

Introduction: VRML

VRML stands for "Virtual Reality Modeling Language". It derived from HTML and used to be called "Virtual Reality Markup Language", but the meaning of the "M" has been changed to "Modeling". VRML may be used to include 3D-graphics and virtual reality models into hypertext documents. VRML browsers allow exploring a scene by walking through the model (also known as "a world"), approaching and examining objects etc. currently, there are about twenty VRML browsers to choose from. Microsoft and Netscape have announced that they will include VRML browsing capabilities in their future versions of their Web browsers (actually, there is already a plug-in available for the Microsoft Internet Explorer, plug-ins for other browser are available as well). The current version of VRML is V1.0; V2.0 is expected to become the new standard before the end of 1996.

The code used these pieces of information

- DEF object name object type { fields children }
- Only the object type and curly braces are needed. They may or may not have a name, fields, and children. Names of nodes can't start with a number, and can't contain spaces or control characters, single or double quote characters, \, {}, + character or the period character.
- **General Syntax**
- #VRML V1.0 ascii
- This line must be at the very top of every VRML file so it is easily identified. The pound sign ("#") starts a comment. Ever thing after this is ignored. This helps you understand the code better. After the required line, a VRML file contains exactly one VRML node. That one node can be a group node so other nodes can be put inside it.

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- VRML is case-sensitive; 'Sphere' is different from 'sphere'. Field names start with lower case letters, Node types start with upper case. The remainder of the characters may be any printable ascii (21H-7EH) except curly braces { }, square brackets [], single ' or double " quotes, pound #, backslash (\), plus (+), period (.), ampersand (&).
- **Coordinate System**

VRML uses a 3-dimensional coordinate system in which the coordinates X, Y, and Z are used. The objects that are created are projected on a 2-dimensional plane (your screen) and the depth is showed by making the object smaller as the Z increases positively. If the camera is rotated, then the output mechanism is the same. The standard units used in VRML for distance are meters and angles are measured in radians.
- **Fields**

There are two general classes of fields; fields that contain a single value (where a value may be a single number, a vector, or even an image), and fields that contain multiple values. Single-valued fields all have names that begin with "SF"; multiple-valued fields have names that begin with "MF". Each field type defines the format for the values it writes.