



VIRTUAL REALITY ON THE WORLD WIDE WEB: A SURVEY OF WEB SITES

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ABSTRACT

The author surveyed the World Wide Web using a number of Internet based search engines and VR resource pages to identify more than 11,300 open text sites dealing with virtual reality. This article identifies several hundred of the best devoted to VRML, VR news groups, VR resources, VR projects, VR software, VR hardware, academic and laboratories involved in VR, associations, publications, companies, and government agencies specializing in VR. The URLs are provided in the printed article. The CD-ROM that accompanies the printed journal also provides direct links to the sites when this article is viewed while simultaneously connected to the World Wide Web.

Introduction

During the past two years the popularity of the Internet has exploded, and average people are logging on to the World Wide Web in unbelievable numbers. The popular media has provided free publicity for the Internet in unprecedented volumes, and it seems unlikely that it will abate any time soon.

Like many areas of interest and endeavor, virtual reality has expanded rapidly on the World Wide Web. A year and a half ago there were few VR sites on the Web. Today there are thousands of references to virtual reality. The advent of *Virtual Reality Modeling Language* (VRML) has made creating VR on the Internet easier and less expensive. Browsers which support VRML have given us all an opportunity to experience VR in the comfort of our own offices and homes.

Although it is not possible to identify all references to VR on the WWW, I have identified and listed more than 380 of them for you. Most of the sites I document have valuable information, and many have interesting virtual environments for you to view and experience. Each site identified has its complete Internet URL address. Most sites have short descriptors to assist the reader in making choices. Others list only the category and address.

A number of sites appear in more than one category. For example, some software manufacturers appear in both the Commercial section and the Hardware/Software section. The repetition is not excessive, however. I hope this provides you with many hours of surfing pleasure.

Academia/Laboratories

[ARTEC](#) a Research & Development group belonging to the Informatics and Electronics Department of the University of Valencia.

[NPSNET Research Group](#)

[Clemson University Virtual Reality](#)

[Department of Computer Science and Institute of Cognitive Science,](#)

University of Colorado at Boulder

[Virtual Reality Education Lab](#) at East Carolina University

[NCSA VR Lab Home Page](#)

[IST's Visual Systems Laboratory](#) University of Central Florida

[NAWCWPNS Vislab](#) China Lake, CA

[Clemson University's](#) VR research and activities.

[EVE - The Encyclopedia of Virtual Environments](#) at the University of Maryland at College Park is a collection of information about the many applications and components devices and technologies which comprise Virtual Environments.

[FLAIR - Flexible Learning With an Artificial Intelligence Repository](#) is an interesting project at Drexel University. It's FLAIR WORLD attempts to provide a VR interface to the AI repository.

[The Graphics, Visualization and Usability Center](#) at the Georgia Institute of Technology illustrates many graphics and user interface projects including a good section on virtual environments.

[Greg Seidman](#) a clever summer student here at NIST has some VRML goodies for you.

[The Human Interface Technology Lab](#) at the University of Washington in Seattle probably contains the most extensive collection of information about VR available on the net.

[The Interactive Visualizer](#) at Georgia Tech is a full fledged VR environment being used in a wide variety of projects.

The [LUTCHI Research Centre](#) in the Loughborough University of Technology, Leicestershire, UK has a variety of VR and user interface projects.

[University of San Paolo - Visual Computing and Interactive Media](#) - Research in high performance graphics, image processing, scientific visualization, computer music, VR and multimedia.

[Mississippi State Virtual Environment/Interactive Systems Program](#) at the National Science Foundation Engineering Research Center for Computational Field Simulation.

[Montgomery Blair High School Virtual Walkthrough](#) shows how all us old geezer computer types better watch out as the kids are catching up.

[The MR Toolkit](#) from the University of Alberta is one of the most robust and widely used VR software tools and libraries. It is available with source code.

[VENUS the Virtual Environment Navigation in the Underground Sites](#) is a large scale effort at CERN to use virtual prototyping for the next generation particle accelerator.

The [HITLab](#)

The [Design Space](#) homepage.

[Microsoft](#) Research Graphics Group.

The [CAVE](#) page.

The [NCSA](#) virtual reality project.

The [LUTCHI](#) research centre.

The [NPSNET](#) research group.

spatial audio work at [Georgia Tech](#)

Lateiner [Dataspace](#) Home Page.

The Manchester [Advanced Interfaces Group graphics, visualization, and usability center.](#)

[Laboratoire d'Infographie](#)

The [DIVE](#) project [Distributed Interactive Virtual Environments].

[Project Isaac](#)

The open virtual reality [testbed](#) home page.

[VSR](#) [Virtual Shared Reality].

The [Interactive Visualizer project.](#)

[VR](#) - Our project goal it to expand education with VR. This project is the first cross-college effort to develop VR systems for instructional use.

Commercial

[Modem Media](#) - an advertising and marketing agency dedicated exclusively to interactive media. We have executed programs on every interactive platform ranging from interactive telephone voice response, to online services, the Net, CD-ROM, multimedia production, interactive fax,

videogames, interactive TV and VR.

[Galleria Narthex](#) - a VR art gallery and museum, where the visitor may explore a series of interconnecting rooms and exhibition spaces. Art is displayed for viewing and for purchase.

