

Information Resources in Virtual Reality
(IRVR)

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• **Introduction**

This guide is an introduction to the literature of Virtual Reality. As a starting point for research, **IRVR** lists texts, articles, and electronic sources. **IRVR** is *not* an evaluative guide, instead **IRVR** endeavors to present current and comprehensive listings of both popular and technical materials available. **IRVR** is updated regularly and also available via anonymous ftp: ftp.u.washington.edu (140.142.56.2) Directory: . /public/VirtualReality/HITL/papers/tech-reports Filename: irvr.txt. *Additions and corrections are welcome.*

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Multi-Index to Cyberspace, Virtual and Artificial Reality. A quarterly index covering the non-fictional literature of virtual reality. The index is divided into five parts: entries, subject, key word, product and company indexes. Contact: Carande Press, P.O. Box 453, Pine Valley, CA, 91962-0453. Tel: 619-473-0164/E-mail: carande@ucselx.sdsu.ed

McLellan, Hilary. (1992). *Virtual Reality: A Selected Bibliography*. Englewood Cliffs, NJ: Educational Technology Publications, Inc.

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Computer Graphics Forum: Journal of the European Association for Computer Graphics. Amsterdam : North Holland. ISSN 0167-7055.

Communications of the ACM. Published monthly by the Association of Computing Machinery. ISSN 0001-0782.

Displays: Technology and Applications. Butterworth Heinemann, Oxford, UK. ISSN 0141-9382.

Human Factors. Journal of the Human Factors and Ergonomics Society. ISSN 0018-7208.

IEEE Computer Graphics and Applications. Los Alamitos, CA: IEEE Computer Society. ISSN 0272-1716.

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IEEE Spectrum Magazine. Published month by The Institute of Electrical and Electronic Engineers. ISSN 0018-9235.

Image and Vision Computing. Butterworth Heinemann, Oxford, UK. ISSN 0262-8856.

Journal of the Audio Engineering Society: Audio/Acoustics/Applications. Audio Engineering Society (AES), New York, NY. ISSN 0004-7554

Journal of Visualization and Computer Animation. Published quarterly by John Wiley & Sons Inc., 605 Third Avenue, New York, NY 10158, USA. ISSN 1049-8907.

Optical Engineering. Published monthly by the Society of Photo-optical Instrumentation Engineers (Bellingham, WA: SPIE). ISSN 0091-3286.

Presence: Teleoperators and Virtual Environments. Published quarterly by the MIT Press, Cambridge, MA 02142. ISSN 1054-7460. Subscription requests should be addressed MIT Press Journals 55 Hayward Street Cambridge, Massachusetts 02142-1399 (617) 253-2889 (617) 258-6779 (fax) E-mail: journals-orders@mit.edu

Simulation. Published monthly by Simulation Councils, Inc. Editorial and Circulation: Society for Computer Simulation (SCS) P.O. Box 17900, San Diego, California 92177. Tel:619-277-3888. ISSN 0037-5497.

Visual Computer: International Journal of Computer Graphics. Official journal of the Computer Graphics Society. Published by Springer International, Berlin. ISSN 0178-2789.

• Newsletters and Magazines

Aerospace America. Published monthly by the American Institute of Aeronautics and Astronautics, 370 L'Enfant Promenade, SW, Washington., D.C. 20024. Tel: 202-646-74710. ISSN 0740-722X.

Cadence: The World's Largest Independent AutoCAD Magazine. Published monthly by Miller Freeman, 600 Harrison St., San Francisco, CA, 94107. ISSN 0887-9141

Computer Graphics World. Published monthly by PennWell Publishing Company. Subscription inquiries: 918-835-3161. ISSN 0271-4159.

Good practical articles on computer graphics, visualization and virtual reality:
Computer Graphics World - Three part series (available from CGW as a Special Report "Virtual Reality"):

1. Emmett, A. (1992, March). Down to Earth: Commercial Applications of Virtual Reality. *Special Report: Virtual Reality. Computer Graphics World.* 15 (3), pp. 43-48.
2. Brill, L. M. (1992, April). Facing Interface Issues. *Special Report: Virtual Reality. Computer Graphics World.* 15 (4), pp. 48-55.
3. Cook, R. (1992, May). Serious Entertainment. *Special Report: Virtual Reality. Computer Graphics World.* 15 (5), pp. 40-48.

CSERIAC Gateway. Published by the Crew System Ergonomics Information Analysis Center, Wright Patterson Air Force Base, Ohio, 45433-6573, Internet: CSERIAC@FALCON.AAMRL.WPAFB.AF.MIL, Tel: 513-255-4842.

CyberEdge Journal: The World's Leading Newsletter of Virtual Reality. Published six times yearly. Ben Delaney, editor. The Delaney Companies, #1 Gate Six Road, Suite G, Sausalito, CA, 94965.

CyberEdge Journal Special Editions. Published quarterly by The Delaney Companies, #1 Gate Six Road, Suite G, Sausalito, CA 94965.:
Medicine & Biotech-Walter Greenleaf, Editor.
Business & Finance-Kenny Meyer, Editor
Entertainment-Mark Long, Joanna Alexander, Editors
Military & Aerospace-Francis Hamit, Editor

Emerging Media Report: The Newsletter of VR, TV, CD, & BPC and Entertainment Marketing. Emerging Media Report, Subscription Dept., 250 Mercer Street, #B1303, New York, NY, 10012. Tel: 212 388-0842

Insight: The Visual Performance Technical Group Newsletter. Visual Performance Technical Group, Human Factors Society.

Interactive Update. Published bimonthly by Alexander & Associates. Alexander & Assoc. is a market research business planning firm specializing in entertainment. Contact Alexander & Assoc., 38 E. 29th St., 10th Fl., New York, NY, 10016. Tel: 212-684-2333, Fax: 212-684-0291.

IRIS Universe: The Magazine of Visual Computing. Published quarterly by Silicon Graphics, Inc., 2011 North Shoreline Boulevard, Mail Stop 415, Mountain View, CA 94039-7311. Subscriptions are available to qualified users. ISSN 1061-6608.

Modern Media. (was *Virtual Reality News*). News on people, corporations, products and applications. 6 issues/year, price: \$69. Published by Magellan Marketing, Inc., 32969 Hamilton Ct., Suite 215, Farmington Hills, MI 48334. Tel: 810-488-0330/Fax: 810-488-0337. E-mail: larryv@msen.com. ISSN 1070-8219.

OE Reports. Rich Donnelly, managing editor. Published monthly by SPIE - International Society for Optical Engineering, news and commentary for the international optoelectronics industry. ISSN 1048-6879.

PCVR: Virtual Reality and the IBM Personal Computer. Bi-monthly. Price: 6/yr, \$29, includes disk. PCVR, PO Box 475, Stoughton, WI 53589, Tel/Fax: 608-877-0909. E-mail: PCVR@FULLFEED.COM.

Note: Table of Contents for PCVR is published on the listserv REND386.

PIX-elation. Bi-monthly publication of VRASP (Virtual Reality Alliance of Students and Professionals. Contact: VRASP PO Box 4139, Highland Park, NJ 08904-4139.

Pixel Vision. Subscription information: Pixel Vision, Box 1138, Madison Square Station, New York, NY 10159.

(This magazine was new in 1992. It is published in French and English. It has basic articles on VR, occasionally a special (detachable) insert on VR. For example: de Schryver, Jacques. (1992). "Virtual Reality: The Electric Apprentice". *Pixel Vision*. (7), pp. 9-12.)

Realta' Virtuale. [Italian]. Diego Montefusco, editor. Via Rombon 11, 20134 Milano, Italy. 6 issues/year. Tel: +39 02-26412898/Fax: +39 02-26413279. E-mail: montefus@ghost.dsi.unimi.it.

Real Time Graphics. 10 /yr. CGSD Corporation, 2483 Old Middlefield Way #140, Mt. View, CA 94043-2330; Tel: 415-903-4924/Fax: 415-967-5252; E-mail: roywlatham@cup.portal.com.

Technologies Tomorrow. F.A. Bick (Ed.). November, 1993 - Special Issue on Virtual Reality. Technologies Tomorrow, P.O. Box 21897, Albuquerque, NM 87154-1897. Tel: 515-237-1070/Fax: 515-237-1070/E-mail: F.BICK@genie.geis.com.

Virtual: Mensile di Realita Virtuale e Immagini di Sintesi. [Italian] Contact: Edizioni Wilson srl, via Ravizza 53/A, 20149 Milano, Italy. Tel: 02/48010171 - 4987826. Fax" - 24092-09, email: virtual@relay1.iunet.it.

Virtual Reality Review. Published quarterly by Meckler Publishing as a supplement to *MultiMedia Review*. ISSN 1060-9547.

Virtual Reality Report: The International Newsletter of VR. Sandra Helsel, editor. Published ten times per year. Meckler Publishing, Westport, CT. Tel: 1-800-635-5537/E-mail: meckler@jvnc.net.

