



# interactive 3D object movies for your website

BY BOB CONNOLLY

Virtual Reality — it's a term that often gets tossed around to describe an environment that one experiences without actually being physically there. It may be a ride in an amusement park simulator or large walls of video projects at a world fair. But in our case, we refer to the term VR as a technology that allows us to experience a place or an object through a computer.

The recent explosion of electronic commerce Internet sites has resurrected a technology that was almost forgotten — QuickTimeVR object movies. Object movies — the opposite of Virtual Reality panoramic movies where you pan around a virtual location — allow you to pick up a virtual object and rotate it from

side to side or from top to bottom.

A company called Cycore ([www.cycore.com](http://www.cycore.com)) has produced a breakthrough product called Cult3D that allows you to manipulate computer-generated objects and interact with them. Unlike QuickTimeVR, which uses a series of photographic images to create a VR object, Cult3D uses models created in Strata3D (now available as a free download from [www.strata.com](http://www.strata.com)) or 3D StudioMax and then texture maps a surface onto them. These models are then placed on a web page for users to spin, zoom in and interact with.

The attraction with this technology is its ability to produce small files for downloading, plus the interactivity that the model can incorporate. The major drawback is that it's damn hard to create 3D models unless you are very skilled — and I admit that I find that a serious challenge. There are several companies that sell 3D libraries of models, and for me, that's the way to go if your project is simple.



**KAIDAN'S PIXI MANUAL TURNTABLE (above) is an inexpensive entry level accessory for creating VR object movies.**

### DIGITAL STILL CAMERAS AND THE WEB

Since they are now plentiful and relatively inexpensive, many of us have purchased digital cameras for ourselves. Instead of taking a two-dimensional picture, why not try your hand at 3D using QuickTime or animated GIFs?

There are several ways to capture and process data to create a QuickTime VR object movie. The ideal situation for utilizing VR object movies is in a "virtual store" on the Internet. For example, you might be able to create a tour of a store using QTVR panoramas and link hot spots in the panorama to object movies.

Let's say you are virtually touring a toy store. When you move your mouse over a toy on a store shelf, the pointer suddenly turns into a HTML hot spot indicator, which, when clicked, launches a new window to display the product. But because this product has been photographed using QTVR object movie equipment, you can now rotate the object to see all the sides and top or bottom.

To create a QuickTime VR object movie, you need to photograph a series of pictures that will capture several points of view, then process them to remove the background and assemble them to allow rapid access in consecutive order.

### OBJECT RIGS FOR ANY APPLICATION

A company called Kaidan ([www.kaidan.com](http://www.kaidan.com)) specializes in producing platforms called "object rigs" that hold and rotate an object to allow you to photograph a series of pictures.

Jim Anders, president of Kaidan, tells us, "With our new PiXi solutions, we've teamed up with PictureWorks, the ideal partner for this project as they have excellent consumer-oriented QuickTime VR object software as well as software solutions that assist with the management and posting of images to auction sites."

The Kaidan PiXi Manual Turntable is an ideal entry-level product for new VR photographers to photographically capture collectibles, products, toys, sculptures and other objects in a 3D format. It is fifteen inches in diameter and can support objects weighing up to fifty pounds. The turntable has click-stops set at every ten degrees and index markings for manual positioning in five-degree increments.

You can use any digital camera, film camera or camcorder to capture images. Once you place the object on the turntable, it's a simple matter to shoot, index the turntable and repeat. After taking the photos, you import the images into the software and generate a complete 3D animated object. The PiXi Photographic VR Object Starter Kit comes with additional object creation software. The turntable can also be used (and ordered) with Apple's QuickTime VR Authoring Studio and VR Toolbox, and VR Object-



(right) A swing arm on the M-2500 OBJECT RIG (motorized version) holds a camera. Motion control software can be scripted to direct the rig through its routine.

(below) The MDT-19 MOTORIZED TURNTABLE offers users an intermediate solution to indexed computer control of objects as they are being photographed.



Worx /VR Worx. Kaidan also has optional accessories which include fixed and telescoping object pedestals, backdrops, tripods and additional software.

For those looking for automation, Kaidan's MDT-19 is a motorized turntable used to index objects under computer control for immersive imaging object photography. The device has a diameter of 19" and can support objects up to 75 lbs. The turntable is coated in a matte black finish that can be topped with optional blue, green or red-screen elastic caps. These colors allow for easy removal by keying the background using plug-ins such as Ultimatte for AfterEffects.

Indexing control is done with the eMCee controller, which connects to the serial port of your computer. You can use Kaidan's eMCee software (Macintosh or Windows) to control the turntable, or VR ObjectWorx (Mac or Windows) software from VR Toolbox to manage the process of object movie creation and turntable control.

