



## ZBrush

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Author: Jiri Chrustawczuk

"Painting in 3d -- ZBrush"

ZBrush originated by the Californian company Pixologic is a rather different bitmap painting program than we are used to. That is because it does integrate singular resources of both 2D and 3D tools in a way that facilitates creating of unexpected visual effects, unattainable by other programs.

### How it works

The basic functions supported by ZBrush are painting, modeling and computing. All this works in real time, so all what you do you can see in the final form. You can paint by any kind of material (metallic, wood or even the snake scales), with optional parameters. Each of painted pixels is displayed tridimensionally, that is with its height, width and depth. This is enabled by a unique technology of "smart" pixels called Pixols, developed specifically for this purpose. You may ask, how is it possible, that the program is able to perform all this in real time. Beside the programming skill of its authors, there are two little tricks. The first one you may reveal when using a painting tool with a large radius, e. g. sphere. There is a distinct polygonal structure during painting that disappears only with the release of a mouse or lifting a stylus. The complexity of the object and thus the calculation time is reduced to an acceptable level this way – an immediate response is inevitable for the natural feel in painting. Objects are displayed according to the currently set lighting and rendering parameters, but the final rendering may be started after completing the scene and far better picture quality can be reached – this is the second trick.

## Tools

The program has a unique graphic interface, identifiable on the first look by two vertical toolbars on both screen edges. Scroll menus familiar from other programs are substituted by user definable icons placed horizontally on the upper edge of the screen. The most frequently used tools, i. e. color and brush controls, are in the floating palette above the working area, which serves as a virtual canvas or tridimensional space, you can paint into using provided curves and primitives.

The basic work is supported by 25 tools in the Tools section, offering primitives (sphere, torus, etc.) that you may combine into more complex objects. The form of primitives is controlled in the item Draw - you can set their height, width, depth and the parameter Imbed, which defines the depth of embedding of the element into an existing one. Extent of the embedding can be controlled directly in a 3D view, where you can see an imaginary tip and plane. The color can be chosen in the RGB palette (adjustable primary and secondary colors). Primitives can be set even disproportionally, instead of with a sphere you can draw with ellipsoide or "pancake". You can further work with painted objects, better say to adjust them by rotating, scaling, and namely by moving, editing commands known from 3D programs. All you need to do is to press the right mouse button, by which you initiate displaying of auxiliary circle and axes, and drag and drop to perform the operation.

The Tools palette further contains the tools known from programs like Photoshop, e. g. Eraser or Smudge. Undoubtedly worth of noting is the tool Hook and Snake, that lets you snatch and form the object really like a winding body of a snake. Using it you easily create objects like spikes, spines, tentacles and so on, which you fail to create by effect brushes in Painter. Hairs and bristles are created by Fiber Brush; this tool gets another dimension in combination with the Bump Brush.

Using such exotic tools you will invite possibility to define painting materials, grouped in the section Material. You can edit the materials by setting their parameters (Diffuse, Specular, Transparency, Diffuse Power, Specular Power and Outer Transparency). This is supported by texturing options (Cylindrical, Spherical, Planar) including repetition along individual axes. I only

failed in creating my own texture – I hope that it was not due to my poor familiarity with the program, but due to demo program restrictions. Those who ever used a 3D program will certainly have no problems in understanding and setting the parameters. Lighting and its intensity are controlled globally and their changes are applied to the whole scene.

Last but not least

The other ZBrush tools include layers, masks, modifiers, defined strokes, zoom, library of pseudo-objects, etc. I can recommend using a tablet, working with a mouse is not the best choice, as well as the 16bit color depth – dithering is in this case so distinct, that you can not tell, what is a shade and what deficiency of the painting. Review was performed on a Pentium III 550 MHz with GeForce DDR under Windows 98 SE – taking into account, that ZBrush is still under development (version 0.95), it proved to be surprisingly stable. The Mac users will have to wait a little, but the Mac version is just before its roll-out. The authors also promise the ability to export created objects and import from other formats (the list of supported formats is not yet available).

Creation of imaginative backgrounds or complex objects is so easy as 2D painting. The painted objects may be easily edited and own materials can be created, as well as various lighting conditions can be set. It may not be very long before we will be able to draw the whole scene in our favorite 3D program and then edit it to our wish. But it is not yet here and ZBrush shows one of possible ways. Its technology provides designers with more freedom than anytime ever. If you have at least a little of creative gift, try it, you will be well surprised. The ample documentation in Acrobat may help you in your first attempts, may be also an animated sequence of creating a logo, that can be run on starting.

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