[Grundig's "Performing Arts"](#) - Using VRML and other VR programs, Grundig invites you to experience the excitement of the Performing Arts line.

[Cine-Med](#) - a medical education company specializing in video production, VR surgical simulations, and interactive CBT programs.

[The Computer Inside You \(TCIY\)](#) - a new book that proposes in detail an old idea: that the universe is a VR generated by an underlying network of computing elements. ESP, afterlife, mind, and such, explained.

[VR Sourcebook](#) - the leading directory of "VR".

[Grafnet Bilgi Sistemleri, Ltd.](#) - VRML and HTML web solutions, financial software customizations on Silicon Graphics products, textile CAD, graphical design and VR solutions, UNIX workstations peripherals.

[eVox Productions](#) - Multimedia content provider specializing in photographic desktop VR. Provider of full service QuickTime VR, special effects, and PhotoAnimation.

[GLAMUS - Gesellschaft fuer moderne Kommunikation mbH](#) - multimedia productions since 1990: infotainment, CD-ROMs, computergames, POS/POI, touch-screen, VR, 3D animations and more.

[Mar-cadd Multimedia](#) - Multimedia production facilities, 3D modeling specialists, interactive presentations, multimedia authoring, multimedia consulting, VR application development, award winning animations.

[Paradigm Genesis](#) - VR Kits and Components.

[Cyber Warrior Network](#) - immersive artificially intelligent virtual reality multiplayer on-line games.

[Exos, Inc.](#) - PowerStick force-feedback joystick and other tactile feedback devices for games and VR.

[VR Direct](#) - VR simulation products.

[Tecnomatix Technologies LTD](#) - Making virtual manufacturing a reality with Computer-Aided Production Engineering (CAPE) tools.

[Zombie VR Entertainment](#)

[Evans & Sutherland Computer Corporation](#) - Real-time computer-generated imagery. Our products are used in VR applications, pilot training, and workstation graphics acceleration.

[The International Journal of Virtual Reality](#) - Your primary source for VR research and multimedia.

[Inforom Interactive](#) - designs and produces interactive media-based solutions. From CD-ROM's, the Internet to VR, we strive to blend creative design with information technology.

[Learning Edge Corp.](#) - Interactive multimedia training and presentation sol'ns. Products include courseware, CD-ROMs, touchscreen kiosks,

interactive disks, video, and VR.

[TegoSoft](#) - Tutorials that teach programming topics (e.g., Visual Basic, Visual C++, Java). The OCX/OLE Kit includes OCX/OLE controls such as 3-D VR, DirectDraw, WinG, Multimedia, and others.

[3Space VR and Interactive Graphics](#) - 3Space's Online Catalogue.

[ATMA](#) - Products and informations in the fields of VR, computer graphics and telecommunications tools.

[Clarus AB](#) - Specializes in Real-time Interactive Visual Simulation focused on app solutions for Engineering and Development tools for VR.

[Computer Graphics Systems Development Corporation \(CGSD\)](#) - Custom simulation and VR systems, Real Time Graphics Newsletter, tilable texture pattern library and tools, color space conversion, robotics, patents and more!

[CyberShades](#) - affordable VR experience. Using 3D LCD shuttering technology there is now a low cost, addictive, new dimension in visual entertainment.

[Cybertracks Records](#) - European label specializing in electronic music, holophonic effects and sound-effects for VR application.

[General Reality Company](#)

[SRI VR](#)

[Virtual Design Modeling](#) - provides PC platform based virtual world building services and turn-key VR systems for manufacturing, architectural, and other businesses.

[virtual Entertainment](#) - VR games.

[VR Entertainment Centers](#)

[The VR Store](#) - specializing in VR hardware and games for home use.

[Virtual World](#) - the world's first digital theme park with locations around the world.

[Virtual Worlds Entertainment in London](#) - Descriptions, pictures, sounds, hints, celebrities.

[Virtuality Entertainment, Inc.](#) - VirtualITY is the world's leading developer of immersive, entertainment software. The pioneering VR company with a client list including some of the biggest names in the global entertainment industries. The company leads the field and is committed to staying number one.

[Virtually Unlimited](#)

[Vivid Group](#) - third person interactive VR technology - the Mandala System.

[VMFX Simulations Inc.](#) - VR design for industrial and entertainment applications, 3D animation and graphic design, EEG biofeedback.

[VREAM](#) - Developer of the WIRL interactive 3D VR browser and VRCreator VR creation software.

[vrSpec](#) - VR Specification Tool.

[Worlds Inc.](#) - produces software for 3-D chatting and virtual environments.

[WorldsAway](#) - allows CompuServe members from all over the world to

create their own on-line personas and build their own on-line virtual community.

[Scott Virtual Theme Parks](#) - create your own virtual worlds and wander around them... without even knowing how to program!

[Virtual World Factory](#)

[Infinite Light, Inc.](#) - VR Media Lab

[IEEE NCAC - Consultants Network](#) - We're the IEEE National Capital Area Council (NCAC) Consultants Network. We are seasoned technical people with experience in a vast array of fields, ranging from Acoustic Sensors to VR.

[Moose Lodge](#) - a VR lodge designed for your entertainment and pleasures. We have food, drink, and outdoors sports.