These turntables give you a left-to-right view of the object but if you want to see the top and bottom you need to move your camera above and below the object to get a series of pictures.

The Magellan 2000 family is a mid-sized object rig capable of handling objects as large as three feet in diameter and 300 pounds in weight. Designed to sit on the floor, the M-2000 series of rigs employs an adjustable cantilevered arm to position the camera. An adjustable-height pedestal is used to support the object being photographed.

The M-2000 is a manual design with hand-cranked gearboxes, while the M-2500 has a motorized swing arm that will accommodate film cameras, digital cameras and camcorders (5-lb maximum weight, 1/4" or 3/8" tripod socket). The motorized axes and object movie creation are controlled with scriptable eMCee motion control software. VR ObjectWorx can also be used to control the M-2500 and to create QTVR object movies automatically. The M-2000 family also sports an open frame design that provides access for positioning and lighting the object. An optional

black/tan photographic backdrop (BKDP-1) is also available. The Magellan 2500 includes base, pedestal assemblies, motors, electronics, swing arms, two circular platforms (18" and 36" diameter) software and gear-boxes. The M-2000 includes everything above less the motors and software — and can be upgraded to an M-2500 at any time.

For those of you who have over \$25,000 to spend on a really pro rig, the Meridian C-60 is the ultimate for object photography.

The C-60 has no swing arms or supports to get in the way of lighting the object. You can place light where it's needed. The camera rides on a motorized carriage that moves along the inside of a C-shaped track. The C-60 is powered by DC stepper motors that are driven by Macintosh-based, AppleScriptable applications included with the unit. It can be assembled in several variations, ranging in height from just under 8 ft to 12 feet, has a 5-ft camera radius, and can support objects up to 300 lbs. in weight. The maximum size of the object depends on the field of view of the lens and the placement on the turntable.

Kaidan's well-built object rigs range from a few hundred dollars to over \$20,000 (CDN).

I plan to purchase the MDT-19 because I like the optional green screen material that covers the base of the unit. I have a green screen backdrop in the studio for video keying and the matching colored backdrop will save me hours of time since I won't have to manually crop out backgrounds. The Ultimatte plug-in for Photoshop or AfterEffects is used to electronically remove the green background, allowing me to cut out objects that have fine detail such as hair or semi-transparent clothing.

### BUILD YOUR OWN RIG

There are many other ways to capture an object movie and some creative professionals make their own rigs using parts purchased at Home Depot.

One such talent is Shawn Murenbeeld. He is the art director for DWL Interactive ([www.dwl.net](http://www.dwl.net)), a large new media house with clients such as The Body Shop and Sun Life. Shawn has won several awards for his original style which incorporates the use of photographed objects that he has created in his backyard garage. His artwork usually begins as garbage that he finds in the neighbors' trash(!) — old TV sets, toys, beer cans, whatever he comes across on his daily dogwalking duties.

After nailing, gluing or welding the trash together in his workshop, he uses his digital camera to capture the image, then processes it in Photoshop. For making animated GIFs or QTVRs,



(top) Photography of larger objects can be handled with Kaidan's motorized *MERIDIAN C-60 RIG*.

(above) Through his own "recycling" program, Toronto's Shawn Murenbeeld, art director for DWL Interactive, transforms his neighbours' garbage into unique objects for use in the creation of his clients' animated GIFs or QTVRs.

he has built his own object rig out of modified lazy susans to mount and rotate objects that he has created.

In the example pictured above our headline on page 26, the VR object is a TV set which Shawn found in his neighbor's trash; adding a few beer caps and some rabbit ears from a toy bunny yields Virtual Reality TV folk art. This object was photographed with a digital camera, then altered in Photoshop, and animated using Adobe LiveMotion to produce an animated GIF. The final animation will be loaded into Adobe GoLive to be uploaded to his web-site where Shawn showcases his favorite hobby, a special category of folk art that is now in demand right across Canada.

### VIRTUAL CANADA AND VR CANADA.COM

We will be featuring Shawn Murenbeeld and his techniques on our upcoming TV special Virtual Canada, which will air on the Canadian Learning Channel in the fall. You will also be able to see his final VR animations on the TV show's companion web site at [www.vrcanada.com](http://www.vrcanada.com).

If you're in the VR business and want to be profiled in Graphic Exchange magazine and on our TV special,

we want to hear from you. There are prizes and awards to be won for the best VR object and panorama movies. Just e-mail me for more information. ■

---

*Bob Connolly owns BC Pictures, an award-winning new media production company that creates TV, CD-ROM, DVD and Internet web sites. He can be reached at 416-521-7462 or e-mail [b.connolly@sympatico.ca](mailto:b.connolly@sympatico.ca).*