Virtual Reality Special Report. Published quarter by Miller Freeman Inc., 600 Harrison St., San Francisco, CA 94107, tel: 415-905-2200. ISSN 1074-1038.

Virtual Reality Systems. Rory Stuart, editor-in-chief. Published quarterly. SIG-ADVANCED APPLICATIONS, INC. 1562 First Avenue, Suite 286, New York NY 10028; Tel: 212-717-1318/Fax: 212-861-0588. Stan Goldstein, publisher.

Virtual Reality Update. Toni Emerson, editor. [Online]. This is an electronic publication published quarterly on the Usenet newsgroup sci.virtual-worlds. VRU contains new articles, conference papers and electronic sources that will be added to the comprehensive bibliography, *Virtual Interface Technology: Selected Citations to the Literature*, HITL Technical Report B-93-2.txt. Also available via anonymous ftp: ftp.u.washington.edu Directory: ./public/Papers/General Filename: vru*.txt.

Virtual Reality World. Meckler Publishing, 11 Ferry Lane West, Westport, CT 06880-9760. ISSN 1060-9547. Internet: meckler@jvnc.net; CompuServe 70373,616; AppleLink: Meckler.

Virtuoso. Mike Bevan, editor. Bi-monthly newsletter. UK & Ireland subscriptions: Cydata Limited, PO Box 2515, London N4 4JW, England. Tel: +44(0)81-292-1498/Fax: +44(0)81-292-1346. USA subscriptions: Spectrum Dynamics Inc. 2 Greenway Plaza Suite 640, Houston, TX 77046. Tel: 713-520-5020/713-871-1176.

VR News - The Virtual Realty Newsletter. Mike Bevan, editor. Published ten times per year. Cydata Limited, PO Box 2515, London N4 4JW, England; Tel & Fax: (44) 81-292-1498.

VR Monitor: The Journal of Virtual Reality. Frank Dunn, editor. Published bi-monthly. Matrix Information Services, 18560 Bungalow Drive, Lathrup Village, MI. E-mail: matrix@well.sf.ca.us

Wired. ISSN 1059-1028. 544 Second Street, San Francisco, CA 94107, Tel: 415-904-0660/Fax: 415-904-0669 [On-line]. Usenet group: alt.wired; WELL Conference: type "g wired"; MindVox: Cyberspace Area, Wired Forum; America On-line: News and Finance, Internet Center areas and Wired Infobot: send e-mail to infobot @wired.com, "get index". World Wide Web Home Page: URL=http://www.ncb.gov.sg/wired/WoWWW.html.

• Conferences

4CYBERCONF. May 20-22, 1994. Contact 4CYBERCONF, The Fourth International Conference on Cyberspace, Media Arts. The Banff Centre for the Arts, Box 1020P8, Banff, Alberta, T0L 0C0, Canada. Tel: 403-762-6652/Fax: 403-762-6665. E-mail: 4cyber@acs.ucalgary.ca.

6th Annual Virtual Reality Conference. June 6-7, 1994, Washington, DC.. Sponsored by the Education Foundation of the Data Processing Management Association. Contact EFDPMAConferences, Dana Marcus, Technology Training Corp., 3420

Kashiwa St., Suite 2000, Torrance, CA 90505-4025. Tel: 310-534-3922/Fax:310-534-0743.

Artificial Intelligence, Simulation, and Planning in High Autonomy Systems. The 1993 conference was sponsored by the University of Arizona and Rand Corporation. It was held September 20-22, 1993 in Tucson, AZ. Conference theme: *Integrating Virtual Reality and Model-Based Environments.* Contact: Kelly Sutton, Engineering Professional Development, University of Arizona, Box 9, Harvill Building, Room 235, Second and Olive Streets, Tucson, AZ 85721. Tel: 602-621-3054/Fax: 602-621-1443. The 1993 Conference proceedings cost \$45. The 1994 Conference will be held at the University of Florida. Contact person: Paul Fishwich, University of Florida, Computer Science, E322-CSE Building, Gainesville, FL, 32611.

Advanced Visual Interfaces: an International Workshop (VI '94). June 1-4, 1994; Bari, Italy. Contact: S. Levialdi, Universita' di Roma "La Sapienza", Dipartimento di Scienze dell'Informazione, Via Salaria 113, 00198 Roma, Italy. Tel: +39-6-8841962/Fax: +39-6-8841946/E-mail: levialdi@astrom.astro.it.

Applications of Virtual Reality. June 7-9, 1994; London, UK. Contact: H. Jones. E-mail: huwl@cluster.mdx.ac.uk. This conference is a continuation of the June 1992 meeting which formed the basis of the book: Earnshaw, R., Gigante, M., and Jones, H. (Eds.). *Virtual Reality Systems.* Academic Press.

Augmented Reality--Technology and Applications. Part of Conference: Telemanipulator and Telepresence Technologies Chair: Hari Das, Jet Propulsion Laboratory. October 31- November 4, 1994; Boston, MA, USA. To be held at SPIE's PHOTONICS EAST: An International Symposium and Exposition on Applying Photonics Technology in Industrial and Commercial Systems. Session organized by the IEEE NNC Virtual Reality Technology Committee, organizers of the VRAIS series of VR conferences.

Color Imaging Conference. November 13-17, 1994; Phoenix, AZ. Contact: Andras I. Lakatos, Xerox Corp., 800 Philips Rd., MS 0147-57A, Webster, NY 14580. Tel: 716-422-2170/Fax: 716-422-8548.

Computer Animation '94. May 25-27, 1994; Geneva, Switzerland. Organized by the University of Geneva, The Swiss Federal Institute of Technology and The Computer Graphics Society (CGS).

Computer Graphics International, (CGI). June 27-July 1, 1994; Melbourne, Australia. Annual conference of Computer Graphics Society, published in *The Visual Computer: International Journal of Computer Graphics.* Contact: CGI 94 Secretariat, RMIT Advanced Computer Graphics Centre, Royal Melbourne Institute of Technology, GPO Box 2476V, Melbourne, Victoria, 3001, Australia. Tel: 61-3-282-2462/Fax: 61-3-282-2490/Email: cgi94@godzilla.cgl.rmit.oz.au.

Computer-Human Interface Society Annual Conference. CHI '94: April 24-28, 1994; Boston, MA, USA. Contact: CHI '94, 703 Giddings Avenue, Suite U-3, Annapolis, MD 21401. Tel: 401-269-6801/Fax: 410-267-0332/E-mail: chi94-office.chi@xerox.com. *CHI '95:* May 6-12, 1995; Denver, CO. Contact: Terry Roberts, US West Advanced Technologies, 4001 Discovery Drive, Suite 280, Boulder, CO 80303; E-mail: Terry_Roberts.chi@xerox.com, or Scott Robertson, IBM T. J. Watson Research Center, PO Box 704, Yorktown Heights, NY 10598.

Workshop on the Challenges of 3D Interaction, CHI '94. April 24-25, 1994. Challenges of 3D interaction and 3D user interfaces, including design considerations, implementation and evaluation; tools for designing and building 3D interfaces.

Distributed Interactive Simulation Workshop. March 14-18, 1994. Contact: Center for Continuing Education, University of Central Florida, PO Box 160950, Orlando, FL 32816. Tel: 407-823-6100/Fax: 407-823-6113.

Distributed Virtual Reality. June 6-7, 1994; Washington, DC. Contact: EFDPMAConferences, Dept. DVRC, PO Box 3608, 3420 Kashiwa St., Torrance, CA 90510-3608. Tel: 310-534-3922/Fax: 310-534-0743. Contact: Dana Marcus.

East-West International Conference on Multimedia, Hypermedia, and Virtual Reality (MHVR '94). September 14-16, 1994; Moscow, Russia. Contact: Dr. Peter Brusilovsky, Fax: +7 095 943 0089/E-mail: plb@icsti.msk.su.

East-West International Conference on Human-Computer Interaction (EWHCI '95). July 4-8, 1995; Moscow, Russia. Sponsored by SIGCHI. Contact: Allen Cypher, Apple Computer MS 301-3D, One Infinite Loop, Cupertino, CA 95014 USA, or Juri Gornostaev, ICSTI, 21-B Kuusin-en Str., Moscow, 125252, Russia/E-mail: ew-info.chi@xerox.com.

ERCIM Workshops: Distributed Virtual Environments Workshop, Personnel Computing and Communications Environments Workshop and High- Performance Communications Workshop. June 1-3, 1994; Stockholm-Kista, Electrum, Sweden. Contact: Bjorn Pehrson. E-mail: bjorn@it.kth.se.

"Audio and video will be broadcast over the Internet Mbone worldwide. These sessions will be announced via 'sd' over Mbone. Information on how to prepare for this can be obtained by picking up the file: isi.edu:pub/mbone/faq.txt."