[Question Reality Sticker](#) - The sticker that's virtually correct.

[Echo Center](#) - Overview of different projects and services offered in the field of graphic design, multimedia, 3D, VR and World Wide Web Design.

[Tectrix Fitness Equipment](#) - state-of-the-art cardiovascular fitness equipment, such as the ClimbMax, BikeMax, and the VR Bike and VR Climber.

[Augmented Reality in Surgery](#) - The ARTMA Virtual Patient® System introduced augmented reality in medicine for visualization of virtual anatomical structures in surgery.

[A.L. Group](#) - Groovy technology including VR, VRML, QTVR, Shockwave, CUSeeMe, CD Grab and Audiotex plus lots more!

[Global InterNet Associates, Inc.](#) - A pennsylvania based graphics and web page development company specializing in Graphics, VR and Client/ Server solutions for the Net.

[VR Design](#) - Web design services, including custom CGI, JAVA, SSI, and VRML programming.

[US Marketing Group](#) - Global pre-order manufacturing projects by WWW communication, 3D VR prototyping and networking with innovative manufacturers & media for mass consumer products.

[Cybertracks Records](#) - European label specialising in electronic music, holophonic effects and sound-effects for VR application.

[Micro Format Imagination Gallery of Specialty Paper Products](#) -

Continuous Paper for Dot Matrix, Paper for Laser and Ink Jet Printers
Banner Paper, Certificates, VR 3-D Paper, Business Forms Wordprocessing.

[3dLabs](#)

[NewTek](#)

[Silicon Graphics](#)

[AppleQuickdraw 3D](#)

[Spectrum Holobyte](#)

[SEGA](#)

[ALIAS](#)

[VIRTEK](#)

[Criterion Software](#)

[Autodesk](#)

[Wavefront](#)

[ElectroGig](#)

[Kaleida Labs](#)

[Syndesis Corporation](#)

[XEROX](#) park.

[Template Graphics Software](#)

[Hewlett-Packard](#)

[Viewpoint Animation Engineering](#)

[2morrow World Building kit](#) a low cost garage VR toolkit for PCs.

[Aereal Inc.](#), has oodles of VRML and is home of Proteinman's Top Ten VRML Sights.

[Antares Virtual Reality Systems](#) - Educational uses of VR.

[The Apple QuickTime VR Web Site](#) has lots of cool QTVR examples and information.

[Applied Virtual Reality Corporation \(AVR\)](#) in their words "Founded in 1994, AVR was formed to be Canada's leading resource for information, education, research and VR technology acquisition in the application of the Virtual Reality medium".

[The Armchair Travel Company Ltd](#), some folks really using QuickTime VR in interesting ways.

[Atlantis Cyberspace Virtual Reality Entertainment Centers](#) a location based entertainment outfit with an extensive web site.

[Biomechanics, Inc.](#) a motion capture company, has some way cool MPEGs of human motion.

[Crystal River Engineering](#) offers a variety of 3D sound systems for your virtual worlds.

[CyberEdge Electric](#), the on-line companion to the CyberEdge Journal, chock full of information on all aspects of VR.

[Cybertown](#), a cyberspace web environment that's extremely well designed, uses VRML and lots of other techno-widgets.

[Deneb Robotics Inc.](#) makers of robotic simulations and more.

[DIVE Laboratories](#), makers of a variety of interesting VR products such as Amber (modeing tool) and vrTrader a VR financial application.

[Division Ltd](#) one of the few VR players that can provide complete systems.

[EINET Galaxy](#) a commercial provider of network communications and information has a nice web page on [Virtual Reality](#).

[Forte Technologies](#), makers of the VFX1 HMD.

[GT Interactive Software](#) has a nice web site of games including VR games such as Locus.

[High Techsplanations](#) has a web site illustrating ther surgical simulation and biomedical visualization systems.

[Holophonics](#) a 3D Virtual Sound system.

[New Type Gaming](#) an on-line magazine has a well designed web site chock-full-o VR info.

[Home Tour](#) Pixel Dust Productions a multimedia consulting company offers some web based virtual "tours" of some homes for sale.

[Imaginative Entertainment's VR Resources page](#) points to a bunch of interesting VR resources.

[Liquid Image](#) makers of a variety of Head Mounted Displays (HMDs).

[MaK Technologies.](#)

[Net3D \(3D rendering on the WWW\).](#)

[The PC PowerGlove](#) a data glove for PCs is being given new life by Abrams Gentile Entertainment.

[RealiMation](#), a VR Simulation and Game Development Tool.

[SENSE8 Corporation](#), makers of the widely use WorldToolKit.

[Superscape](#) makers of a complete suite of PC based VR software.

[Telenor Research and Development](#), the major telecommunications company in Norway has some innovative VR work.

[Template Graphics Software](#) an old time vendor of lots of graphics software products is working on a commercial 3D web browser using VRML.

[ThemeKit](#) make a VR graphics engine for PCs with an API and WYSIWYG VR development environment.

[United Technologies Research Center Human Computer Interaction](#)

[Laboratory](#) points to a some good work being done at UTRC.

[VMFX.](#)

[Virtual i-O](#), the folks who make the Virtual i-glasses.

[Virtual Technologies](#), makers of the CyberGlove a high resolution glove and other CyberWear.

