radius, then it gets calculated.

Snap

Snap is a sub menu with some snapping tools. The menu items should be pretty self explaining. Selected to Pixels snaps the selected geometry to the pixels of the image, and so on.



Last Operator Snap Selection and Snap Cursor

Target

Set the snap target method again.

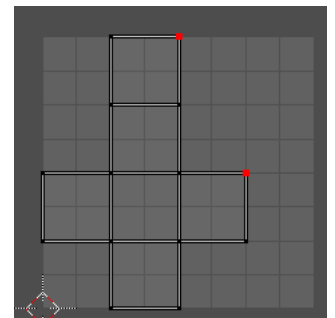
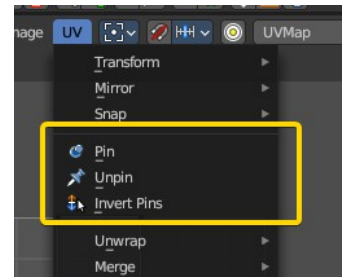


Pin

Pins the selected vertices. These vertices are now nailed for the unwrap algorithms Angle based and Conformal. Their positions will not change when you repeat the unwrapping. And the algorithms will try to fit the rest of the geometry to this pinned vertices.

Pinned vertices are marked red.

A use case is for example when you have a distorted result for symmetric geometry like a face with the Conformal method. Then you can try to align two center vertices, pin them, and repeat the conformal method. It may be more symmetrical afterwards.



Unpin

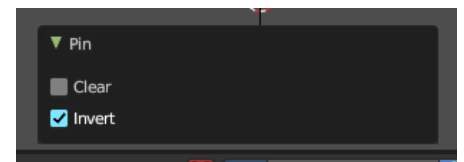
Unpins pinned geometry.

Invert Pins

This operator inverts the pins to all selected pins, and unpins the set pins. This will only work if you have geometry selected.

Last operator Pin

This last operator appears in the 3D view to the bottom left of the editor. Pin, Unpin and Invert Pins shares the same last operator.



Clear

Unpins pinned geometry.

Invert

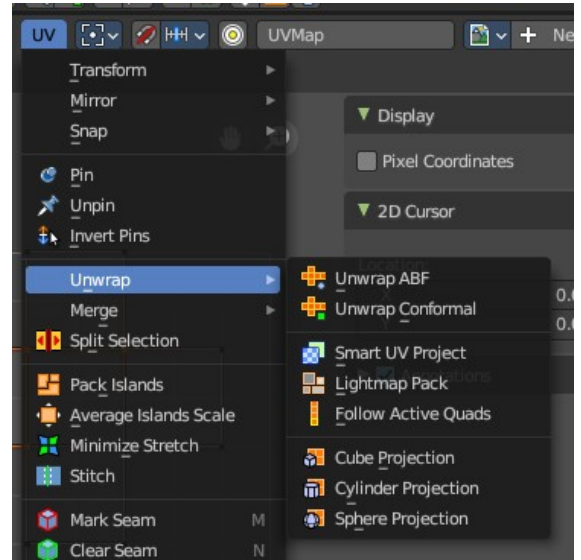
Inverts the pinned geometry to selected geometry, and unpins the set pins.

Unwrap

Unwrap ABF

Unwrap ABF unwraps the selected geometry with the method Angle based. ABF stands for Angle Based Flattening. ABF can give a bit better result than LSCM when unwrapping organic shapes.

Note that you need to have the geometry selected in the 3D view.



Unwrap Conformal

Unwrap ABF unwraps the selected geometry with the method Angle based. ABF stands for Angle Based Flattening. Conformal, also called LSCM, can give a bit better results than ABF with geometric shapes.

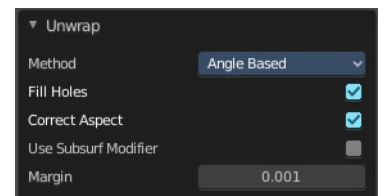
Note that you need to have the geometry selected in the 3D view.

Last Operator Unwrap

The last operator appears in the 3D view. Unwrap ABF and Unwrap LSCM shares the same Last Operator.

Method

Method is a drop down box to Choose between Unwrap method Angle Based and Conformal.