Electronic Conference on Constructive Training Simulation (ElecSim '94). April 11-May 26, 1994, to be held on the Internet. Sponsored by the Society for Computer Simulation, Military Applications Section, Operations Research Society of America, and the International Journal in Computer Simulation. Registration: send e-mail to listserv@mystech.com containing the message "subscribe elecsim". Information: send e-mail to listserv@mystech.com containing the message "info elecsim".

EuroDisplay : The International Display Research Conference. Last held: September 1-3, 1993; Strasbourg, France, Palais de l'Europe. Contact: Jean Glasser,

CNET Lab, Dept. COD, BP40, 22301 Lannion, France; Tel: 33-96-05-22-17/Fax: 33-96-05-34-27/E-mail: glasser@lannion.cnet.fr.

Eurographics, Annual Conference. Eurographics (EG) is the European Association for Computer Graphics. (The first *Eurographics Workshop on Virtual Reality* was held in 1993). The conference proceedings is published in *Computer Graphics Forum: Journal of the European Association for Computer Graphics*. Amsterdam : North Holland. ISSN 0167-7055

Eurographics UK Conference. March 22-24, 1994; St. Hugh's College, Oxford, UK. Contact Dr. Rob Fletcher, EG UK 93, Computing Service, University of York, Heslington, York YO1 5DD, UK. Tel: +44-0-904-433898/Fax: +44-0-904-433740/E-mail: conference@uk.co.uk.

Eurographics Workshop: Design, Specification, and Verification of Interactive Systems. June 9-11, 1994; Carrara, Italy. Contact: Dott. Fabio Paterno, CNUCE-C.N.R., Via S. Maria 36, 56126 Pisa, Italy. Fax: +39-50-589345/E-mail: paterno@vm.cnuce.cnr.it.

Eurographics Workshop on Rendering. June 13-15, 1994; Darmstadt, Germany. Contact: Stefan Haas, Fraunhofer-IGD, Wilhelminenstr. 7, 64283 Darmstadt, Germany. Tel: ++49/6151/155-133, Fax: ++49/6151/155-199, E-mail: haas@igd.fhg.de.

Eurographics Workshop on Visualization in Scientific Computing. May 30-June 1, 1994; Rostock, Germany. Contact: Dr. B. Urban. E-mail: urban@egd.igd.fhg.de.

European Meeting on Cybernetics and Systems Research. April 5-8, 1994; Vienna, Austria. Contact: Austrian Society for Cybernetic Studies, A-1010 Vienna 1, Schottengasse 3, Austria. Tel: +43-1-53532810/Fax: +43-1-5320652/E-mail: sec@ai.univie.ac.at.

European Simulation Multiconference, ESM. Contact: European Simulation Office, University of Ghent, Coupure Links 653, B-9000, Ghent, Belgium. Tel/Fax: 32/91/23.49.41, E-mail: scsi@fland.rug.ac.be.

European Simulation Symposium. October 9-12, 1994; Istanbul, Turkey. Contact: Philippe Geril, The Society for Computer Simulation, European Simulation Office, University of Ghent, Coupure Links 653, B-9000 Ghent, Belgium. Tel: 32.9.233.77.90/Fax: 32.9.223.49.41/Email: Philippe, Geril@rug.ac.be.

Feature Modelling and Recognition in Advanced CAD/CAM Systems (LAMIH, IFIP, and CNRS). May 24-26, 1994; Valenciennes, France. Contact: Dominique Deneux. E-mail: deneux@univ-valenciennes.fr.

HCI '94. People and Computers. August 23-26, 1994; University of Glasgow, Glasgow, UK. Contact e-mail: HCI94@dcs.glasgow.ac.uk.

Helmet-Mounted, Head-Mounted, Head-Up and Cockpit Displays. Part of SPIE International Symposium on Optical Engineering in Aerospace Sensing. April 4-8, 1994; Marriott's Orlando World Center Resort and Convention Center, Orlando, Florida, USA. The complete text of the printed advance technical program for Aerospace Sensing is available via anonymous FTP : mom.spie.org Directory: meetings/programs Filenames: aero_sense_optics.txt, aero_sense_conferences.txt, aero_sense_courses.txt, aero_sense_general.txt. It is also available through SPIE's automated e-mail server. Send an e-mail message to: info-optolink-request@mom.spie.org, with the following text in the message body:" send [optolink.meetings.programs]FILENAME.txt". Contact SPIE P.O. Box 10, Bellingham, WA 98227-0010 USA, Tel: 206-676-3290 (Pacific Time)/Fax: 206-647-1445/E-mail: spie@mom.spie.org/Anonymous FTP: mom.spie.org.

Helmet Mounted Displays and Night Vision Goggles. (1991). Papers presented at the Aerospace Medical Panel Symposium held in Pensacola, Florida, United States, May 2, 1991. Neuilly sur Seine, France: Advisory Group for Aerospace Research & Development.

Human Factors and Ergonomics Society - Annual Meeting. October 24-28, 1994; Nashville, Tennessee. Contact HFES central office, PO Box 1369, Santa Monica, CA 90406-1369. Tel: 310-794-1811/Fax: 310-394-2410/Email: 72133.1474@CompuServe.com.

Human Factors in Computing Systems. Association for Computing Machinery's Special Interest Group on Computer Human Interaction (SIGCHI). ACM, New York. Contact INTERCHI, PO Box 1279, 1355 Redwood Way, Pacifica, CA 94044. Telephone: 415-738-1200/Fax: 415-738-1280. E-mail: ic93-office-na.chi@xerox.com.

ICAT-VET. Conference on Intelligent Computer-Aided Training and Virtual Environment Technology. Next conference scheduled for February, 1995. Contact: Dr. Bowen Loftin, NASA/Johnson Space Center, Houston, TX 77058. E-mail bowen@gothamcity.jsc.nasa.gov.

ICAD '94: International Conference on Auditory Display. November 7-9, 1994; Santa Fe, NM, USA. Contact: Gregory Kramer, Clarity, Nelson Lane, Garrison, NY, USA, 10524; Tel: (914)-424-4071; Fax: (914)-424-3467.

IEE (Institution of Electrical Engineers) Colloquia, order through IEEE Service Center, INSPEC/IEE Dept., 445 Hoes Lane, PO Box 1331, Piscataway, NJ 08855-1331. Tel: 908-562-5533/Fax: 908-981-0027:

IEE Colloquium on 'Distributed Virtual Reality' - Digest Number 121.

IEE Colloquium on "Using Virtual Worlds" - Digest Number 093

IEE Colloquium on 'Real World Visualization - Virtual World - Virtual Reality - Digest Number 197

IEEE Colloquium on 'Computer Graphics Systems' - Digest Number 010.

IEEE Symposium on Research Frontiers in Virtual Reality. Sponsored by: IEEE Computer Society Technical Committee on Computer Graphics and in cooperation with ACM SIGGRAPH. Held as part of IEEE Visualization '93.

IFIP Congress '94. 13th World Computer Congress, International Federation for Information Processing, August 28-September 2, 1994; Hamburg, Germany. Phase 2 - Assessment of Key issues, Link 2: Technology Impacts, Issue 3: When Virtual Reality Becomes Real. Contact: IFIP '94 Conference Secretariat: Congress Centrum Hamburg, Congress Organization, PO Box 30 24 80, D-20308 Hamburg, Germany. Tel: 49 40 35 69-22 42/Fax: 49 40 35 69-23 43.

Imagina '94. Forum on Computer Graphics, VR, and SFX. Held February 16-18, 1994; in Centre de Congres et Auditor, Monte Carlo, France. Sponsored by ACM, SIGGRAPH and NICOGRAPH. Contact: Yves Louchez, INA 4, avenue de l' Europe 94360 Bry sur Marne, France. Tel: +33 1 49 83 26 95.

IMAGE Society 1994 Conference and Exhibition. June 12-17, 1994; Tuscon, Arizona. To obtain more information and/or register contact: Eric Monroe, IMAGE Society, Inc., 1308 Greentree Drive, Tempe, AZ 85284-4503. Fax: 602-839-8709/Email: Image@acvax.inre.asu.edu.

Informatique Montpellier '94. Last held Feb. 7-11, 1994; Le Corum, France. Contact: EC2, 269 rue de la Garenne, 92024 Nanterre Cedex, France. Tel: +33-1-47-80-70-00/Fax: +33-1-47-80-66-29.

Intelligent Robots & Systems (IROS '94). September 12-16, 1994; Munich, Germany. Contact: IROS '94 Secretariat, c/o UniBw Muchen, 85577 Neubiberg Germany. Fax: 49 89 6004 3074.

Interactive CG in Aerospace. Jan. 10-13, 1994; Reno, NV. Interactive CG sessions are held at the American Institute for Aerospace and Astronautics (AIAA) meeting. Contact Ileana Costea, School of Engineering and Computer Science, California State University, Northridge, CA 91330. Tel: 818-885-3797/Fax: 818-885-2140/E-mail: icostea@ms.sesc.csun.edu.