[Virtus](#) home of the fabulous Virtus Walkthrough modeling system.

[Vox-L Stereoscopic Workstations](#) by Vox- L Inc., produces an imaging systems primarily for medical imaging applications.

[The VR CD-ROM Revision 1](#) by Network Cybernetics Corporation. A collection of thousands of up to date files on VR, Telepresence, Telerobotics and Computer Simulation.

[VRML World](#) Mecklermedia's new magazine covering not only VRML but HotJava, QuickTime VR, Ubique`s Virtual Places and more.

[Weblynx Ultimate World Library](#), a very thorough collection of VRML files and information.

[ZD3D](#), Ziff-Davis VRML site.

[Power Images](#) - Turnkey web projects; SGI workstations with RealAudio, virtual Reality, database management, and more.

[Global InterNet Associates, Inc.](#) - A pennsylvania based graphics and web page development company specializing in Graphics, VR and Client/ Server solutions for the Net.

[CyberSim Systems](#) - a Houston based Internet Service Provider and an applied VR computer technology corporation.

[Virtual Realty](#) - CD-ROM product allows you viewthrough apartments using VR.

Cyberspace

[Cyberspace](#)

[Telektronikk 4.3: Cyberspace](#)

[Cyberspace: The New Frontier](#)

Government

The [Army Research Institute](#) has a Mac based server illustrating research on the effects of immersion.

[Johnson Space Center VR Lab](#). check out one of the few "serious" VR applications, such a training for Space Shuttle missions.

The [MCS \(Mathematics and Computer Science Division of Argonne National Laboratory\)](#) is exploring virtual environment and hey...they have a CAVE.

[Metro Nashville Police](#), has some QTVR nodes for crime scene applications.

The [Naval Postgraduate School](#) has lots of good VR work...check it out.

The [NCSA VR Lab Home Page](#) illustrates the ever expanding work being done at NCSA.

The [The Virtual Environment Generator](#) will carry virtual reality into space, courtesy of NASA, in a 1998 Space Shuttle Mission.

The [WebStars](#) project at NASA Goddard has an excellent pointer to a number of VR sites, resources and information.

Last but not least the [Open Virtual Reality Testbed](#) at the National Institute of Standards and Technology.

Associations/Organizations

[The Virtual Reality Alliance of Students and Professionals \(VRASP\)](#) a not-for-profit organization is up on the Web.

[Virtual Reality Society](#)

[TRIVR - The Triangle VR Group](#) - TRIVR is an organization devoted to generating interest and promoting information sharing amongst members of the Research Triangle, North Carolina VR community.

[Virtually Club Austria](#)

Publications

[Virtual Reality Update](#)

[The International Journal of Virtual Reality](#) - Your primary source for VR research and multimedia.

[The Journal of Virtual Environments \(JOVE\)](#)

[Presence](#)

[Telektronik](#)

VR News: [Editor - Mike Bevan (vrnews@cix.compulink.co.uk) Cydata Limited, P.O. Box 2515, London. N4 4JW. phone/fax +44 (0)81 292 1498] Morph's Outpost (on the Digital frontier): excellent new media developers organ conceived by Craig LaGrow [reach Morph - lagrow@holonet.net or phone +1 (510) 254 3145].

New Media: NewMediaMag@applelink.apple.com editorial numbers are phone: (415) 537 5170, fax: (415) 537 5131.

[CyberEdge Electric!](#) - The on-line companion to CyberEdge Journal, the World's leading newsletter of VR since 1991.

[IRIS Universe](#) - The Magazine of Visual Computing covers all areas of visual computing including: VR, multimedia, CAD/CAM, film/video, and much more. Subscriptions are free.

[NewType Gaming Magazine](#) - On ramp for all video gamers, this covers games reviews, VR, and links to the cool and fun sites on the Web.

VRML

[MeshMart VRML](#) - complete reference source to the new world of VR Modeling Language, VRML, including links, reviews, and tutorials.

[RSX: Realistic Sound for the Internet](#) - provides realistic sound for Internet applications without special hardware. It is ideal for VRML and other virtual environments.

[VR Center](#) - The VR Center offers Arcade and other platforms VR games reviews, VRML - "How To" section, books, and movies reviews. Special space has been created for THE VR ZONE - where future use of VR will be explored.

[VR Modeling Language \(VRML\) Forum](#)

[Liquid Reality](#) - VRML toolkit which is dynamically extensible using the Java language. It is designed to run inside a Java-enabled browser so you can move easily between 2D HTML documents and 3D VRML worlds.

[Virtual World Factory \(VRML Authoring Tool\)](#) - Virtual World Factory is web-based software that lets you create virtual worlds using VRML. You don't even need a VRML browser to create VRML!

[dx2vrml](#) - Converting IBM Visualization Data Explorer Objects into The VR Modeling Language.

[The U.C.C.B. VR Lab](#)

[Web Developer's Virtual Library: VR](#)

[Open VR Testbed](#)

[VRML-enabled VRML Spec 1.0 Final](#) - The final Version 1.0 Specification for VR Modeling Language, with links to VRML versions of the examples, and examples of VRML nodes in VRML.

[Deseo Remixes](#) - Lots of music and info. Special VR ambient world to explore. Links provided to obtain a VRML browser.