Fill Holes

Fill holes in the mesh before unwrapping.

Correct Aspect

Take the Image Aspect Ratio into account.

Use Subsurf Modifier

Unwraps an existing Subsurf Modifier. You need to add a Subsurf Modifier first.

Margin

The distance between the single UV patches.

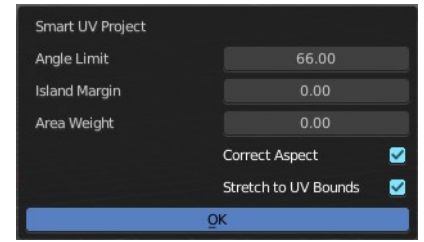
Smart UV Project

Smart UV Project projects the UV mapping from different angles.

Smart UV Project Settings dialogue

Angle Limit

The Angle Limit defines after which angle the mapping happens from the next side. With an angle of 66 you have around six sides to map from. The calculation is $360/66$.



Island Margin

Island Margin defines the distance between the UV patches.

Area Weight

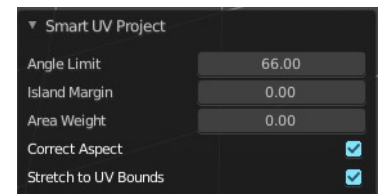
Weight Projection Vector by faces with larger areas.

Correct Aspect

Take the Image Aspect Ratio into account.

Last Operator Smart UV Project

The Last Operator for Smart UV Project contains the same settings than the Smart UV Project Settings dialogue.



Lightmap Pack

Lightmap Pack maps each face individually, and puts the result into the UV space. Without margin.

Lightmap Pack has no Last Operator.

Settings

Selection

Selection is a drop-down box where you can choose what will be packed.

Share Tex Space

Map all objects into one lightmap.

New UV Map

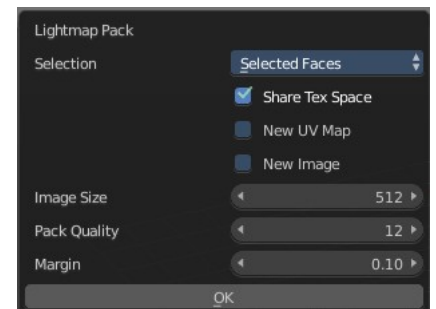
Create a new UV map for every new mesh.

New Image

Assign new Image to every new mesh.

Image Size

The size for new images.



Pack Quality

The pack quality.

Margin

The distance between the single UV patches.

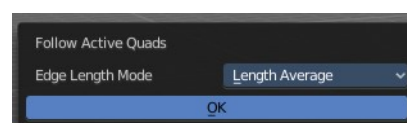
Follow Active Quads

Follow Active quads maps UV coordinates starting from an active face, and maps all adjacent faces in quad shape then. This way you can for example unwrap a pipe or a road. You first need to have a face selected. Then select everything. And then click at Follow Active Quads.

Settings

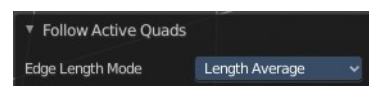
Edge Length Mode

Edge Length Mode is a drop-down box where you can choose the Length method.



Last Operator Follow Active Quads

The Last Operator contains the same settings than the Settings dialogue.



Cube Projection

Cube Projection maps the mesh from six sides, means cubic.

Last Operator Cube Projection

Cube Size

Cube Size defines the size of the UV mesh in the UV space.

Correct Aspect

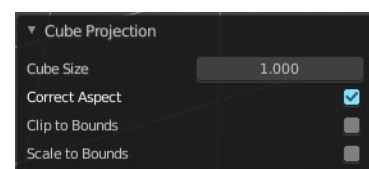
Take Image Aspect ratio into account.

Clip to Bounds

Clip UV Coordinates to bounds after unwrapping.

Scale to Bounds

Scale UV Coordinates to bounds after unwrapping.



Cylinder Projection

Cylinder Projection tries to map the geometry cylindric.

Last Operator Cylinder Projection

Direction

Direction is a drop-down box where you can choose in which direction the cylindrical projection will be mapped.

Align

Align is a drop-down box where you can choose the Align method.