International Conference on Artificial Reality and Tele-Existence (ICAT). July 14-15, 1994; Nikkei Hall, Tokyo, Japan. All requests for information, submitted papers and mail should be addressed to : Secretariat of ICAT '94, c/o Japan Technology Transfer Association, Hoshigaoka bldg. 6F, 2-11-2 Nagata-cho Chiyoda-ku, Tokyo 100 JAPAN . Tel. +81 3 3597 8200/FAX +81 3 3597 8224/Email: icat@atr-sw.atr.co.jp

International Conference on Automation, Robotics, and Computer Vision, ICARCV 94. November 11, 1994; Singapore. Contact: N. Sundararajan, ICARCV 94 Conference

Secretariat, Institution of Engineers, Singapore, 70 Bukit Tinggi Rd., Singapore 1128, Republic of Singapore.

International Display Research Conference and Display Materials Workshop (IDRC '94). October 10-13, 1994; Hyatt Regency Hotel, Monterey, CA. Contact: Palisades Institute for Research, Attn: IRDC '94, 201 Varick St. New York, NY 10014. Fax: 212 620-3379.

S&T/SPIE Symposium on Electronic Imaging Science & Technology. Last held February 6-10, 1994. The IS&T/SPIE 1995 Symposium on Electronic Imaging Science & Technology will be held February 5-10, 1995; San Jose, CA. Contact IS&T, 7003 Kilworth Lane, Springfield, VA 22151. Tel: 703-642-9090/Fax: 703-642-9094.

Meckler's Annual Virtual Reality Conferences. Sponsored by Meckler's Virtual Reality Report Newsletter and Virtual Reality World Magazine. Meckler Publishing, Westport, CT.

Medical Imaging. February 13-18, 1994, Newport Beach, CA. Contact: SPIE, PO Box 10, Bellingham, WA 98227-0010. Tel: 206-676-3290/Fax: 206-647-1445.

Medicine Meets Virtual Reality: Discovering Applications for 3-D Multi-Media Technology in the Health Sciences. Sponsored by: Office of Continuing Medical Education, University of California, San Diego and The Plastic Surgery Research Foundation. Copies may be obtained from: Aligned Management Association, P.O. Box 23220, San Diego, CA 92193. Tel: 619-541-1444.

NAECON '94: National Aerospace and Electronics Conference. May 23-27, 1994; Dayton, OH, USA. Contact: NAECON '94, P.O. Box 31341, Dayton, OH, 45431-0341; or Thomas J. Gaudian Tel: (513)-427-4267; Fax: (513)-427-4675.

New Intelligence in Multimedia, Broadcasting, Licensing, Leisure & Entertainment (NIMBLE 1994). June 20-22, 1994; New York, NY, USA. Contact for registration and information: (212)-388-0842.

NICOGRAPH Conference. Annual Japanese Computer Graphics Conference. Contact: Nippon Computer Graphics Association, Ogawa Building, 4fl., 1-2-2 Uchikanda, Chiyoda-ku, Tokyo 101, Japan. Tel: 81-33-233-3475/Fax: 81-33233-3450.

Prix Ars Electronica. June 21-25, 1994; Linz, Austria. Contact: Peter Schoeber, ORF Landesstudio Oberosterreich, Europaplatz 3, A-4010, Linz, Austria. Tel: +43-732-6900-267/Fax: +43-732-6900-270/E-mail: schoeber@jk.uni-linz.ac.at.

RO-MAN. IEEE International Workshop on Robot and Human Communication. Co-Sponsored by IEEE Industrial Electronics Society, The Robotics Society of Japan, The Japan Society of Mechanical Engineers, and the Institute of Electronics, Information and Communication Engineers. July 18-20, 1994; Nagoya University, Nagoya, Japan. Contact: Nagoya Univ., Mechano-Informatic/Sys. Furu-cho, Chikusa-ku, Nagoya 464-01

Japan. Tel: 81 52 781 5111, Ext 4478/Fax: 81 52 781 9243/E-mail
d43131a@nucc.cc.nagoya-u.ac.jp.

Sarnoff Research Center VR Workshops. June, 1992 - HMD Workshop; June, 1993 - Next Generation Virtual Reality Research Workshop. Contact: David Sarnoff Research Center, CN5300, Princeton, NJ 08543-5300.

SMC '94, 1994 Conference on Military, Government and Aerospace Simulation. April 11-15, 1994; La Jolla, CA. Sponsored by the Society for Computer Simulation. Contact: Military, Government and Aerospace Simulation, c/o SMC '94, PO Box 17900; San Diego, CA 92177. Tel: 619-277-3888/Fax: 619-277-3939.

Society for Information Display International Symposium (SID '94). June 12-17, 1994; San Jose, CA. Contact: Jay Morreale, Conference Coordinator, Palisades Institute for Research Services, 201 Varick ST., New York, NY, 10014. Tel: 212-620-3371/Fax: 212-620-3379.

SIGGRAPH '94. July 24-29, 1994; Orlando, FL. Contact: SIGGRAPH '94 Conference Management, Smith, Bucklin & Associates, 401 N. Michigan Ave., Chicago, IL 60611. Tel: 312-321-6830/Fax: 312-321-6876/E-mail: siggraph94@siggraph.org. Association for Computing Machinery's Special Interest Group on Computer Graphics (SIGGRAPH). Published in *Computer Graphics*. ACM SIGGRAPH, New York. *The SIGGRAPH Course Notes are also a good source of information and references.*

SIGGRAPH '95. August 6-11, 1995; Los Angeles Convention Center, Los Angeles, CA. Contact: Smith, Bucklin & Associates, Siggraph Conference Management, 401 N. Michigan Ave., Chicago, IL 60611. Tel: 312-644-6610/Fax: 312-321-6876/E-mail: cmsba@siggraph.org.

Simulated & Virtual Realities. Covers the effective design of environments in VR applications. Contact Dr. Karen Carr, Sowerby Research Center, FPC 276, British Aerospace Plc, P.O. Box 5, Filton, Bristol BS12 7W UK. Fax: +44-0-272-36-3733.

SPIE Conferences. There are many relevant conference proceedings, some are listed individually in this conference section. For a full listing see Imaging Technologies: SPIE Catalog of New and Recent Publications. SPIE--Society of Photo-Optical Instrumentation Engineers, PO Box 10, Bellingham, WA 98227-0010 USA. SPIE has information available on the Internet-- OPTOLINK Electronic Networking Service contains an electronic employment service, on-line purchase of SPIE publications or conference registration, working group communications, member/publications database searches and calendar of future events. Telnet to optolink.spie.org, type "link" at the prompt.

Stereoscopic Displays and Applications. Last held February 8-9, 1994, San Jose, CA: *Stereoscopic Displays and Applications V*, SPIE Volume 2177A. Contact: SPIE--

Society of Photo-Optical Instrumentation Engineers, PO Box 10, Bellingham, WA 98227-0010 USA.

Symposium on Interactive 3D Graphics. (1992 : Cambridge, MA). Editors: Marc Levoy, Edwin E. Catmull, and David Zeltzer. New York, NY: Association for Computing Machinery.

Symposium on Electronic Imaging Science and Technology: The Engineering Reality of Virtual Reality. Last held February 6-10, 1994. Contact: IS&T/SPIE EI '94, SPIE, PO Box 10, Bellingham, WA, USA 98227-0010; Tel: 206-676-3290.

Symposium on the Interface: Computing Science and Statistics, Interface '94. June 15-18, 1994; Research Triangle Park, NC. Contact: Interface '94, SAS Campus Drive, Cary, NC 17513. Tel: 919-677-4499.

Telemanipulator and Telepresence Technologies. 31 October - 4 November 1994, Hynes Convention Center, Boston, Massachusetts USA. Chair: Hari Das, Jet Propulsion Lab. Part of SPIE's International Symposium on Photonic Sensors & Controls for Commercial Applications. Contact: SPIE, PO Box 10, Bellingham, WA 98227-0010 USA: tel: 206-676-3290. OPTOLINK: FTP and telnet mom.spie.org; dialup 206-733-2998/email: spie@mom.spie.org.

Tomorrow's Organization '94. May 10-11, 1994; Cumberland Hotel, London. Contact: Peter Lloyd, Tel: +44-(0)81-449-3656/Fax: +44-(0)81-441-4316/ E-mail: plpr@cix.compulink.co.uk or 100116.3104@CompuServe.

User Interface Software & Technology Symposium, Proceedings of the ACM Symposium on User Interface Software and Technology (UIST). New York, NY: ACM. Last Conference held in November, 1993; Atlanta, GA.

Virtual Prototyping: Applying Virtual Reality and Simulation to System Design and Development. May 12-13, 1994 - Washington, DC. Sponsored by the Technical Marketing Society of America. Contact: TMSA Conferences, Dept. VPT, PO Box 3608 (3420 Kashiwa St.) Torrance, CA 90510-3608. Tel: 310-534-3922/Fax: 310-534-0743.

