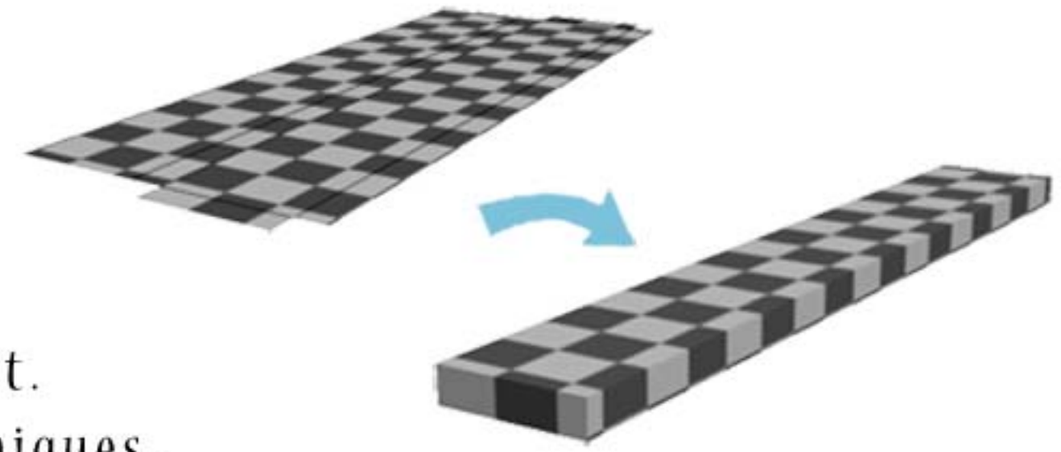
Quick unwrapping

Unwrapping is one of those tasks people hate to do - it's tedious, annoying and boring. However, it's also a necessary evil when it comes to texturing 3D objects.. Although there are many ways to deal with unwrapping objects, I've developed a good method for dealing with hard surface objects.

Applications



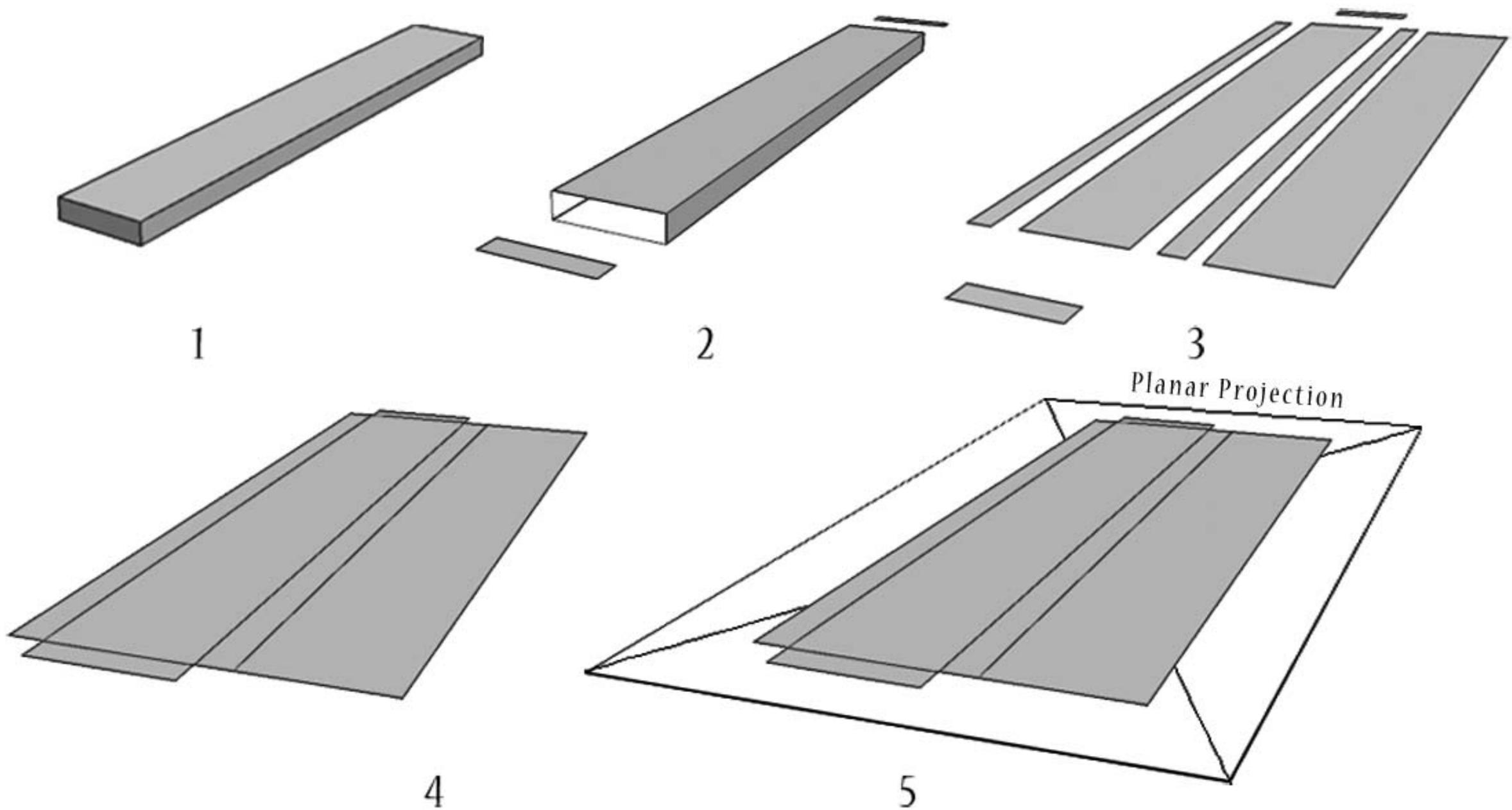
1. Useful for simple and complex mechanical objects.
2. Minimizes the amount of seams in an object.
3. The process is fairly quick once you get the hang of it.
4. This can be used along with other unwrapping techniques.

