



PC Plus

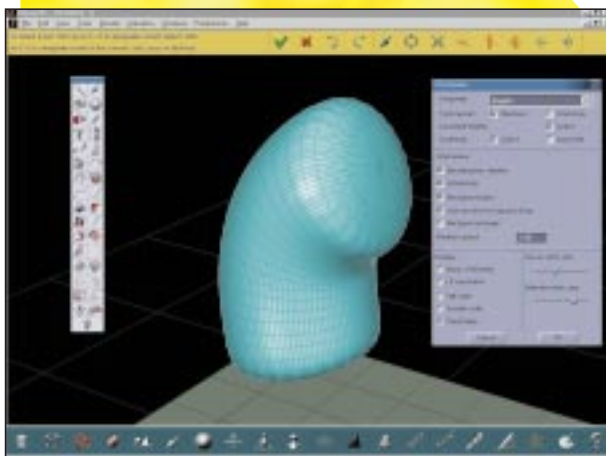
Amapi's Natural Design interface may not be to everyone's taste so there is a more standard Tool palette available if you prefer.

3D modelling

TGS
AMAPI 3D 5.0

A weird and wacky (but wonderful) 3D package. Amapi version 5 is packed with features, but have TGS' bug-catchers been doing their job properly?

Minimum requirements Pentium 133 with 24MB RAM, Win95/98 or NT
Tested on Pentium II 233 with 128MB RAM



■ PRICE £351 ■ EX VAT £299 ■ SUPPLIER TGS Europe ■ PHONE 014 834728 83 ■ WWW www.tgs.com

If you aren't familiar with Amapi from TGS, then you're in for either a treat or a shock depending on your point of view. TGS, supplier of 3D design and CAD software, bought Amapi from its original developer, Yonowat, and it is now on version 5.0. Though Amapi is an undoubtedly different 3D package, those who have mastered its quirky design and interface really love it. Amapi was originally a modelling application, but now boasts full ray-trace rendering as well as simple animation tools.

The first thing that strikes you about the Amapi is its interface. The 'Natural Design' interface, as it's called, consists of a curved column of tool icons that floats around the top-right corner of the screen. Flipping your mouse cursor over the right edge of the screen causes the column to cycle between three different tool-sets, each of which is suited to a general area of the creation process: Construction, Modelling and Assembly.

There are two other main palettes, too. The Control Panel sits at the bottom of the screen and contains tools for snapping and viewing the scene, while at the top of the screen the Assistant palette contains text prompts as well as tools for selecting and constraining movement.

Auxiliary palettes for Layers, Model and Texture Library and Materials become available when they are requested, while the others usually stay visible all the time – you can disable the palettes in the Preferences, though.

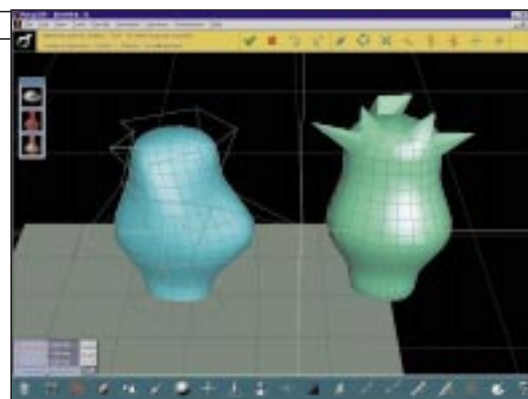
For those of you who are used to a classic four-view modelling set up, Amapi will be a bit of a departure. While there are extra viewing panels available, you generally do all your modelling work in a single view. Ouch, you say. However, it works

surprisingly well, which is mainly because of Amapi's clever but simple cursor/grid system. When you invoke a creation tool, such as the curve tool, the cursor appears as pair of axes in world space. Which pair depends solely on your viewing angle. Rotate the view to look down at the scene and the ZX axis is displayed, but as you orbit down to view more from a side angle the axis suddenly flip to display either the ZY or ZX plane, depending on which side of the scene you're viewing from.

While this sounds irritatingly constrictive, you get used to it very quickly and actually find it works really well. Modelling in Amapi feels a lot like holding an object and sculpting it just as you would a real object. In the real world you can't see from four different angles at once, so it makes perfect sense. If you do need an orthogonal view at some point you can use the Perspective toggle in the Control Panel.

Amapi has a good set of tools and enables you to work in both Polygon and NURBS modes. Amapi has a kind of MetaNURBS (which are free form deformation lattices) but version 5 adds Bend, Twist and Taper controls for manipulating the MetaNURBS cage. More significantly, Amapi introduces five types of smoothing that enable you to create detailed, smooth surfaces from lower resolution models. The types include, Bezier, Catmull, Butterfly, Loop and Doo smoothing. Dynamic geometry also means that you can go back and edit an object at various levels of an object's geometry hierarchy. You can edit a smoothed object by moving the original course mesh, or 'control cage' and the smoothed surface reacts to the change. This is actually much more like MetaNURBS behaviour in other packages, which makes their terminology a bit deceiving.

For Web work, Amapi 5 ships with ZAP export, a new technology for delivering 3D content on the Web. Clients must have the decoding engine at their end which will recreate your 3D without the massive file sizes typical of other 3D formats.



Amapi's Dynamic Geometry enables you to edit objects at different levels of their geometry hierarchy. On the left is the control cage of a smoothed object being modified, while on the right the same object is edited at the mesh level.

On the down-side the display is prone to serious glitches that make modelling difficult at times. Parts of the screen don't redraw properly, tool icons overlap each other, and the texturing palette was a disaster causing the application to crash when the view was rotated.

Amapi is a very competent 3D tool, but there are some serious bugs in the display side that make the program less than stable. TGS needs to address these problems before we can wholeheartedly recommend Amapi.

Simon Danaher

PC Plus

VERDICT

TGS AMAPI 3D 5.0

For intuitive interface, good set of tools, dynamic geometry
Against Poor documentation, buggy display
Range of features.....8
Ease of use.....7
Documentation.....5
Performance.....6
Value for money.....7

7/10

For Web work, Amapi 5 ships with ZAP export, a **new technology** for delivering 3D content on the Web