Virtual Reality and Persons With Disabilities. June 9-10, 1994; San Francisco, CA. Sponsored by California State University, Northridge (CSUN), 1811 Nordhoff Street - DVSS, Northridge, CA 91330. Co-sponsored by Greenleaf Medical Systems, CyberEdge Journal, Pacific Bell, and California Department of Rehabilitation. Tel: 818-885-2578/Fax: 818-885-4929/E-mail: vr@vax.csun.edu.

Virtual Reality in Surgery and Medicine. International Conference, 21-23 April, 1994, Weetwood Hall Conference Centre, Leeds UK. Sponsored by Computer Graphics Society. Contact: Mrs. F. J. Johnson, Conference Office, University of Leeds, LEEDS LS2 9JT, U.K. Tel: 0532-336110, 0532-336103/Intl: 44-532-336100/Fax: 0532-336107.

Virtual Reality International. Conference last held, February 1-2, 1994; London, UK. Contact: Meckler Ltd., Artillery House, Artillery Row, London SW1P 1RT, UK. Tel: +44-71-976-0405/Fax: +44-71-976-0506.

Virtual Reality '94. May 11-13, 1994; San Jose, CA. Contact: 11 Ferry Lane West, Westport, CT 06880. Tel: 1-800-MECKLER (USA)/+0-71-976-0405(UK).

Virtual Reality Entertainment Forum '94. April 5-7, 1994, New York, NY. Contact: SIG-Advanced Applications, Inc., 1562 First Ave., Suite 286, New York, NY 10028. Tel: 212-717-1318/Fax: 212-861-0588/89.

Virtual Reality Oslo 1994, Networks and Applications, VR Oslo '94. 18-20 August 1994, University of Oslo, Norway. Contact: Email: VRO94@tf.tele.no

Virtual Reality Software and Technology. August 23-26, 1994; Singapore. Contact: Gurminder Singh, Institute of Sys. Science, National University of Singapore, Heng Mui Keng, Terrace, Kent Ridge, Singapore 0511. Tel: 65 772-3651/Fax: 65 774-4998/E-mail: gsingh@iss.nus.sg.

Virtual Reality Systems. Contact: SIG-Advanced Applications, Inc., 1562 First Avenue, Suite 286, New York, NY 10012. Tel: 212-717-1318/Fax: 212-861-0588/89.

Virtual Reality: Vienna '93, International Symposium on Virtual Reality and New Technologies in Computer Simulation. Was held in Vienna, Dec. 1-3, 1993. Contact: 1AA Management Consulting G.m.b.H., Schottenfeldgasse 51, 10470 Wien, Austria. Tel: +43/1/526 57 48, Fax: +43/1/526 57 49.

Virtual Worlds: Real Challenges. (1992). Papers from SRI's 1991 Conference on Virtual Reality. Teresa Middleton, editor. Westport, CT: Meckler Publishing.

Virtual Worlds Technology Symposium. Contact: Human Interface Technology Laboratory, University of Washington, Seattle, WA 98195. Tel: 206-543-5075/Fax: 206-543-5380.

Visual Data Interpretation. Joanna R. Alexander, chair/editor. Sponsored by the SPIE (The International Society for Optical Engineering) and IS&T (The Society for Imaging Science and Technology). Published by SPIE, Bellingham, WA.

Visualization '94. Sponsored by IEEE Computer Society Technical Committee on Computer Graphics, October 17-21, 1994; Sheraton Premiere at Tysons Corner, Washington, DC, USA. Contact Nahum Gershon, Tel: 703-883-7515/Fax: 703-883-6663/E-mail: gershon@mitre.org or Bill Ribarsky, Tel: 404-894-6148/Fax: 404-894-6157/E-mail: bill.ribarsky@oit.gatech.edu.

VR - Applications and Trends. Sponsored by the Institute for Manufacturing Engineering and Automation, Stuttgart, Germany. VR '94 - Applications and Trends

was held Feb. 9-10, 1994. Contact Fraunhofer-Institute IPA/IAO, Tagungsbuero, Nobelstrasse 12, 70569 Stuttgart, Germany.

VRAIS . Virtual Reality Annual International Symposium. Sponsored by the Virtual Reality Technology Committee of the IEEE Neural Networks Council. The next VRAIS will be held in March, 1995.

VR Becomes a Business. (1993). Proceedings of Virtual Reality '92. Sandra K. Helsel, Conference Chair. Westport, CT: Meckler Publishing.

• Short Courses

Flight Simulation Update-1994. Five day tutorial program, 10th annual program last held Jan. 17-21, 1994 in Binghamton, NY. Sponsored by the American Institute of Aeronautics and Astronautics Flight Simulation Technical Committee and the State University of New York at Binghamton. Contact: Watson School of Continuing Education, SUNY Binghamton, PO Box 6000, Binghamton, NY 13902-6000. Tel: 607-777-2154/Fax: 607-777-4822.

Graphics and Visualization Techniques and Tools (UK Advisory Group on Computer Graphics). January 10-14, 1994; University of Leeds, UK. Contact: Ken Brodrie, E-mail: kwb@scs.leeds.ac.uk.

Human Center Automation & Supervisory Control of Flight Vehicles, Ground Vehicles & Robots, Dr. Thomas B. Sheridan. June 13-June 17, 1994. Contact Office of the Summer Session, Room E19-356, Massachusetts Institute of Technology, Cambridge, MA 02139-4307. Tel: 617-253-2101/Fax: 617-253-8042/E-mail: summer-professionalprograms@mit.edu.

Virtual Interface Technology, Dr. Thomas A. Furness III. March 14-16, 1994. UCLA Extension, 10995 Le Conte Avenue, Los Angeles, CA 90024-2883.

VR4U, full day VR seminar and workshop. Contact: Virtual Ventures Consulting, 1300 The Strand, Suite A, Manhattan Beach, CA 90266. Tel: 310-545-0369

• Marketing Information

Christie, Lynn. (Ed.). (Feb., 1992). *Emerging Markets in Virtual Reality.* New York, NY: FIND/SVP Market Intelligence Reports.

To order: 1-800-346-3787. This is a 190-page report on the investment potential of Virtual Reality. The price is \$1,650 and the table of contents is available upon request., FIND/SVP, 625 Avenue of the Americas, New York, NY 10011.

Electronics Industries Association. (1993). 29th Annual Ten-Year Forecast of Defense, NASA and Related Markets (FYs 1994-2003): *Synthetic Environments Market*

Study. Prepared by: Electronic Industries Assoc., Government Division/Requirements Council, 2001 Pennsylvania Ave., NW, Washington, DC 20006-1813. Tel: 202-457-4944.

Emerging Markets for Virtual Reality. (1992). Comprehensive report regarding the virtual reality industry: technology, markets, trends, profiles of organizations, forecasts, related markets, and prospects for VR standards. Price is \$2,995.00. IGI Consulting, Inc., 214 Harvard Ave., Boston, MA 02134. Tel: 617-738-8088/Fax: 617-734-8562.

FTS Survey on Virtual Reality. (1992). FTS developed a survey questionnaire then collected the responses from 32 industry players. The survey provides information on user trends, projected worldwide market for products/systems, international market distribution and forecasts. Price is \$200.00. Future Technology Surveys, Inc., 700 Indian Trail, Lilburn, GA 30247. Tel: 404-717-0779.

Market Intelligence Staff. (1993). *U.S. Virtual Reality Hardware, Software, System & Service Markets: Current Applications Show Great Promise.* New York, NY: Frost & Sullivan. Trade price: \$2795.

VR: The Next Revolution in Computer/Human Interface. A study of the Virtual Reality industry. Updated bi-monthly. Price: \$950. Matrix Information Services, 18560 Bungalow Dr., Lathrup Village, Michigan 48076, Tel: (313)-559-1526.

VR News Special Report on 'Virtual Entertainment'. Published in bound loose-leaf form from continuously updated master copy, quarterly update service. Contact: VR News, PO Box 2515, London N4 4JW England. Tel: +44(0)81-292-1493/Fax: +44(0)81-292-1346.

Who's Who in Virtual Reality. Price: \$129, or \$95 for multi-media version on 3 1/2" disk. SophisTech Research, 6936 Seaborn St., Lakewood, CA 90713. Telephone: 1-800-4VR-SOURCE/Fax 310-425-0890.

Designed to allow a more comprehensive look at the people in the field of Virtual Reality, the book will identify individuals and their interests and will supply educational, job history and future goals. Features over 1,000 names.

• **Catalogs and Other Information Sources:**

1-900-VIRTUAL "Virtual Reality Information Line", an interactive audiotex information service on virtual reality topics. 1-900-VIRTUAL is a pay-per-call VR information line featuring a wide variety of Virtual Reality related topics. The on-line price stands at \$1.25/minute for access. Produced by SophisTech Research.

Art Com. Art Com, P.O. Box 193123, Rincon Annex, San Francisco, CA 94119-3123. Tel: 415-431-7524.

CereBel Information Arts. Complete Guide to VR. A catalog of VR products including books, software, videos, industry reports, journals and games. CereBel Information Arts, 675 Massachusetts Ave., Cambridge, MA 02129. Tel: 617-576-6700.