Let's get started!

In this tutorial, I am going to cover my workflow for 'Unfolding' an object in 3dsmax. Though these steps are for max, it should be possible to follow the same steps in any other 3D app. The concept behind this is to duplicate an object, unfold it to flatten it, planar map it and save the UVW map out. Then, that UVW map will be applied to the original object.

Starting out...

For an example of how this unwrapping method works, we'll start out by creating a simple rectangular box in max. We'll duplicate it, then split the object into several pieces and unfold it until it's flat. Convert the rectangular box to an Editable Poly, then select the edges where you want to create seams and use the Split comand under Edit Edge.



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Rotate the pieces so they are flat, then piece the polygons back together again by snapping them into place and weld all of the vertices so the object is one big piece again. Once this is done, we will apply a planar map to the flattened object.

Prepare the object

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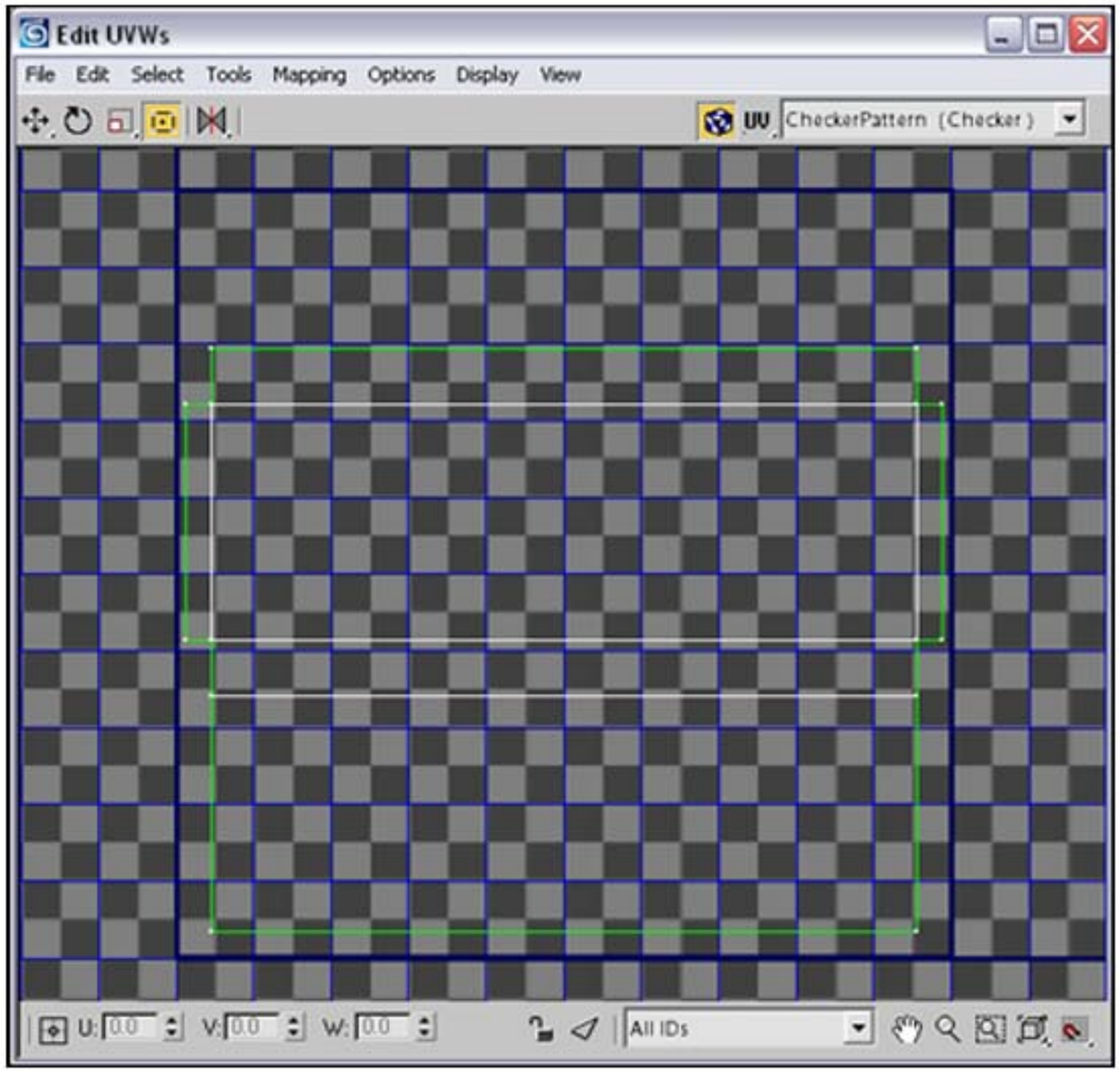
With our dupliate object flattened out, we'll browse over the the utilities tab (the hammer icon to the right of the object name) and apply a Reset XForm modifier to the object. This resets the object's transform. rotate and scale properties so we can planar map it without any problems.

