Visualising Conceptual Reality

The practical application of virtual reality has never been so real in the business world as it is today. CAD/CAM software is a good start, but to visualise a 3D reality of a conceptual object dictates an accurate perception of the end product. So where do we start? ■ by Edmond Ng

Visualising a preview of reality has once been a myth until the introduction of virtual reality. Virtual reality or VR is nothing new, and has been around since the days of the mainframe. But today, with the decline of the almost exorbitant prices of VR software, businesses are now looking expectantly to utilise VR software in their everyday work.

The closest, down to earth usage of virtual reality in business today is the CAD/CAM software, where two-dimensional drawings are simulated to give a 3D effect — such as a 3D conceptualised rendering of an object.

'SEEING' END PRODUCTS

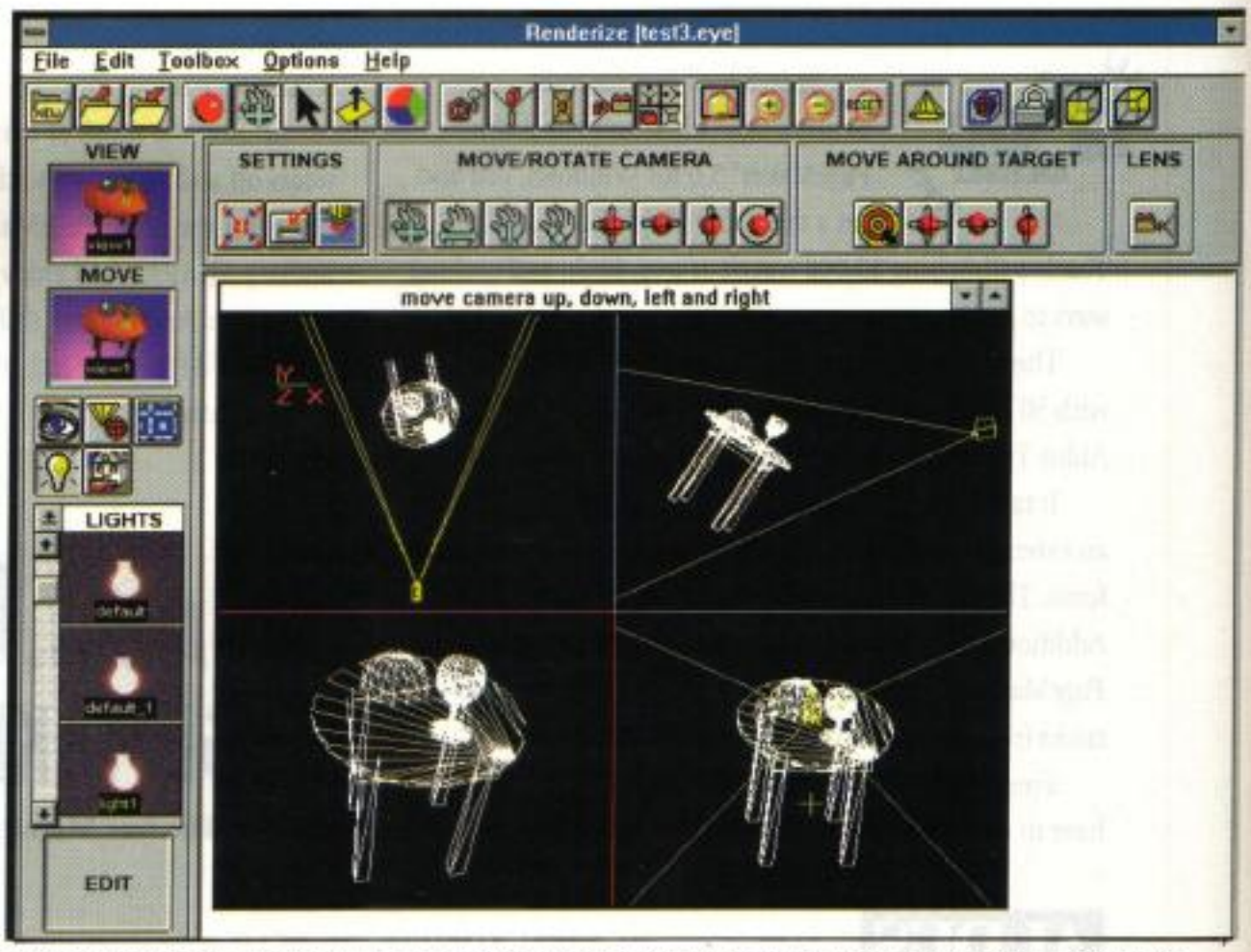
By this simulation, manufacturers and architects can now more accurately 'see' their end product on a computer screen with all the viewing angles required, such as the front, side, top and back of their product. Spotlights can also be placed at will so that the viewer can see the different shades and shadowing effects on the object.

All these tools available today helps in the moulding of a clearer certainty of an object output before manufacture or construction.

However, most CAD/CAM software today requires a great deal of effort to shade the object after constructing a wireframe of a 3D object with animated viewing capabilities in any angle rotation around a spheric globe. The complexity of doing such a task can be enormous and sometimes the effort may not necessarily justify the means.