Datasets Catalog. A free 100 page catalog of 3D objects available in "virtually all 3D software formats". Produced by Viewpoint: The 3D Dataware Company, telephone: 1-800-DATASET.

Media Magic Catalog. P.O. Box 507, Nicasio, CA 94946. Customer Service Tel: 415-662-2426. This catalog filled with video tapes, books, journals and other interesting resources in the areas of Fractals, Chaos, Scientific Visualization, Computer Graphics, Virtual Reality, Computer Art, and Artificial Life. It is subtitled: "Computers in Science & Art--A Connoisseur's Catalog of Educational and Entertaining Books, Videotapes, Software and more...".

Real World Objects. Noumenon Labs. 1349 Empire Central, Suite 310, Dallas, TX 75247. Free Catalog and Real World Objects Demo Disk. Object files available in .DWG, .DXF, and .3DS formats. Tel: (214) 688-4100

• Science Fiction

Card, O. S.. (1991). *Ender's Game*. New York, NY: Tom Doherty Associates.

Cramer, J. (1990, July). Telepresence: Reach Out and Grab Someone. *Analog Science Fiction/Fact*.

Cramer, J. (1990, November). A Visit to Virtual Seattle. *Analog Science Fiction/Fact*, pp. 103-107.

DeChancie, J (1992). Murder On-Line. Resnick, M. (Ed). *Whatdunits*. New York, NY: DAW Books, Inc.

Gibson, W. (1984). *Neuromancer*. New York, NY: ACE Science Fiction.

Gibson, W. (1986). *Count Zero*. New York, NY: Arbor House.

Gibson, W. (1987). *Burning Chrome*. New York, NY: Ace Books.

Gibson, W. (1988). *Mona Lisa Overdrive*. New York: Bantam Books.

Gibson, W. (1993). *Virtual Light*. New York: Bantam Books.

Jacobson, K. (Ed.). (1993). *Simulations: 15 Tales of Virtual Reality*. New York, NY: Citadel Press.

Mixon, L. J. (1992). *Glass Houses*. New York, NY: Tom Doherty Assoc.

Robinson, F. M. (1991). *The Dark Beyond The Stars*. New York, NY: Tom Doherty Assoc.

Stephenson, N. (1992). *Snow Crash*. New York, NY: Bantam Books.

Thomson, A. (1993). *Virtual Girl*. New York, NY: ACE.

Vinge, V. (1987). *True Names...and Other Dangers*. New York, NY: Baen

•Online Resources

USENET Newsgroups:

sci.virtual-worlds

The Newsgroup, sci.virtual-worlds is aimed at the discussion of aspects of virtual reality and its related technologies. The newsgroup is moderated by Toni Emerson, Aaron Pulkka and Michael Almquist (Human Interface Technology Lab Moderating Group) -

scivw-request@hitl.washington.edu. sci.virtual-worlds is also available as a mailing list, see VIRTU-L.

sci.virtual-worlds.apps

Sci.virtual-worlds.apps focuses on real-world applications of virtual interface technology, co-moderated by Bob Jacobson of WorlDesign and Mark DeLoura, Loral Corporation. This is also available as a Mailing List, see VRAPPS-L.

Other recommended USENET groups:

alt.uu.vitual-worlds.misc: Learning about virtual worlds and virtual reality

comp.graphics: computer graphics

comp.graphics.visualization: computer graphics and visualization

comp.human-factors: Human Factors research

comp.research.japan: research in japan

comp.robotics: Robotics

comp.simulation: Simulation

Mailing Lists:

Amiga VR List

E-mail subscription request to <listserv@kumiss.cmhnet.org> with "subscribe amigavr-list (your first name) (your last name)" in the message area. Contact Ethan Dicks, <erd@kumiss.cmhnet.org> for administrative assistance.

CBNVEE at mcmuse.mc.maricopa.edu

Subject: Building Educational Environments Using Networked Virtual Reality Software.

Purpose: A place for those building educational environments using networked virtual reality software such as MUSE, TinyMUSH and Moo to pool knowledge and discuss issues.

E-mail subscription request to <cbnvee@mcmuse.mc.maricopa.edu> with an informal message to subscribe.

Distributed Interactive Simulation Protocol and NPS software implementation, DIS-List:

E-mail subscription request to <dis-maint@taurus.cs.nps.navy.mil> .

DIVE Mailing List:

A list for users of the DIVE VR system. The list is called "divers@sics.se. Mail sent to this address will be sent to all members. To subscribe to this list sendf mail to majordomo@sics.se with "subscribe divers" in the body of the message.

Glove-list

E-mail subscription request to <listserv@boxer.nas.nasa.gov> with "subscribe glove-list (your name)" in the message area.

Currently, there is no ftp site for the glove-list. However, there is the archie server capabilities from the listserv. Send a message to listserv@boxer.nas.nasa.gov with a message "get glove readme" for a list of what is available. Various information files can be retrieved by sending e-mail to the listserv@boxer.nas.nasa.gov with a message in the body for files, for example-- "info glove-list" (for a complete more information on the list), "get glove FAQ" (for the glove-lists FAQ--Frequently Asked Questions) , or "get glove readme" (for a list of what's available).

HOTT - electronic magazine

Hot Off The Tree -- is a FREE monthly electronic newsletter featuring the latest advances in computer, communications, and electronics technologies. Each issue provides article summaries on new & emerging technologies, including VR (virtual reality), neural networks, PDAs (personal digital assistants), GUIs (graphical user interfaces), intelligent agents, ubiquitous computing, genetic & evolutionary programming, wireless networks, smart cards, video phones, set-top boxes, nanotechnology, and massively parallel processing.

To subscribe send e-mail to: listserv@ucsd.edu and leave the "Subject" line blank. In the body of the message input: SUBSCRIBE HOTT-LIST. If at any time you choose to cancel your subscription input: UNSUBSCRIBE HOTT-LIST

Iris On-Line

This is a new mailing list based on the SGI monthly news magazine. The types of articles published are: SGI press releases, SGI and related product announcements, technical articles, training course schedules and general information regarding SGI products and services. To subscribe, E-mail: list-manager@sgi.comm and put the message "subscribe nyn-emag".

REND386

This list is moderated by the creators of REND386, Dave Stampe and Bernie Roehl. All subscription and unsubscription requests should now be sent to majordomo@sunee.uwaterloo.ca instead of rend386-request@sunee.uwaterloo.ca, and are of the following form: "subscribe rend386-announce" and "subscribe rend386-discuss".

These will add you to the announcement and discussion lists, respectively. You're probably already on both lists, so you probably shouldn't need to subscribe. To unsubscribe to either list, just use "unsubscribe" instead of "subscribe". If you like, you can also send the following messages to majordomo: "which", "info rend386-announce", or "info rend386-discuss". The 'which' command tells you which of the lists you're on. The 'info' commands will mail you a copy of the "welcome to the list" messages.

VRAPP-L (the mailing list of the newsgroup [Sci.virtual-worlds.apps](https://www.ietf.org/mail-archives/sci.virtual-worlds.apps))

E-mail listserv@uiucvmd.bitnet to subscribe, in the message area write `<subscribe vrapp-l yourname>`.

VIGIS-L Moderator: Thomas Edwards

New newsgroup for discussion of uses of VR interfaces for Geographic Information Systems (GIS) and spatial information support systems. To subscribe e-mail <listserv@uwavm.bitnet> with message <Subscribe VIGIS-L (yourname)>.

VIRTU-L

The Mailing List, sci.virtual-worlds is bounced off a BITNET site, UIUCVMD at the University of Illinois at Urbana- Champaign. To sign on this list, send a mail message to listserv@uiucvmd.bitnet (or whatever the appropriate manner for sending mail to bitnet might be at your site). The body of the message should read: <subscribe virtu-l yourname>. Put your full name as a replacement for <yourname>, of course. Greg Newby is the administrator for virtu-l. Any questions about the list should be directed to him at: gbnewby@alexia.lis.uiuc.edu.

Bulletin Boards:**America On-line**

"VIRTUS" - virtual reality conference hosted by Virtus Corp. Contact AOL: 1-800-827-6364, ext. 5894.

CompuServe

CompuServe has a Virtual Reality section in the COMART (Computer Art) forum, Section 13. To access (from CompuServe prompt) type GO COMART. Price: \$2 per month plus connect-time and network access charges.

CompuServe GraphDev Forum (Go GRAPHDEV):

This forum has two message sections and two file libraries dedicated to VR Concepts and VR Technology. Jerry Isdale, author of *What is Virtual Reality? A Home-brew Introduction*, is Project Leader of the Group 3 VR development project. The libraries contain a number of VR programs, demos, concept papers, and an echo of the sci.virtual-worlds news group. For information on CompuServe, call (800)848-8990 or (614) 457-8650. (This section is an excerpt from Jerry Isdale's *What is Virtual Reality? A Home-brew Introduction*).

