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Virtual Reality Update
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MAGAZINE ARTICLES

Begault, D. (1993, October). The Evolution of 3-D Audio. MIX, 17(10), pp. 42-46.

Brill, L.M. (1993, November/December). Looking Glass Playgrounds Hit the Entertainment Bullseye. Virtual Reality World, 1 (3 & 4), pp. 41-

49.

Coyne, J.P. (1993, November/December). Virtual Reality and Relational Databases. *Virtual Reality World*, 1 (3 & 4), pp. 50-52.

Dery, M. (1993, September). Cyber Cafe. *NewMedia*, 3 (9), pp. 118-119.

Emmett, A. (1993, September). The Quest for "True" 3D. *Computer Graphics World*, 16 (9), pp.35-42.

Forcade, T. (1993, October). Evaluating 3D on the High End (part one of a two-part series). *Computer Graphics World*, 16(10), pp. 44-56.

Krueger, M.W. (1993, November/December). The Emperor's New Realities. *Virtual Reality World*, 1 (3 & 4), pp. 18-33.

Lang, L. (1993, September). Terrain Modeling. *Computer Graphics World*, 16 (9), pp. 22-28.

Lloyd, C.J.C. and Reinhart, W.F. (1993, September). Insight: The Visual Performance Technical Group Newsletter, 15 (3), pp. 1-4.

Logan, C. and Whitworth, D. (1993). Virtual Reality. Axxess, 1(1), pp. 68-71.

Mahoney, D.P. (1993, October). A Virtual Reality Link into Cable TV, Tech Watch. Computer Graphics World, 16(10), p. 12.

Mahoney, D.P. (1993, October). Time Travels. Computer Graphics World, 16(10), pp. 38-42.

Marshall, J. The Medium is the Mission. WIRED, 1(5), pp. 68-71.

Merril, J.R. (1993, November/December). Surgery on the Cutting-Edge: Virtual Reality Applications in Medical Education. Virtual Reality World, 1 (3 & 4), pp. 34-38.

Moshell, J.M. and Dunn-Roberts, R. (1993, November/December). A Survey of Virtual Environments: Research in North America, Part One. *Virtual Reality World*, 1 (3 & 4), pp. 4-17.

Post, D.L. (1993, September). A New Color Display for HMDs. *Insight: The Visual Performance Technical Group Newsletter*, 15 (3), pp. 8-10.

Rheingold, H. (1993, November). Total Immersion: Douglas Trumbull's Big Budget VR. *WIRED*, 1(5), pp. 66-67.

Robertson, B. (1993, October). Rendering in the '90's. *Computer Graphics World*, 16(10), pp. 28-34.

Sheridan, T.B. and Zeltzer, D. (1993, December). Virtual Reality Check. *Technology Review*, 96 (7), pp. 20-28.

Spring, M.B. (1993, November/December). The Virtual Library: Explorations in Informational Spaces. *Virtual Reality World*, 1 (3 & 4), pp. 53- 66.

Steffora, A. (1993, October). SGI, Nintendo Unveil Project for Video Games. Silicon Graphics World. 3(10), pp. 1, 3.

JOURNAL ARTICLES:

Adam, J.A. (1993, October). Virtual Reality. IEEE Spectrum, [special report: Virtual Reality] 30(10), 22-29.

DeFanti, T.A., Santin, D.J. and Cruz-Neira, C. (1993, October). A 'room' with a 'view'. IEEE Spectrum, [special report: Virtual Reality] 30(10), 30-33.

Gore, R.A. (1993). Reality or Virtual Reality? The Use of Interactive, Three-Dimensional Computer Simulations at Trial. Rutgers Computer & Technology Law Journal, 19, 459-493.

Hancock, D. (1993, October). "Prototyping" the Hubble Fix. IEEE Spectrum, [special report: Virtual Reality] 30(10), 34-39.

Presence: Teleoperators and Virtual Environments
Fall, 1993
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Cohen, M. (1993). Integrating Graphic and Audio Windows. Presence: Teleoperators and Virtual Environments. 1(4), 468-481.

Cooke, J.M., Zyda, M. J., Pratt, D.R. and McGhee, R.B. (1993). NPSNET: Flight Simulation Dynamic Modeling Using Quaternions. Presence: Teleoperators and Virtual Environments. 1(4), 403-420.

Fontaine, G. (1993). The Experience of a Sense of presence in Intercultural and International Encounters. Presence: Teleoperators and Virtual Environments. 1(4), 482-490.

McGreevy, M. W. (1993). The Presence of Field Geologists in Mars-like

Terrain. Presence: Teleoperators and Virtual Environments. 1(4), 375-403.

McKenna, M. and Zeltzer, D. (1993). Three Dimensional Visual Display Systems for Virtual Environments. Presence: Teleoperators and Virtual Environments. 1(4), 421-458.

Scarborough, E., Brandt, J., Rogers, S., Amburn, P., Ruck, D. and Ericson, M. (1993). A Prototype Visual and Audio Display. Presence: Teleoperators and Virtual Environments. 1(4), 459-467.

Review Article:

Newby, G. (1993). Virtual Reality. In M. E. Williams (Ed.) Annual Review of Information Science and Technology, Volume 28 (pp. 187-229). Medford, New Jersey: Learned Information for the American Society for Information Science .

Conferences :

VRAIS '93

Adachi, Y. (1993). Touch and Trace on the Free-Form Surface of Virtual Object. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp.162-168). Piscataway, NJ: IEEE Service Center.