Radius

Radius defines the Polar size of the UV mesh in the UV space.

Correct Aspect

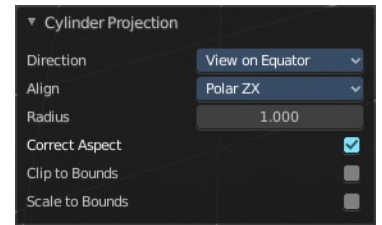
Take Image Aspect ratio into account.

Clip to Bounds

Clip UV Coordinates to bounds after unwrapping.

Scale to Bounds

Scale UV Coordinates to bounds after unwrapping.



Sphere Projection

Sphere Projection tries to map the geometry spherical.

Last Operator Sphere Projection

Direction

Direction is a drop-down box where you can choose in which direction the spherical projection will be mapped.

Align

Align is a drop-down box where you can choose the Align method.

Correct Aspect

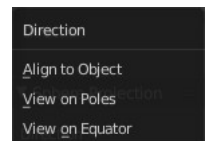
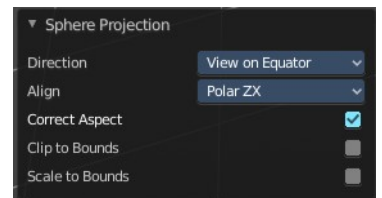
Take Image Aspect ratio into account.

Clip to Bounds

Clip UV Coordinates to bounds after unwrapping.

Scale to Bounds

Scale UV Coordinates to bounds after unwrapping.



Merge

At Center

Merges the selected vertices at the center point.

At Cursor

Merges the selected vertices not only at the cursor. The last operator provides you with four methods.

Last Operator Snap Selection

Target

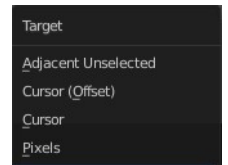
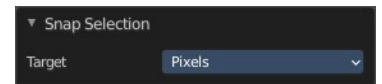
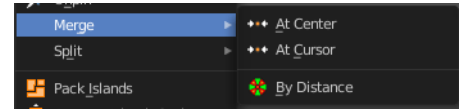
The snapping target. Snap and merge at the following locations.

Adjacent unselected

Cursor (Offset)

Cursor

Pixels



By Distance

Merge UV vertices when they are below a merge distance.

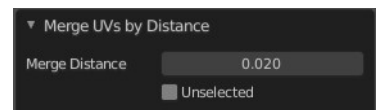
Last Operator Merge UV's by Distance

Merge Distance

The merge distance below the vertices gets merged.

Unselected

Merge selected vertices to unselected vertices.



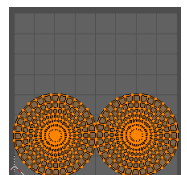
Split

Splits the selected geometry. UV Sync Selection needs to be off.

Pack Islands

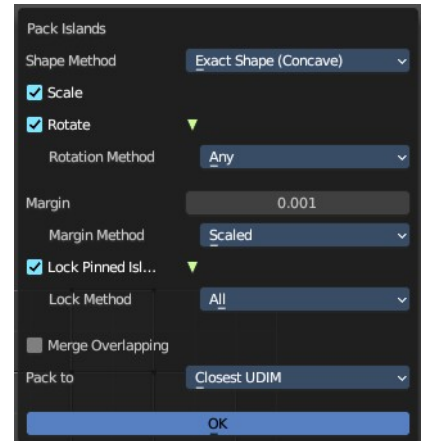
Pack Islands tries to pack the selected UV geometry as close together as possible. Without to waste too much empty space.

Note that the algorithm fails at round geometry. It calculates with rectangle shapes.



Pack Islands Popup

When you click the operator then you will see a popup panel where you can adjust the further settings.



Shape Method

How the islands are packed.

Exact Shape (Concave)

Use exact geometry.

Boundary Shape (Convex)

Use a convex hull.

Bounding Box

Use a bounding box.

Scale

Scale islands to fill the unit square.

Rotate

Rotate islands to improve layout.

Rotation Method

The rotation method.

Axis - aligned

Rotate to a minimal rectangle. Either horizontal or vertical.