GENie

Echo of sci.virtual-worlds. This BBS is an echo of the sci.virtual-world feed to a GENie topic in what is called the Space and Science RoundTable BBS. The feed is managed by Randall Severy, he can be reached on GENie as RSEVERY, and has a uunet based address 'severy%ge@uunet.uu.net' or 'ge!severy@uunet.uu.net'. GENie has two RoundTables that have Virtual Reality discussions going on in addition to the Usenet and Internet echoes. None of the echoes, however, can be considered "full", Severy moderates the postings and cuts down volume of the postings on GENie. Here are the details on GENie's VR discussions:

Space and Science RoundTable - Discussion on Virtual Reality Systems and Applications, Category 16, Topic 7 (Echo of sci.virtual-worlds in Category 16, Topic 6)

Radio and Electronics RoundTable - Discussion on home-brew VR called Virtual Reality on YOUR computer in Category 14, Topic 15, (Echo of sci.virtual-worlds.apps newsgroup, glove-list, and other mailing lists in Category 14, Topic 17).

GENie has a wide range of BBS areas, which are organized under CATegories, that are broken down into TOPics. Roughly a CAT corresponds to a newsgroup and a TOP to a thread within the newsgroup.

Amulet Consulting

You can access the Amulet BBS at 310-453-7705. Basically AMULET provides for a corner of Cyberspace devoted to emerging technologies. The conferences running conferences dealing with virtual reality, virtual worlds, artificial life, nanotechnology, etc. AMULET access is currently FREE of charge. Dan D. Gutierrez is the sysop.

BYTE Information Exchange (BIX)

BIX's Virtual World Conference. Type "join virtual.world" to join in extended discussions of all aspects of virtual reality, from entertainment to fiction to hardware. Moderated by Dan Duncan (dunc@bix.com), the conference is a good source of information on meetings and other events of interest to virtual-reality buffs.

You can reach BIX now on the Internet. Telnet x25.bix.com. At the first username prompt, login: BIX. At the second username prompt login: NEW (if you don't already have a BIX account).

Virtual Ventures

VR Special Interest Group

Contact: Dave Blackburn, E-mail: breeder@well.sf.ca.us

'WELL (Whole Earth 'Lectronic Link)

Internet address: well.sf.ca.us. For information call 415-332-4335 or for modem connection 415-332-6106

VR-- the conference about virtual reality: host is Peter Rothman, managing partner of Avatar Partners (avatarep@well.sf.ca.us). There is a wide range of topics which include "Cyberspace in the media, Medical Applications of VR, Industrial Applications, VR Enabling Technologies, and VR as a technology for large databases". To subscribe to "The Well", simply telnet to well.sf.ca.us and login "new user". Price: \$15/month and \$2/hour connect-time; local access numbers available for extra cost.

Diaspar Virtual Reality Network - Sense8 V-NET

Diaspar offers "virtual offices" for rent, these are called "virtual networks" or "V-Nets" and are areas for use by individuals and groups or businesses. Sense8 has such a V-NET available.

The system supports up to 20 phone lines and the PC Pursuit long distance network (800-736-1130). To log onto the BBS, simply do the following:

dial: 714-831-9101 (2400 baud)/714-362-9995 (9600 baud). Type new and fill out application. If you use only the Sense8 V-NET, you won't be billed for any other services. To upload or download files, follow the instructions for using the "emporium" in V-NET (make sure you are in the right V-NET after logging-on). Now also available via the Internet, diaspar.com (192.215.11.1).

PCVR Magazine Support BBS

The system is free and is operational 24 Hours a day running at 14.4k. This BBS endeavors to provide the latest information about PCVR Magazine topics and source code provided in the magazine. Tel: 608-877-1017

TOR-VR-SIG-BBS - Devoted to VR and 3D Rendering

Toronto Virtual Reality Special Interest Group Bulletin Board System. (416) 631-6625 16.8K 8/N/1 24 hours. [Running since April 2, 1993, Free of charge.] This great, new BBS has files/messages and information on commercial/research Virtual Reality as well as low cost Home Brew (Basement) Virtual Reality. The BBS contains information files, FAQs (mirrors of Usenet Frequently Asked Questions, Usenet archives for Rend386, Glove-list and sci.virtual-worlds, source code, ray tracing, and 3-object files).

• FTP sites/WWW Servers

3D Sound FTP Site: Site is maintained by David Burgess of the Multimedia Computing Group at Georgia Tech's Graphics, Visualization and Usability Center. FTP: multimedia.cc.gatech.edu/papers/3DAudio/sample

CSCW Bibliography by Saul Greenberg

Available via anonymous ftp: <ftp://ftp.cpssc.ucalgary.ca/pub> Filename: CSCWbibliography

Cyberspace Report:

The Cyberspace Report is a public affairs radio show aired on KUCI, 88.9 FM in Irvine, California (Orange County, just south of Los Angeles) every Wednesday from 5:30 to 6:00 PM. The show explores social issues of computing using interview and topic shows, with occasional opportunities for call-in questions.

World Wide Web URL= <http://www.ics.uci.edu/~ejw/crs/cyber.html>

Delft University of Technology:

World Wide Web URL=<http://www.twi.tudelft.nl/welcome.html>

VR at GVV - animation example: World Wide Web

URL=<http://www.twi.tudelft.nl/TWI/IS/Afstudeerders/Kooper/Acrophobia.html>

Also an excellent index of HCI-related material in the Web comparable to the HCI Launching Pad (see below).

World Wide Web URL=<http://www.twi.tudelft.nl/Local/HCI-Index>

DesignSpace:

Ongoing implementation of projects developed at the Center for Design Research (CDR) of Stanford University in Palo Alto, CA.

HTTP://gummo.stanford.edu/html/DesignSpace/home.html.

Digital Equipment Corporation:

Digital's information service includes Product, Service and Performance Information; Newsgroups and Mailing Lists; Alpha AXP demo systems; Achives and Public Domain Software and Contact and Ordering information.

World Wide Web URL= <ftp://gatekeeper.dec.com/pub/DEC/DECinfo/html/home.html>

Distributed Virtual Reality by Carl E. Loeffler:

Applications for education, entertainment and industry. Good technical report on networked virtual environments.

World Wide Web URL=

http://www.nta.no/telektronikk/4.93.dir/Loeffler_C_E.html

Electronic Visualization Laboratory, University of Illinois, Urbana Champaign:

World Wide Web URL= <http://www.ncsa.uiuc.edu/EVL/docs/Welcome.html>

Graphics, Visualization and Usability Center, Georgia Tech:

World Wide Web URL= <http://pipkin.lut.ac.uk/>

Gossamer 2.0. A real-time 3D walk through engine for the Macintosh. FTP:

<ftp.apple.com> Directory: [pub/VR/graphics.systems](ftp://pub/VR/graphics.systems)

HCI Bibliography Project by Gary Perlman:

Available via anonymous ftp: [archive.cis.ohio-state.edu/pub/hcibib](ftp://archive.cis.ohio-state.edu/pub/hcibib)

HCI Launching Pad:

Links to HCI Bibliography Project, HCI Bib "Hypertext" compilation, CSCW Bibliography and SIGGRAPH On-line Bibliography Project, also technical reports, papers and other publications.

World Wide Web URL= <http://hydra.bgsu.edu/HCI/>

High Performance Computing and Communications:

Case Study Number 10: Virtual Reality Technology

World Wide Web URL=

<http://www.hpcc.gov/blue94/section.5.10.html>

Ultrasound & Virtual Reality, NSF HPCC Science Highlights

World Wide Web URL=

<http://www.ncsa.uiuc.edu/Pubs/MetaCenter/SciHi93/1c.Highlights-BiologyC.html>

Human Interface Technology Laboratory, University of Wash.:

Technical reports, theses, and bibliographies available via anonymous ftp:
ftp.u.washington.edu Directory: ./public/VirtualReality/HITL

Lateiner Dataspace:

Research performed at Lateiner Dataspace: high-speed volume visualization, discrete physical simulation techniques and distributed data structures. The home page also contains links to Lateiner's Virtual Surgery proposal and paper on Volume Visualization given at the 1994 Medicine Meets Virtual Reality II.
World Wide Web URL=

LUTCHI Research Centre:

Loughborough University of Technology, Leicestershire, UK. Computer-Human Interaction (LUTCHI) Research Centre, based within the Dept. of Computer Studies.
World Wide Web

NASA Information Services:

World Wide Web URL= http://hypatia.gsfc.nasa.gov/NASA_homepage.html

LTRS - Langley Technical Report Server:

Ability to search and retrieve LaRC, ICASE, and NAS Technical Reports (NAS access restricted to *.nasa.gov).

World Wide Web URL= <http://techreports.larc.nasa.gov/ltrs/ltrs.html>

NASA's Annotated Scientific Visualization URL Bibliography, World Wide Web URL= <http://www.nas.nasa.gov/RNR/Visualization/annotatedURLs.html>.

