

Review by: Mark Van Buren

Comments: I reviewed ZBrush on P3-850, with 512 MB Ram running Windows ME.

Pixologic's ZBrush 1.23B is one the most innovative and creative digital tools to appear in a very long time. It's difficult – if not impossible to pigeon hole this program into any existing category. To call it a paint program does not do it justice, to call it a 3D modeler, procedural shader, or 2D Painter also doesn't fit. ZBrush is all the above, and more.

Working with ZBrush

In working with ZBrush, I had to shift my creation style quite a bit compared working with other 3D tools such as Rhino, Cinema4D, or Carrara. One major difference is that you cannot change your viewpoint in 3D space within the ZBrush window. There are no cameras, or top-side-front-perspective views to see your scene from. When working in the 3D Edit mode however, you can rotate the object itself in 3D space, but as soon as you leave the Edit mode, your object is painted onto the canvas, and no longer editable as a 3D mesh. To create a scene with multiple 3D objects, I needed to create them one at a time, and then construct the scene by adding instances of them onto the canvas, manipulate and surface them (using the new Texture master Script), then move onto the next object. Placing scene elements onto separate layers allowed me to clean an individual object from the scene if I later needed to modify its geometry or position in 3D space. It took some time to get comfortable with this workflow, and to discard my pre-existing assumptions of how I expected it to work, but once I get comfortable with Z's workflow paradigm, the program truly astounded me with its speed, and creative capabilities.

### The Pixol

3D is just one of the modes for creation inside ZBrush. There is also manipulation of a very cool new beast called Pixols. Pixols are like pixels on steroids. Unlike a simple pixel, which simply stores RGB information, a Pixol can store material, depth and color information. Painting with a 3D brush soaked with a textured paint complete with adjustable materials will have you working with some very viscous materials. Modeling in 3D feels like working with clay, while painting with Pixols can feel like working with oils, water colors, sticky goo, and even at times an earth moving bulldozer. For a CG program it amazed me how tactile everything felt – and I was only working with my mouse. A tablet must be sweet!

### Learning The Interface

I gotta tell ya, the Interface takes some getting used to. There are so many features in this program, and levels of control that it's really easy in the beginning to get a bit lost. There isn't a snowball's chance in hell that you can simply click all the buttons, splatter some paint on the canvas and think you've basically got this baby figured out. So how are you going to learn this fantastic new creative tool? Well there is a very well written 300 page PDF manual you can read, but it would be even more useful to have a pro walk

you through the program – watch him click the buttons, explain what he's doing. This is EXACTLY what you get with ZBrush's built in recording and scripting capabilities. Every mouse click – every tool selection is recordable!! To learn ZBrush all you have to do is open one of the dozens of scripts, and the Pixolator, and other talented ZBrush Pros can create their magic right in front of your eyes. I would watch one of the recording or tutorials – take notes, and then on the second time through, I'd press Esc to stop the script and see if I could finish the project. If I couldn't – one click and the Pro shows me how again! This feature should be built into every piece of software on the planet. At ZBrushCentral.com ZBrush users and developers are continually uploading new scripts which you can view. ZBrushCentral.com has got to be the best support forum for any program I've ever seen. There is an excellent community of ZBrush users, and a very active participation from the developers at Pixologic.

I approached this review from the viewpoint of a 3D modeler, seeing how well it integrated with my existing library of 3D objects and programs, as well as for the creation of models starting from 3D primitives. I first imported the Raptor .obj included with Poser, and set about manipulating the geometry using the ZBrush 3D tools. In the 3D Edit mode you can scale and move the geometry around by clicking, then dragging your mouse on a section of the model. Adjusting your brush size and Z-Intensity value will control how large the effect will be. Entering the Draw mode with ZADD selected is like packing more clay onto the surface. ZSUB is the opposite, allowing you to subtract from the surface area. Clicking and dragging outside the model rotates the model giving you new angles to work from. The process is quite natural, and a heck of a lot of fun.



