



REALITY CHECK

by Scott Holstad

Imagine walking through a medieval castle, inspecting the armor lining the musty halls and climbing the cobbled tower stairs so you can view the moat through the tower windows; or flying through the solar system, exploring planetary surfaces; or designing your dream home and all of its components, developing each piece from the ground up, placing and re-placing each item in every conceivable combination. Imagine, if you will, entering a virtual Alice-in-Wonderland world in which you are able to interact with every object, to pick up anything you want; to go to virtual clubs and engage real people in scintillating chatter. Soon – very soon – you'll be able to do these types of things, and more, and VRML may well be the magic wand that makes it all possible.

VRML is an acronym for Virtual Reality Modeling Language. It's typically pronounced as is (V-R-M-L), but some people use "vermel" instead. It is a type of programming language (such as HTML or Java) designed to allow 3-D (three dimensional) objects and worlds to be displayed and experienced via the World Wide Web.

Perhaps you're asking just what I'm referring to when I use the term "3-D." Ever read William Gibson's "Neuromancer" (the origin of the term "cyberspace")? What about Neal Stephenson's "Snow Crash"? Okay, well you should then – both novels explore the near-endless potential of fully-formed virtual realities. But if you haven't read about 3-D virtual reality, think about that house mentioned earlier. Traditionally, you would have to look over 2-D blueprints to get an idea of what the house would look like, but 3-D lets you actually see the space, and walk through the house; it lets you walk into a bedroom or kitchen and experience it.

The basis of 3-D is graphics: geometry (such as cubes, spheres, and cones, etc.), lighting (in terms of how light strikes an object), and shading (in terms of how colors are spread around and reflected). 3-D objects are created and modified with textures, providing realism. (Textures may be thought of as being like stickers, which you paste on to objects.)

Three-dimensional worlds are put together using the VRML language and 3-D rendering tools. For maximum benefit, such worlds should be real-time (real-time refers to having something take place while you are there, experiencing it), so that you can walk around where you want to, and pick up any object, and generally do whatever you want (thus eliminating the annoying need to download or decompress, etc.). Most real-time worlds have to be small, and are often generated through ray-traced rendering, a method of calculating lighting effects to display realistic depth. Typically, you'll find the opportunity to interact with other people live (real-time) in various Web-based 3-D worlds. You may have the chance to do so using a 3-D graphic representation of yourself called an avatar, a term popularized in Stephenson's book.

In order to engage in such activities, you need a VRML-enabled Web browser. You can get a specific VRML browser or, if you use Netscape Navigator*, a VRML plug-in. At this point, most VRML software seems to be PC-oriented, but there are some good Mac items out there. One of the more popular PC browsers is Black Sun's CyberGate. V-Realm is another you might want to check out. Virtus Voyager is a multi-platform (PC and Mac) browser, while VRML Equinox is Mac-based. Live 3D (PC) and Express VR (Mac) are Netscape plug-ins which enable you to access VRML sites without exiting Netscape Navigator.

After you have the appropriate software, go find VRML sites to explore. The VRML Mall can be inviting, as can the Underworld Virtual. If you like Kate Bush, you can check out her 3-D world, or you can visit Boston's Fenway Park. After you've explored and undoubtedly become hooked on virtual reality, consider becoming involved. Create your own worlds and invite everybody else to join you. If nothing else, who knows -- maybe your avatar will run into mine one day, and we'll do virtual lunch.



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