[Inter-Galacticum](#) - A world built by users of Virtual World Factory, a web-based VRML authoring tool. Includes a VRML version of "The Black Sun", inspired by Neal Stephenson.

[Lightscape Virtual Walkthrough Library](#) - Models generated with the Lightscape Visualization System and converted into VRML files.

[Planet Nine Studios](#) - Includes a 3D virtual model of the proposed new ball park for the San Francisco Giants.

[Squirrel VR in VRML](#) - VRML developer in Australia showcases an ever-increasing number of VRML Worlds.

[Virtual Fenway Park](#) - Home of baseball's Boston Red Sox.

[Virtual Jack-O-Lantern](#)

[Virtual Tube Ride](#)

[Virtual Underworld](#) - a VRML world where anybody can connect his own room to the underworld corridors.

[VirtualSOMA](#) - online 3D city, was launched 8/4/95 by Planet 9 Studios. This can be viewed with a VRML browser such as Worldview.

[VRML VR Skiing](#) - *Winternet* also provides comprehensive information on a number of ski resorts worldwide.

[Usenet - sci.virtual-worlds](#)

[VRML - VR Modeling Language](#)

[Information Assets, Inc. Engineering VRML](#)

[VRML](#)

[VRML Repository.](#)

[Virtual Reality Modeling Language \(VRML\) Forum](#)

[Virtual Reality Modeling Language \(VRML\)](#) The VRML Version 1.0 Specification.

[Virtual Reality Modeling Language \(VRML\)](#) A network based effort to develop VRML a language suitable for interfacing VR environments with the web.

[WorldView](#) VRML browser from one of the inventors of VRML.

Resources

[Internet resources in virtual reality.](#)

[VR buying guide.](#)

[VR Entertainment Resource Guide](#)

[VR resources - FTP guide.](#)

[Virtual Reality Terms.](#)

[3DSite: VR](#) - list of VR resources on the Net.

[\[oneday originated\] VR related resources.](#)

[Bill's Complete VRML List](#) - VRML and other VR Sites on the net.

[Hot VR Sites](#)

[On The Net: Internet Resources in VR](#)

[VR and Other Oxymorons](#)

[vr.org](#) - one of the largest VR info sites on the web.

Articles

[Virtual Reality.](#)

[Wired 1.1: War Is Virtual Hell Wired](#) magazine has set up a number of Internet services.

The [WELL](#) runs a Gopher server. Some of the information is related to Virtual Reality.

[Distributed Virtual Reality -Applications for education, entertainment, and industry](#)

[VR means Virtual Reconstruction](#)

[Total Immersion](#) by Howard Rheingold.

[Virtual Reality: Oxymoron or Pleonasm?](#) by Nicholas Negroponte.

[Jenny Holzer - Multidisciplinary Dweeb](#)

[Arthur C. Clarke on Life](#)

[Dreamware](#)

[Jaron Lanier](#)

[PARC Is Back!](#)

[The Desire to Be Wired](#) by Gareth Branwyn.

[Dollar a Minute](#)

[Is Advertising Finally Dead?](#)

[Furry Muckers](#)

[Sega's Plans for World Domination](#) - by John Battelle with Bob Johnstone.

[War Is Virtual Hell](#) - by Bruce Sterling.

[Abstracts of articles from recent issues of **The International Journal of Virtual Reality.**](#)

Hardware/Software

[avril - 3D Web Object Viewer](#) - Experimental release of a realtime viewer for 3D objects. This is part of an ongoing effort called the Internet VR Project (IVRP), sponsored by Lepton Incorporated.

[Meme - multi-user virtual environments](#)

[MR Toolkit - VR Software Tools](#) - Minimal Reality Toolkit. MR is a set of

software tools for the production of VR systems and other forms of three dimensional user interfaces, includes device drivers, support programs and a language for describing geometry and behavior.

[NTG - VR Center](#)

[VR Xplorer](#) - authoring system to create 360 degree views in MS Windows

[DIVE](#)- Distributed Interactive Virtual Environment.

[AVRIL](#) is a library of C routines for creating Virtual Worlds.

[rend386 \(PC\)](#)

[rend 386](#)

[Gossamer](#) (Mac).

[RenderWare](#) (PC, Mac, PPC)

[S.V.E. TOOLKIT.](#)

[VR CD-ROM](#)

[WorldToolKit](#)

[CyberWear](#) gloves etc.

[3D-MAX.](#) glasses.

[Stereographics](#) glasses.

[Virtual iO](#) glasses.

[Virtual Vision](#) glasses.

Arts

[VR On-Stage Project](#) - exploring the use of VR technologies in staging theatrical productions.

[Squirrel VR in VRML](#) - VRML developer in Australia showcases an ever-increasing number of VRML Worlds.

[University of Kansas - VR On-Stage Project](#) - exploring the use of VR technologies in staging theatrical productions.

[Rheingold, Howard](#) - author of VR, The Virtual Community, The Millennium Whole Earth Catalog.

[Madagascar](#) - A near- future novel I wrote about a posh virtual reality internet site.

[Metaphysics of VR](#)

[VR Eight](#) - Scientific spirituality, scientific religions, VR on a planetary scale.

Entertainment

[VR on Yahoo](#)

[Open VR Testbed Movie Samples](#)

[VR@](#)

[FZ Karlsruhe](#) - Realtime 3D-graphical simulation software KISMET.