**Original Imported Geometry**



**1 Minuet of Manipulation**

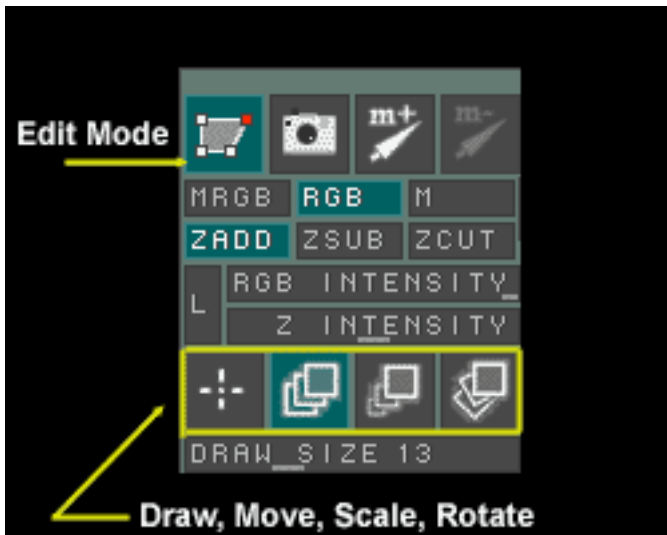


**Sauntering Skink**

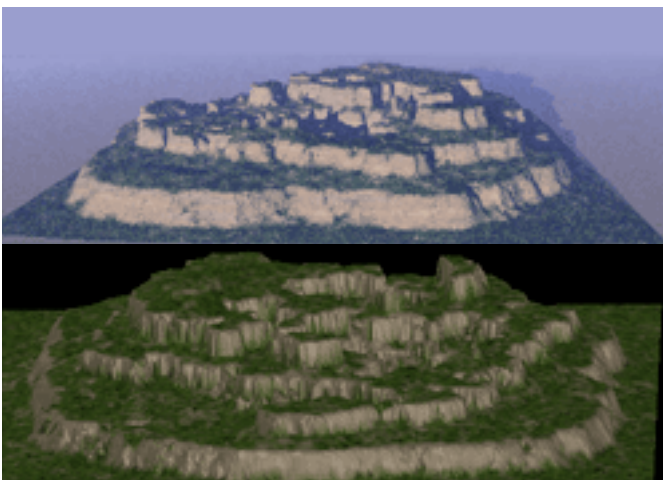


**Final Textured Model.**

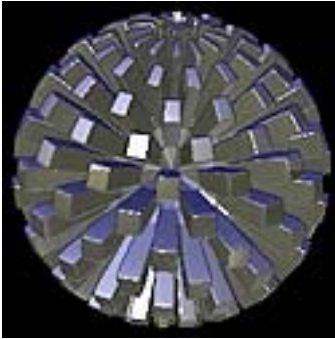
The polygon density of the imported object is the only limitation in terms of how much you can manipulate the geometric shape. Low poly meshes can appear to tear, or lose their smoothness with too much pushing and pulling. These limitations are removed when starting the modeling process from a ZBrush 3D primitive, as you can globally, or in selective zones, increase the polygon density with a few spins of the Smoothing Modifier.



My next test was to see how well I could import terrain geometry and texture mapping into ZBrush from Vue D'Esprit, and Bryce 5. (There is actually a great terrain generation script for creating terrains right inside ZBrush.)



Exporting the terrain to OBJ, and the color maps to BMP allowed for a quick import into ZBrush from both of these programs. The results didn't disappoint me, as I got a fully textured 3D terrain into ZBrush quickly, and accurately.



### Modeling with Primitives

ZBrush provides a dozen or so primitives to start your modeling with. Opening up the Modifiers tab (see left column) from the Tools section provides you with a mind numbing variety of ways to manipulate the geometry of the primitive. By applying an Alpha Mask, you can modify the primitive in some very creative ways. The Alpha Masks can be made either by painting directly onto the mesh, via an imported BMP, grabbed from the screen, or produced with selection modifiers to create rows, columns or grids. With an Alpha applied to the model, you can bend, twist, extrude, and more to produce an endless variety of effects and shapes. One very useful modifier is symmetry. Symmetry allows you to effect changes to your mesh symmetrically in any axis, or radial. This is a very powerful feature for sculpting symmetrical objects such as character faces.

### 3D Painting and Texturing

Applying texture maps to complex 3D models (such as characters) has traditionally been a difficult task. Without complex UV Mapping utilities – producing texture maps that wrap seamlessly, and end up in the correct place on the model is very difficult. Third party tools such as Deep Paint, Texture Weapons, Body Paint, and ZBrush have now made this process simple. Texturing a 3D Object in ZBrush is quite simply amazing! With the Texture Master Script running, you are able to move your object around in 3D space, and using the entire palette of brushes, and materials, you can paint directly onto the object, producing a perfectly mapped texture image which you

can export for later use inside your favorite 3D program, knowing it will wrap to perfection onto your model.

### Conclusion

ZBrush is an amazing graphics application. This review doesn't cover 1/10th of the features, and creative tools built into ZBrush. Did I mention you could do animations? One aspect of ZBrush I would be remiss not to mention is how FAST it is. On my system rendering was real-time! The images in the gallery on the right, and throughout this review were not 'rendered' for production – that's how they look while you are working on them! You really need to try ZBrush to believe it, so I highly encourage you to download the 30 day trial version from [ZBrush.com](http://ZBrush.com). I'm sure if you take the time to fully explore, and learn how to make this program dance for you, that you'll be as enthusiastic about it as I am.