Cardinal

Only 90 degrees rotation are allowed

Any

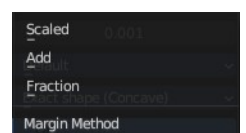
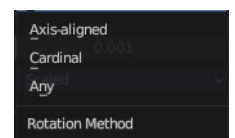
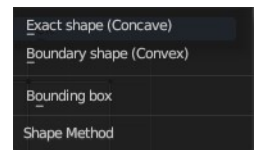
Any angle is allowed for rotation.

Margin

Adjust the margin amount.

Margin Method

What method to use for the margin. UV patches needs a margin between the single



patches. So that the pixels of the texture doesn't bleed into other areas.

Scaled

Use scale of existing UV's to multiply margin.

Add

Just add the margin. And don't use the UV scale for calculation too.

Fraction

Specify a precise fraction of final UV output.

Lock Pinned Islands

Constrain islands that contains any pinned UV's

Lock Method

How to deal with pinned UV islands.

Scale

Pinned islands won't scale.

Rotation

Pinned islands won't rotate.

Rotation and Scale

Pinned islands won't scale and rotate

All

Pinned islands will remain at their initial position and are locked in place.

Merge Overlapping

Overlapping islands stick together.

Pack To

Closest Udim

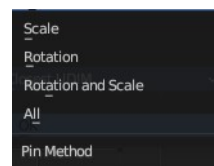
Pack islands to closest UDIM image tile

Active Udim

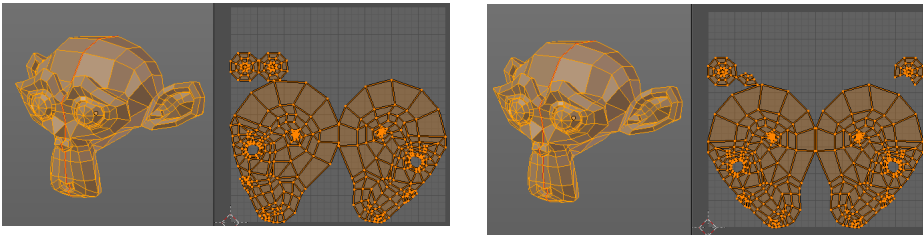
Pack islands to active UDIM image tile, or to the UDIM grid tile where the 2d cursor is located.

Original Bounding Box

Pack to the starting bounding box of islands.



Average Island Scale

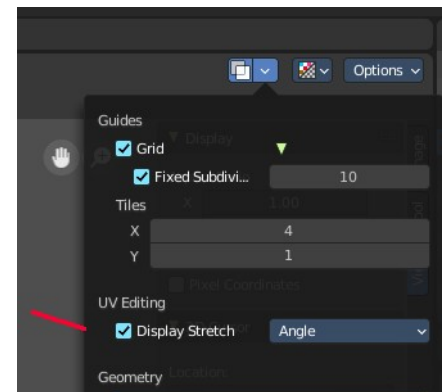


Scales the selected UV geometry to have the same relative size than the rest of the mesh. So that the texels at the mesh have roughly the same size everywhere.

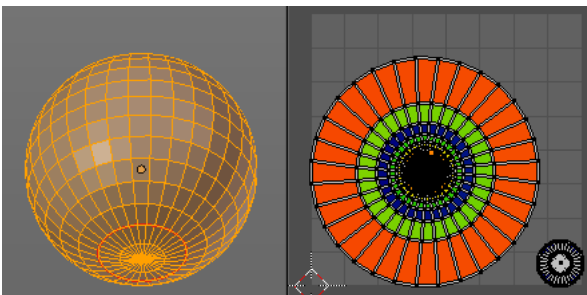
Minimize Stretch

You might end in a UV mapping result that still shows unwanted distortions here and there. For example when you UV map a human face. Minimize Stretch tries to minimize this stretching effects in the UV patches.

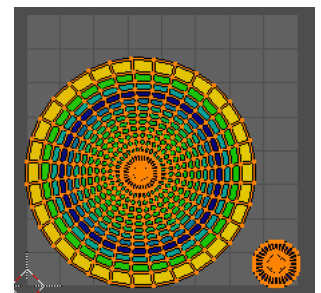
To view stretched areas at your UV patches, tick Display Stretch in the Overlays panel, and switch from Angle to Area. Then a stretch mask gets displayed. The color range goes from blue to green to red, where blue is minimal stretch and red is maximal stretch.