Applications in robotics and medical simulations, VR and scientific visualization.

[VR resources - comic strips](#) - comic strips on topic of VR.

[NewType Gaming Magazine](#) - The competitive video game authority, get the latest video game reviews, explore the VR center and download tons of demo"s and sharewares.

[MusicWeb](#) - free play music archive. All sites are javafied with animation, music, and VR environments.

[Net-Tribes - Cyberculture on the Web...](#) - A growing list of cyberculture topics covering VR, cyberpunk, virtual communities, e-zines, and multimedia.

[alt.cyberpunk.chatsubo](#) - Literary VR in a cyberpunk hangout.

[TrekMUSE Web Gateway](#) - A text-based VR owing its existence to the far-reaching vision of Gene Rodenberry.

[Distributed VR](#) - applications for education, entertainment and industry. By Carl E Loeffler.

[Intelligent Information Filters and Enhanced Reality](#) - Essay on the future of augmented perception.

[Meta Virtual Environments](#)

[Metaphysics of VR](#)

[NASA/JSC - Virtual Environment Generator](#)

[NAVE - Navigating and Acting in Virtual Environments \(VR, spatial sound, CU Boulder \)](#)

[Powerglove PC Interface](#) - Homemade VR with the old Mattel Powerglove.

[Sci.virtual-worlds FTP Site](#)

[UIUC Navigation@](#) - a virtual walking tour through some of UIUC's Engineering buildings!

[Virtual City Network Project](#)

[Virtual Environment Generator \(VEG\)](#) - To be used in several human experiments on space flights.

[VR and Computer-Integrated Manufacturing Lab](#) - Washington State University School of Mechanical and Materials Engineering.

[VR at the GRAF](#)

[virtual Vegas](#)

[Virtual Worlds](#)

[Virtual Zone](#) - (in Italian).

[VROOM](#) - the VR Room.

[Usenet - sci.virtual-worlds.apps](#) - Current and future uses of virtual-worlds technology. (Moderated)

[VR and Education: Information Sources](#)

[Digital Campus](#) - A 3D virtual campus environment with outstanding graphics and information.

[Digital City](#) - interactive landscape where you can add links, landscape the virtual icon map, and more. All are welcome.

[Embryology of Virtual Spaces](#) - An exploration of the algorithmic evolution of the structures of virtual environments.

[Nowwwhere](#) - virtual world featuring 3D ray-traced graphics. Wander around, meet other netizens, and try to solve some puzzles. Features animation and sound clips.

[Old Town San Diego](#) - For anyone interested in 3D models or historical VR, download this Virtus Player model of the 1850 Wrightington adobe in Old Town San Diego(1.8 meg).

[Scott Virtual Theme Parks@
The Virtual Brewery Adventure
virtual \[Bolzano - Bozen\]](#)

[Virtual Art Gallery](#) - Take a tour of a virtual house.
[VR Expo at the CNE](#)

[Virtual Society](#) - building a wide area shared 3D virtual environment. This page overviews the project and the related work on CSCW.

[Virtual World](#) - the world's first digital theme park with locations around the world.

[Webdog's VR](#) - Own a Macintosh? Want to experience VR on the Internet? This site's for you!

[Archer Ace](#) - A VR Simulation of Bow Hunting and 3-D Tournament Archery for Windows 3.x and Windows '95.

[Virtual Bubblewrap](#)

[Red Planet \[Commissioner David Icke\]](#) - news and artwork by Virtual Geographic League member Commissioner.

[Clemson University](#) - Our project goal it to expand education with VR. This project is the first cross-college effort to develop VR systems for instructional use.

[GVU Center Virtual Environments Group](#)

[M.I.T. - Virtual Environment Technology for Training](#)

[NASA/JSC - VR Lab](#)

[University of Hull - Virtual Environments, Graphics and Applications](#) - Research group at the University of Hull, England.

[University of Kansas - VR On-Stage Project](#) - exploring the use of VR technologies in staging theatrical productions.

[University of Toronto - Augmented and VR Research](#) - developing Augmented Reality applications and conducts research on the Human Factors issues of stereoscopic, VR, and Augmented Reality displays.

People

An eclectic collection of personal and professional pages.

[Churchville, Baxter - VirtualBax](#) - Come visit a Hollywood cyberpunk living in Manhattan. Links to screenwriting, movies, VR and digital video.

[Crane, Darren](#) - The story of a VR Geek who is stuck in Clemson forever!

[Dixon, Bob - My VR](#) - My ever changing reality. Stop by check it out.

[Eio, Chris](#) - Programming, Architecture, MIDI, VR, Shareware, and links well thats my goal. Take a look see what you think?. Have fun!

[Ferrier, Adrian](#) - Want to see how VR really started at Georgia Tech? - See The Interactive Visualizer Project!

[Gonzalez Salinas, Juan- Antonio](#) - VR, virtual worlds, information super-links!!!

[Hankin, Robert - The World of RHCon!](#) - The World of RHCon! - VR - Robert Hankin. Consulting, Dial:(305)598-0836, EMail:RHANKIN@SHADOW.NET. Opening your world to the Internet!