WHERE VR STEPS IN

That's where Visual Software claims its VR product becomes useful. In an effort to eliminate the complexity of constructing 3D rendering of objects, the company has introduced a complete range of products named

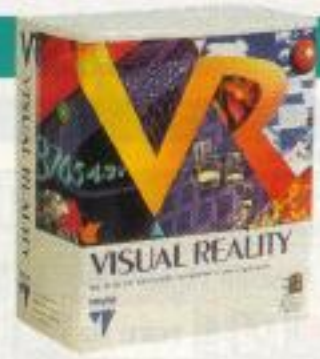


With Visual Reality, users can now accurately 'see' their end product on a computer screen with all the viewing angles required.

Visual Reality.

Visual Reality is a complete set of imaging, modeling, rendering and animation tools that run under Windows 3.1. It is a 3D graphics and animation suite integrating five applications into a single powerful tool. According to the company, the product opens the world of 3D and photorealism to everyone from the professional artist to the home user.

The Visual Reality box comprise of a complete set of applications, namely; Renderize Live, Visual Model, Visual Font, Visual Image, Visual Player, Animator and the Media Player.



The bulk of the programs included in the box centres around the Renderize Live program. The other programs offer a supplement to the end product design within the Renderize Live program.

Renderize Live software allows objects to be imported from various 2D/3D software file formats, such as GED, DXF and others. Therefore, if a user already have files constructed in other software applications such as AutoCAD or CorelDRAW, he can directly port the object to Renderize Live for the final touch-up as a renderized 3D object.

But as a complete toolkit, Visual Reality has also included the necessary tools that allows the construction of a model prior to the renderizing of the object in Renderize Live. These supplementary programs such as Visual Model, Visual Font, Visual 3D ClipART libraries and Visual Image are used for creating full colour high resolution photo realistic renderings and animation sequences.

Visual Model allows the creation of 3D wireframe models in addition to providing complete 3D modeling tools. It uses simple commands which allow users to quickly draw 2D shapes and create 3D objects out of them. These includes features such as the creation of shapes, lines, curves, arcs, polygons, and allows users to extrude a shape, sweep a shape around an axis of rotation, link different shapes together as cross sections, and add, subtract or combine 3D solid models. Models created can be saved in SHP, GED or OBJ file format.

Visual Font allows the creation of extruded 3D text from any Windows TrueType font or WingDing and saves it as a 3D wireframe model. This utility allows the definition of

PRODUCT:
VISUAL REALITY

The Visual Reality box comprises a complete set of applications, namely :

- Renderize Live which uses 3D objects & bitmap images to create photorealistic renderings and animations.
- Visual Model which creates 3D models with any degree of complexity and detail.
- Visual Font which creates 3D models from Windows TrueType fonts.
- Visual Image which creates and edits bitmap images at any resolution or colour depth.
- Visual Player which enables play animations generated in the FLC file format or any bitmap file format.
- Animator which allows play animations generated in the FLC file format
- Media Player which creates play animations generated in the AVI file format.

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Users can construct a wireframe of a 3D object with animated viewing capabilities.

text on multiple lines with left, center or right justification. It also allows the definition of a horizontal or vertical offset for the extrusion path, beveling of extruded edges, and the previewing of extruded text strings as 3D solids. Extruded fonts can be saved in 3D models in the DXF file format.

Visual 3D ClipART provides 3D clipart libraries of models, professionally drawn and ready for rendering. More than 500 clipart objects included in the Virtual Reality box is for business objects only. Additional libraries are available separately. Titles available include Architectural Objects and others.

Visual Image is basically an image processing software. It allows users to import photo images, and includes editing features such as painting and capturing. This program can be used to cut, crop, resize and collage multiple independent images together over a background. Users can also define alpha channel mattes to create background transparencies. It supports import and export of images in a variety of file formats.

A VISUAL PLAYER

Visual Player is an animation player program that allows playing of FLI, FLC, and AVI multimedia file formats. It also supports 'frame by frame' playing.

Renderize Live, the end output program, combines input from Visual Model, Visual Font, Visual 3D ClipART libraries and Visual Image or other third-party programs to create full colour high resolution photo realistic renderings and animation sequences. This program allows the composition of scenes by positioning models together in a 3D environment. It also includes positioning of lights in 3D space, defining of shadows, attenuation and spotlight characteristics, camera optics, fog and reflection maps and others. The program allows assignment of material properties such as shininess and transparency. It also enables rendering of full colour images in almost any resolution, and the defining of camera animation paths for fly-bys and walk-throughs.

The program is simple enough to use, even for beginners. All you have to do is to go through all the twelve tutorial lessons in the Quick Start section of the manual.

With all the above-mentioned tools combined, Visual Reality offers a complete solution to renderizing a true 3D animated program. Visual Reality offers a short-cut to a physical virtual look at the original object of what is to come, minus the hassle of extensive effort and man hours put in constructing a model, through the complexity of a CAD/CAM software, and cuts down the valuable time taken by designers in the shading of objects to make it 3D life-like.

For those who are interested in the product, there are a few things to consider. The following hardware requirements need to be met:

To run the software, you will need a 386 personal computer with math coprocessor. A 486 PC computer is preferable. Your computer should have at least a minimum of 8MB RAM or more.

Other requirements are a display resolution of at least 800 by 600 by 256 colours or higher, DOS 5 and above, Windows 3.1 running on enhanced mode, a 25MB permanent swap file and Windows supported pointing device. ◆