The next step is to apply a UVW Mapping modifier and set planar mapping with equal distances in both the length and width. Once that is done, apply an Unwrap UVW modifier to the stack and click on 'Edit' under parameters.

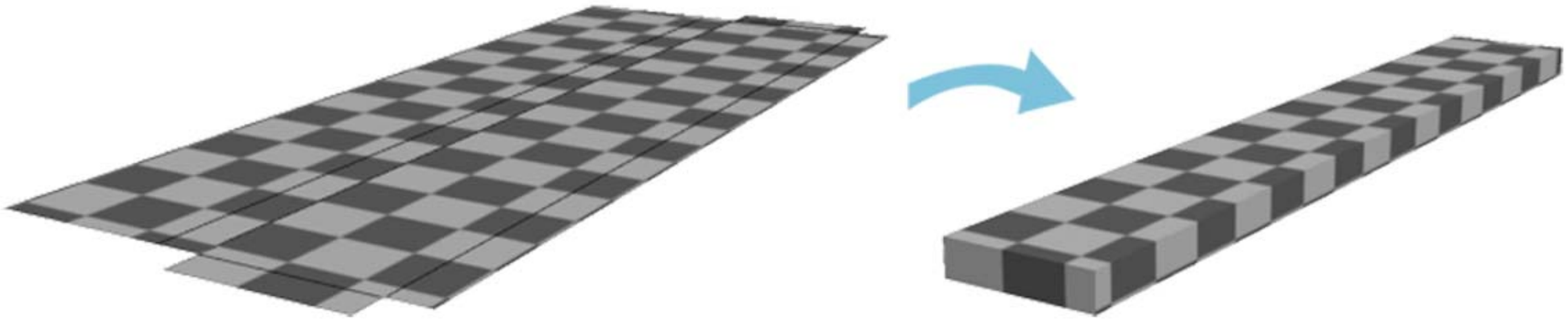


The resulting UVs should look exactly like our flattened object. If they're stretched, go back and re-adjust your planar mapping..

When we are satisfied with our UV layout, click on the File tab and select the option 'Save UVs', then save out a .uvw file. Give it any name, then select our original object and apply an Unwrap UVW modifier to it. We'll navigate back to the File tab and load the .uvw map we just created onto our original object. The UVs displayed should look exactly the same.

Apply UVW Map

As you can see, the mapping of the flattened object translates perfectly to our original object. By unfolding the geometry itself, we have control over where we want to place our seams and how the unwrap will be laid out. This makes the unwrapping stage much more intuitive for those of us who would prefer to think of the process in 3D.
With some practice, this process should take no longer than a couple of minutes.



This technique is most effective for box-shaped objects and architectural elements such as walls, tables, cabinetry, appliances and so on. It also works very well for mechanical objects that have multiple flat surfaces. For rounded surfaces or cylindrial objects, other unwrapping techniques such as pelting, spherical unwraps and cylindrical mapping tend to be more effective. These other approaches of course, are the basis for another tutorial...

So there we go. I hope you found this tutorial useful! If you have any feedback, please send me an email at M.Aaron.Hein@gmail.com. Thanks for reading!