[Krey, Neil - Flight Deck](#) - collection of papers, information and links on aviation training, human factors, simulation, VR, learning and teaching.

[Lacasse, Jean-François - Beatles' Odyssey](#) - A Beatles' and VR Page...brings you to another dimension VR, Music, Movies, FTP site and much more

[McDowell, Bob - CyberWarrior's Base](#) - Information and links on a wide range of topics: VR, Warriors, Hackers, Cyberpunks, Xena, Animi, Shareware, Freeware, VRML, and more.

[Panos, Gregory](#) - VR consultant.

[Pollack, Woody](#) - Buffett, Buffett, Buffett. Check out my links to many Buffett resources. I am Junior Computer Science major very interested in VR and Jimmy Buffett.

[Roehl, Bernie](#) - A quick overview of my interests: VR and Theatre.

[Rutledge, Shawn](#) - VR, alternative energy, alternative publishing, etc.

[Stanfield, Greg](#) - site focusing on VRML(VR Markup Language) with a few other things thrown in.

[Tyner, Tony](#) - This site is dedicated to supplying information for personal electronics, VR resources and computerized music.

[Van Hensbergen, Eric](#) - Information about me & my projects. Projects include everything from distributed VR to CSH's internet soda machine.

[Woon-Bor, Li - Bor Bor](#) - HKPU Computer Graphics and Multimedia Group, Pictures, Hong Kong Information and VR Links.

Recreation

[VR@](#)

[BayMOO](#) - for the exploration of the San Francisco Bay Area in text based VR.

[Final Frontiers II](#) - a low bandwidth VR (MOO) game.

[TechMOOseum, The](#) - The TechMOOseum is a text-based VR created by staff, volunteers, and visitors of The Tech Museum of Innovation in San

Jose, California.

[The Sprawl Home Page](#) - Interactive, Multi Media MOO! Playing on the concept of sprawl, all users here are given the ability to extend the environment in an unrestricted manner, creating a huge and sprawling VR.

[Virtual VR RPG](#) - If you're into VR or RPG's with multiple ways to play. Included is rules for playing vvr inside a palladium universe, and playing with yourself as a character.

[VW Battletech Page](#) - VR Battletech game in London, England.

[StarWars: VR Interactive Theater of War](#) - Survey for a proposal for an Interactive VR Gaming Center based on StarWars Flight Simulations.

[The Double-Breasted Fedoras](#) - a VR baseball team of Science Fiction authors, editors, and fans.

[Favorite Quotes by Eli Khamarov](#) - "Most people are awaiting VR; I'm awaiting virtuous reality," and other quotes by Eli Khamarov.

News Groups

[sci.virtual-worlds](#)

[sci.virtual-worlds.apps](#)

[alt.3d](#)

[comp.graphics.packages.3dstudio](#)

[sci.psychology](#)

[comp.human-factors](#)

[sci.cognitive](#)

[comp.ai](#)

[comp.graphics.animation](#)

[rec.arts.animation](#)

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[comp.graphics.research](#)

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[comp.simulation](#)

[comp.groupware](#)

[comp.graphics](#)

[comp.graphics.visualization](#)

[comp.graphics.raytracing](#)

[comp.graphics.rendering.raytracing](#)

[comp.multimedia](#)

[alt.hypertext](#)

[comp.robotics](#)