Let's explain it with an example. A sphere where the cut is nearly at the pole. And UV mapped with Angle Based. The result will of course show heavy stretched areas.

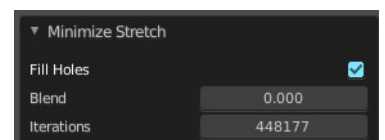


Note that the UV geometry must be selected in the UV Image editor. Now let's use the Minimize stretch tool. The algorithm now first tries its best to find the best fitting result that shows fewest stretching across the overall UV geometry.



The header shows a help text while the algorithm works. The Blend factor is the value between the original unwrapped UV mesh, and the maximum minimized stretch. You can set this value manually by using the scroll wheel at your mouse, or with the + and - keys.

Minimize Stretch. Blend 0.00



Last Operator Minimize Stretch

Fill Holes

Fill holes virtually fills holes before unwrapping to avoid overlapping and to preserve the geometry.

Blend

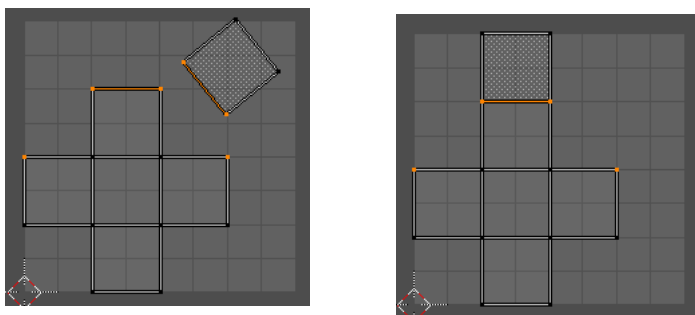
The Blend factor is the value between the original and the maximum minimized stretch.

Iterations

Number of iterations for the Minimize stretch algorithm.

Stitch

Stitch tries to union UV patches along the selected edges or vertices.



Last Operator Stitch

This last operator appears in the 3D view.

Use Limit

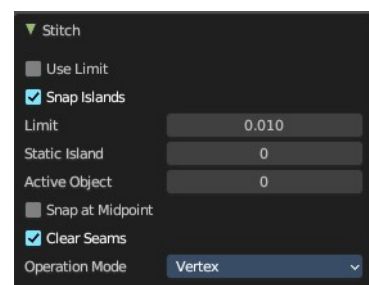
Just snap when the elements are below a given distance.

Snap Island

Snap the whole UV patch, or just the selected edge(s)/vertices

Limit

The limit distance for Use Limit.



Static Island

Adjust which island stays in place when stitching.

Active Object

Index of the active object.

Snap at Midpoint

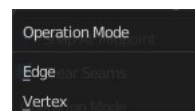
Snap at the center point of the two elements instead the first to the last.

Clear Seams

Unmarks seams when stitching.

Operation Mode

The operation mode. Calculate with Edges or Vertices.

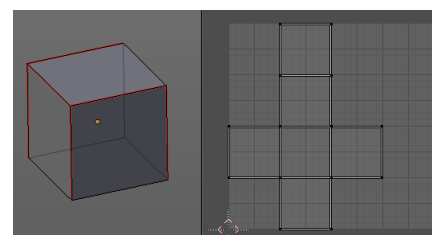


Mark Seam

The unwrap algorithms Angle based and Conformal requires to have edges marked as seams. Think of it as a cutting pattern for a trouser for example. Such a trouser is also made of fabric patterns.

Same goes for the UV patches when you use Angle based or conformal unwrapping. You need to cut your mesh into parts and mark edges as seams, so that the algorithm knows where the seams are.

Mark seam marks the currently selected edge(s) as a seam. Seam edges will be displayed as red in the 3D viewport. But not in the UV Image Editor. The UV patches represents the seams.



You need to unwrap the mesh again when you want to apply changes by the new marked seams.

Last Operator Mark Seam

Clear

Clears the seam instead of marking it.