McDonnell Douglas Aerospace-Houston Division:

Technology Profiles available on Guidance, Navigation and Control, Simulation & Modeling. Links being added as material becomes available: Animation & Graphics, Artificial Intelligence, Automation & Robotics, and Virtual Reality. World Wide Web URL= <http://pat.mdc.com/>

Naval Postgraduate School, Monterey CA:

NPSnet Papers and Mosaic Home Page. World Wide Web URL= ftp://taurus.cs.nps.navy.mil/pub/NPSNET_MOSAIC Filename: npsnet_mosaic.html

NCSA Virtual Reality Lab:

World Wide Web URL= http://www.ncsa.uiuc.edu/Viz/VR/vr_homepage.html

NTT - Nippon Telegraph and Telephone Corporation.

Contains "What's New", URL http file gopher Meta Index, Japanese info, and NTT gopher server.

World Wide Web URL= <http://www.ntt.jp/index.html>

Presence: Teleoperators and Virtual Environments

Home page gives general publication and subscription information.
World Wide Web URL=

ftp://taurus.cs.nps.navy.mil/pub/PRESENCE_MOSAIC/presence_mosaic.html

Principia Cybernetica Web:

"Principia Cybernetica Web (PCP) is a collaborative computer-supported attempt to develop a complete cybernetic and evolutionary philosophy" (nutshell.html).

World Wide Web URL= <http://perspmc1.vub.ac.be/Default.html>

Realization Reports:

ONR European Office Computer Science newsletter that reports on data visualization and virtual reality. The reports are written by Dr. Lawrence Rosenblum, ONR Liaison Scientist at the ONR European offices.

Rapid Development Lab (RDL):

JSC on-site resource created to explore and evaluate new technologies and processes for flight software and simulation development. Take a tour on the "virtual tram".

World Wide Web URL= http://ollie.jcs.nasa.gov/~wood/RDL/RDL_Home

SIGGCHI, Curricula for Human-Computer Interaction:

Available via anonymous ftp: [archive.cis.ohio-state.edu/pub/hci/CDG](ftp://archive.cis.ohio-state.edu/pub/hci/CDG)

SIGGRAPH On-line Bibliography Project:

Available via anonymous ftp: [siggraph.org/publications](ftp://siggraph.org/publications) Filename: bibliography. You can also do a literature search at World Wide Web URL=

<http://iicm.tu-graz.ac.at/CSIGGRAPHbib>

Sun Microsystems:

Applications and Hardware News, SUN Spots Archives and SUN's Technical White papers.

World Wide Web URL= <http://sunsite.unc.edu/sun/inform/sun-info.html>

UK VR-SIG

The UK VR-SIG Web server has pointers to many VR Web sources together with links to many FTP/Gopher sites. Local information provided includes text and pictures from the HCI'93 VR exhibition, information on the UK VR-SIG, and a calendar of VR events in the UK. World Wide Web URL=

<http://pipkin.lut.ac.uk/WWWdocs/LUTCHI/people/sean/vr-sig/vr-sig.html>

University of Maryland - Virtual Reality and Telepresence (VRTP):

VRTP is an result of an experimental course taught by Dr. Ben Schneiderman. The course projects resulted in number of efforts: Encyclopedia of Virtual Environments (EVE) and the Journal of Virtual Environments (JOVE). World Wide Web URL=

<http://gimble.cs.umd.edu/vrtp/vrtp.html>.

University of North Carolina at Chapel Hill:

SunSITE anonymous ftp site, UNC-CH Info System, Ogphre (SunSITE gopher) and more.

World Wide Web URL= <http://sunsite.unc.edu>
Computer Science Department: World Wide Web URL=
<http://www.cs.unc.edu/proteus/cs.unc.edu.html>
Technical reports available via anonymous ftp: [ftp.cs.unc.edu](ftp://ftp.cs.unc.edu) Directory:
[./pub/technical-reports](ftp://ftp.cs.unc.edu/pub/technical-reports)

Virtual City:

A lecture series presented by the Rice Design Alliance on the new technologies of communication and information exchange.

World Wide Web URL=
<http://riceinfo.rice.edu/ES/Architecture/RDA/VC/VirtualCity.html>

VR-386

VR-386 is a freeware VR program for the IBM PC (386 and higher) compatibles. It supports many VR devices, including stereo flicker glasses, HMDs, the Nintendo PowerGlove, joysticks, and so on. VR-386 has the fastest drawing speed of any VR software in its class, exceeding 20,000 polygons per second. Currently, VR-386 is available on a trial basis by anonymous FTP : [psych.toronto.edu](ftp://psych.toronto.edu) Directory: [~ftp/pub/vr-386](ftp://psych.toronto.edu/~ftp/pub/vr-386) . The development package is [vr386.zip](#). Many new video drivers are available in [video.zip](#) including source code. A driver for the Cyberscope is available as [cyber.zip](#). (excerpted from posting by Dave Stampe, Jan. 21, 1994, sci.virtual-worlds.com).

VR Information Sites. Guide to Internet Resources by Bill Cockayne. FTP: [ftp.apple.com](ftp://ftp.apple.com) Directory: [./pub/VR/vr_sites](ftp://ftp.apple.com/pub/VR/vr_sites)

WebStars in Cyberspace:

Virtual Reality Web Page

World Wide Web URL=

<http://guinan.gsfc.nasa.gov/WebStars/VR.html>

Xerox Palo Alto Research Center (Pub Web):

Experimental WWW server running at Xerox PARC in Palo Alto, CA. Links to Map View, Folk Music Calander, Color Photos, Bitmap Photos, notes from July '93 WWW Conference and Palo Alto Weekly newspaper.

World Wide Web URL= <http://pubweb.parc.xerox.com>

• Organizations

Andrew's VEE-AR Club, c/o Andrew or Tom Hayward, 624 Jackson Street, Stoughton, WI 53589

BCS Virtual Reality Group provides an ongoing forum for bringing scientists and developers together with VR enthusiasts/potential users who do not normally attend VR-industry gatherings. The Boston Computer Society is the world's largest non-profit, independent computer user group. Contact Paul Matthews (pgm@world.std.com), The Virtual Reality Group of The Boston Computer Society; Building 1400, One Kendall Square, Cambridge, MA USA 02139. Telephone: 617-252-0600.

Chicago VRSIG (Virtual Reality Special Interest Group). Contact: Nina Adams, 3952 Western Ave, Western Springs, Chicago, IL 60558. Tel: (708) 246-0766 E-mail: 71052.1373@compuserve.com.

Cyber Society, 3336 Richmond Ave. #226, Houston, TX 77098-3022. Tel: 713-520-5020, Fax: 713-520-7395, E-mail: specdyn@well.sf.ca.us

Distributed Simulations Applications Research Consortium, 1320 18th Street, San Francisco, CA 94107. Tel: 415-861-1317/Fax: 415-431-9368. Tom Hargadon - Managing Director, Carl Eugene Loeffler - President.

GRV - Grupo ded Realidade Virtual ("Virtual Reality Group")

"Escola Politecnica"- University of Sao Paulo - Brazil

Helio Guerra Vieira, PhD - Director

E-Mail: grv@dee.poli.usp.br

Phone: 55 11 2112976 Fax: 55 11 8137415

Grv is a group that is studying two diferent areas of VR: Telepresence and Computer Graphics.

Los Angeles VRSIG (Virtual Reality Special Interest Group). Contact Virtual Ventures/Dave Blackburn, 1300 The Strand, Suite A, Manhattan Beach, CA 90266 Tel: 310-545-0369 /E-mail: breeder@well.sf.ca.us.

Virtual Reality Group (VRG) 16050 Kings Creek Rd., Boulder Creek, CA 95006; Tel: 415-826-4716. Contact: Linda Jacobsen (E-mail: lindaj@well.sf.ca.us) and Peter Rothman (E-mail: avatar@well.sf.ca.us).

Les Virtualistes, 90 avenue de Paris, 92320 Chatillon, France.
Tel: 33-1-47-35-65-48.

The Virtual Worlds Society, 4739 University Way, Suite 1628, Seattle, WA 98105. The Virtual Worlds Society is a non-profit, educational organization dedicated to the development and application of computing and communication technologies that will link minds globally and will unlock the power of human intelligence and ingenuity into the 21st century. Contact: Joel Orr , E-mail: JOEL_ORR@mcimail.com./Tel: 1-800-vws-7711

VR Alliance for Students and Professionals (VRASP), PO Box 4139, Highland Park, New Jersey 08904-4139. E-mail: kaugust@caip.rutgers.edu or 71033.702@compuserve.com.

VRASP has supplies ranging from demo disks (\$2) to dual gloves, glasses, software, connectors for \$285. Membership dues are \$30/annually, you get membership, bimonthly newsletter, and purchasing privileges.

VR Awareness Consortium, Norman Oklahoma. Tel: 405-447-3276.

VR User Group, London, UK. Tel: 44-81-318-4204.