ftp Sites

[ftp] [sci.virtual-worlds ftp site home page](ftp://sci.virtual-worlds.com)
[ftp] [avalon.chinalake.navy.mil/pub](ftp://avalon.chinalake.navy.mil/pub)
[ftp] [ftp.apple.com/pub/VR](ftp://ftp.apple.com/pub/VR)
[ftp] [ftp.ipa.fhg.de/pub/VIRTUAL- REALITY](ftp://ftp.ipa.fhg.de/pub/VIRTUAL- REALITY)
[ftp] [ftp.u.washington.edu/public/VirtualReality](ftp://ftp.u.washington.edu/public/VirtualReality) and [virtual-worlds](ftp://virtual-worlds.com).
[ftp] [sci.virtual-worlds Meta-FAQ](ftp://sci.virtual-worlds.com)
[ftp] [ftp.u.washington.edu/public/virtual-worlds/Company_Information](ftp://ftp.u.washington.edu/public/virtual-worlds/Company_Information)
[ftp] [src.doc.ic.ac.uk/usenet/comp.archives/auto/comp.sys.isis](ftp://src.doc.ic.ac.uk/usenet/comp.archives/auto/comp.sys.isis)
[ftp] [src.doc.ic.ac.uk/usenet/comp.archives/auto/sci.virtual-worlds](ftp://src.doc.ic.ac.uk/usenet/comp.archives/auto/sci.virtual-worlds)
[ftp] [sunee.uwaterloo.ca/pub/vr](ftp://sunee.uwaterloo.ca/pub/vr)
[ftp] [sunsite.unc.edu/pub/academic/computer-science/virtual-reality](ftp://sunsite.unc.edu/pub/academic/computer-science/virtual-reality)
[ftp] [world.std.com/bcs/vr](ftp://world.std.com/bcs/vr)
[ftp] [Index of /Viz/VR/](ftp://Index_of_Viz/VR/)
[ftp] [sci.virtual-worlds FAQ](ftp://sci.virtual-worlds.com)
[ftp] [Virtual Reality Archive](ftp://VirtualRealityArchive.com)
[ftp] [Virtual Reality ftp Sites](ftp://VirtualRealitySites.com) (from Apple).
[ftp] [Virtual Reality ftp Sites](ftp://VirtualRealitySites.com) (from NCSA).
[ftp] [sunsite.unc.edu/pub/academic/computer-science/virtual-reality/papers](ftp://sunsite.unc.edu/pub/academic/computer-science/virtual-reality/papers)
[http] [sunsite VR Archive](http://sunsite.unc.edu/pub/academic/computer-science/virtual-reality/papers)
[ftp] [ftp.u.washington.edu/public/VirtualReality/HITL/HITLMosaic/](ftp://ftp.u.washington.edu/public/VirtualReality/HITL/HITLMosaic/)
[ftp] [ftp.u.washington.edu/public/VirtualReality/HITL/HITLMosaic/onthenet.html](ftp://ftp.u.washington.edu/public/VirtualReality/HITL/HITLMosaic/onthenet.html)
[ftp] [ftp.u.washington.edu/public/VirtualReality/HITL/HITLMosaic/edvr.html](ftp://ftp.u.washington.edu/public/VirtualReality/HITL/HITLMosaic/edvr.html)
[ftp] [ftp.u.washington.edu/public/VirtualReality/HITL/HITLMosaic/irvr.html](ftp://ftp.u.washington.edu/public/VirtualReality/HITL/HITLMosaic/irvr.html)
[ftp] [ftp.u.washington.edu/public/VirtualReality/HITL/HITLMosaic/vruv2n2.html](ftp://ftp.u.washington.edu/public/VirtualReality/HITL/HITLMosaic/vruv2n2.html)
[ftp] [ftp.u.washington.edu/public/VirtualReality/HITL/HITLMosaic/bibliogvr.html](ftp://ftp.u.washington.edu/public/VirtualReality/HITL/HITLMosaic/bibliogvr.html)
[ftp] [ftp.u.washington.edu/public/virtual-worlds/](ftp://ftp.u.washington.edu/public/virtual-worlds/)
[ftp] [ftp.u.washington.edu/public/virtual-worlds/papers/](ftp://ftp.u.washington.edu/public/virtual-worlds/papers/)
[ftp] [ftp.apple.com/pub/VR/](ftp://ftp.apple.com/pub/VR/)
[ftp] [ftp.apple.com/pub/VR/companies/](ftp://ftp.apple.com/pub/VR/companies/)
[ftp] [ftp.ipa.fhg.de/pub/VIRTUAL- REALITY/](ftp://ftp.ipa.fhg.de/pub/VIRTUAL- REALITY/)
[ftp] [sunee.uwaterloo.ca/pub/vr/](ftp://sunee.uwaterloo.ca/pub/vr/)
[ftp] [sunsite.unc.edu/pub/academic/computer-science/virtual-reality/](ftp://sunsite.unc.edu/pub/academic/computer-science/virtual-reality/)
[ftp] [media.mit.edu/pub/scivwa/](ftp://media.mit.edu/pub/scivwa/)

Miscellaneous

[Ian's VR Buying Guide](#). A nice set of VR products and tables.

[ERG Engineering Inc.](#). A cool collection of projects done by Eben Gay and his cohorts.

[Social Construction of Rape in VR](#)

[Internet and VR Cafe Mexico](#) - Featuring modern workstations with full Internet access, excellent dinning, VR, Internet courses, and Internet subscriptions.

[Virtual Cities Repository](#)- A fascinating collection of real cities in various 3D models.

[C.B.I and Associates](#) - see and understand your new home blueprints before you build. we convert your blueprints to VR 3D image views on VHS Tapes.

[PC VR 3D-Max World](#) - Info on 3D-MAX system and PC VR. System makes it possible to recreate 3D in detail and dramatic color stereo graphic.

[VRAIS'96](#) - IEEE VR Annual International Symposium March 30 - April 3, 1996, Santa Clara Marriott, San Francisco Bay Area Santa Clara, California USA.

[VR @ MULTIMEDIA 96](#) - Canada's Premier Conference and Trade Exhibit for the VR industry. May 22-25, 1996 Metro Toronto Convention Centre.

[Telemedicine - Reality & VR II Conference](#)

[Computer Aided Surgery](#) - Conference, research and companies involving, surgical simulation, robotics, navigation, 3D visualization, VR.

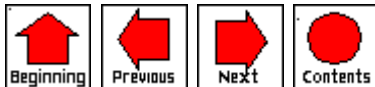
[Soprano Connections](#) - Thousands of smart links including VR.

[VR Artificial Intelligence Neural Net](#)

[Cuba VR](#) - VR scenes of old Havana and Vedado along the Malecon.

[Culture Telematic Association ArsNova Infonautica](#) - www of music, novels and VR.

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BIOGRAPHY



J. Fred Henderson

J. FRED HENDERSON, Ed.D., is the managing editor of the IJVR. In addition to overseeing the day-to-day operations of the IJVR, he is in charge of the business operations including advertising and subscriptions. Dr. Henderson has recently completed two novels and is writing a third. Prior to breaking into the publishing business, he earned an honest living as a public school administrator, both at the school and central office levels.

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