Clear Seam

Clear seam removes the seam from the currently selected edge(s) in the 3D view.

Seams from Islands

Unwrapping creates the UV geometry from the 3D object. You mark the seams, then you click at unwrap, and the UV mesh gets created.

Mark Seams from islands goes the other way around for marking seams. It creates the seams at the mesh object in the 3D view from the UV geometry in the UV Image Editor.

A use case is when you import meshes. Then you usually just have the UV patches in the UV Image editor. And when you want to modify the UV's further, then you need the seams at the mesh.

Align

Align the selected geometry. Affected are the vertices.

Straighten

Straightens the selected geometry in both directions, X and Y axis.

Straighten X

Straightens the selected geometry along the X axis.

Straighten Y

Straightens the selected geometry along the Y axis.

Align Auto

Aligns the selection. The align axis gets chosen from the selection itself. When it's higher than tall, then it aligns along the Y axis. When it's taller than high, then it aligns along the X axis.

The align point is the pivot of the selection.

Align X

Aligns the selection along the X axis. The align point is the pivot of the selection.

Align Y

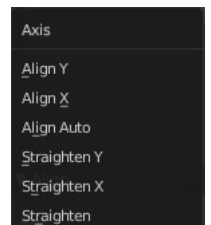
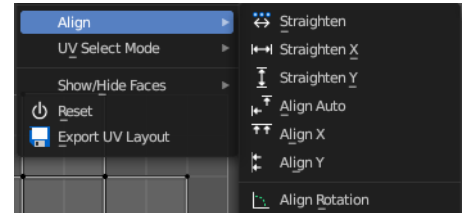
Aligns the selection along the Y axis. The align point is the pivot of the selection.

Last operator Align

The Last operator Align unions all the single straighten and align actions in one operator.

Axis

Lists the straighten and align methods again.



Align Rotation

Aligns the selected geometry horizontally or vertically. It aligns to the closest angle.

Last operator Align Rotation

Method

Geometry

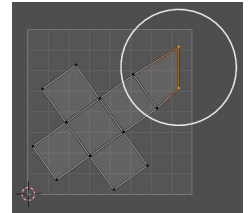
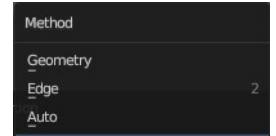
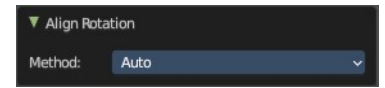
Aligns the whole geometry.

Edge

Aligns the geometry along the selected edge.

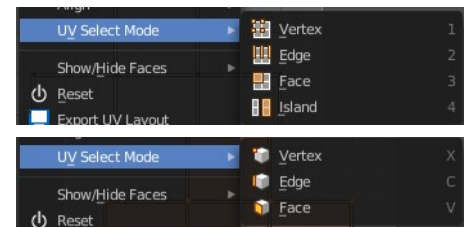
Auto

Checks for selection, and aligns then either the whole geometry or by the selected edge.



UV Select Mode

This is a double menu by design. It allows you to show and assign shortcuts to the UV Sync selection mode buttons in the header.



Copy UV

Copy selected UV vertices.

Paste UV

Pastes copied UV vertices.

Show / Hide Faces

Show or hide faces. This happens in both, the 3D View and the UV editor.



Reveal Hidden

Makes all geometry visible again.

Hide Selected

Hides the selected geometry.

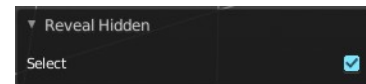
Hide Unselected

Hides the not selected geometry. The selected geometry stays visible.

Last Operator Reveal Hidden / Hide Selected

Select

Define if the selected or the unselected elements gets hidden or revealed.



Reset

Resets the UV projection. Every single face gets fit into the UV space range of 0/1

Export UV Layout

Export the UV layout to an image, so that you can use it as a mask to build your texture in your favorite image editing software like Photoshop. It will open a file dialog, where you can define further export settings down left.

All UV's

Export all UV's, not just the visible ones.

Modified

Export UV's from the modified mesh.

Format

Choose the export format.

Size

Define the size of the image.

Fill Opacity

How opaque the wire frame lines are.