Allen, D.W. (1993). A 1" High Resolution Field Sequential Display for Head Mounted Applications. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 364-370). Piscataway, NJ: IEEE Service Center.

Amari, H., Nagumo, T., Okada, M., Hirose, M, and Ishii, T. (1993). A

Virtual Reality Application for Software Visualization. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 1-6). Piscataway, NJ: IEEE Service Center.

Arai, F., Fukuda, T., Yamamoto, Y., Naito, T., and Matsui, T. (1993). Interactive Adaptive Interface Using Recursive Fuzzy Reasoning. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 104-110). Piscataway, NJ: IEEE Service Center.

Askew, R.S. and Diftler, M.A. (1993). Ground Control Testbed for Space Station Freedom Robot Manipulators. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 69-75). Piscataway, NJ: IEEE Service Center.

Bess, R.D. (1993). Image Generation Implications for Networked Tactical Training Systems. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 308-317). Piscataway, NJ: IEEE Service Center.

Bos, P.J. (1993). Performance Limits of Stereoscopic Viewing Systems Using Active and Passive Glasses. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 371-376). Piscataway, NJ: IEEE Service Center.

Bostrom, M., Singh, S.K., and Wiley, C.W. (1993). Design of An Interactive Lumbar Puncture Simulator With Tactile Feedback. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 280-286). Piscataway, NJ: IEEE Service Center.

Bryson, S. (1993). The Virtual Wind Tunnel: A High-Performance Virtual Reality Application. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 20-26). Piscataway, NJ: IEEE Service Center.

Calvin, J., Dickens, A., Gaines, B., Metzger, P., Miller, D., and Owen, D. (1993). The Simnet Virtual World Architecture. In Proceedings of IEEE

1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp.450-455). Piscataway, NJ: IEEE Service Center.

Carlsson, C. and Hagsand, O. (1993). DIVE - a Multii User Virtual Reality System. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 394-400). Piscataway, NJ: IEEE Service Center.

Caudell, T.P., Janin, A.L., and Johnson, S.K. (1993). Neutral Modeling of Face Animation for Telecommuting in Virtual Reality. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 478-485). Piscataway, NJ: IEEE Service Center.

Chanezon, A., Takemura, H., Kitamura, Y., and Kishino, F. (1993). A Study of an Operator Assistant for Virtual Space. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 492-498). Piscataway, NJ: IEEE Service Center.

Chen, D.T., Pieper, S.D., Singh, S.K., Rosen, J.M., and Zelter, D.L.

(1993). The Virtual Sailor: An Implementation of Interactive Human Body Modeling. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 429-435). Piscataway, NJ: IEEE Service Center.

Chen, J., Van Veen, B.D., and Hecox, K.E. (1993). Synthesis of 3D Virtual Auditory Space via a Spatial Feature Extraction and Regularization Model. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp.188-193). Piscataway, NJ: IEEE Service Center.

Codella, C.F., Jalili, R., Koved, L. and Lewis, J.B. (1993). A Toolkit for Developing Multi-User, Distributed Virtual Environments. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 401-407). Piscataway, NJ: IEEE Service Center.

Colgate, J.E., Grafing, P. E., Stanley, M.C., and Schenkel, G. (1993). Implementation of Stiff Virtual Walls in Force-Reflecting Interfaces. In

Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp.202-208). Piscataway, NJ: IEEE Service Center.

Curtis, W.D., Janin, A.L., and Zikan, K. (1993). Note on Averaging Rotations. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 377-386). Piscataway, NJ: IEEE Service Center.

Deering, M. F. (1993). Data Complexity for Virtual Reality: Where do all the Triangles Go? In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 357-363). Piscataway, NJ: IEEE Service Center.

Deering, M.F. (1993). Explorations of Display Interfaces for Virtual Reality. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 141-147). Piscataway, NJ: IEEE Service Center.

Dickerson, J. A. and Kosko, B. (1993). Virtual Worlds as Fuzzy Cognitive Maps. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 471-477). Piscataway, NJ: IEEE Service Center.

Eberhardt, S.P., Bernstein, L.E., Coulter, D.C., and Hunckler, L. A. (1993). OMAR - A Haptic Display for Speech Perception by Deaf and Deaf-blind Individuals. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp.195-201). Piscataway, NJ: IEEE Service Center.

Edwards, E.K., Rolland, J.P., and Keller, K.P. (1993). Video See-through Design for Merging of Real and Virtual Environments. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp.223-233). Piscataway, NJ: IEEE Service Center.

Elsimary, H., Mashali, S., and Shaheen, S. (1993). A Method for Training Feed Forward Neutral Network to be Fault Tolerant. In

Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 436-442). Piscataway, NJ: IEEE Service Center.

Emhardt, J., Semmler, J., and Strothotte, T. (1993). Hyper-navigation in Virtual Buildings. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 342-348). Piscataway, NJ: IEEE Service Center.

Faigle, C., Fox, G.C., Furmanski, W., Niemiec, J. and Simoni, D.A. (1993). Integrating Virtual Environments with High Performance Computing. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 62-68). Piscataway, NJ: IEEE Service Center.

Fairchild, K.M., Lee, B. H., Loo, J., Ng, H. and Serra, L. (1993). The Heaven and Earth Virtual Reality: Designing Applications for Novice Users. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 47-54). Piscataway, NJ: IEEE Service

Center.

Feiner, S., Zhou, M., Crutcher, L. and Lazar, A. (1993). A Virtual World for Network Management. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 55-61). Piscataway, NJ: IEEE Service Center.

Gross, B. and Brain, J. (1993). Limbo Champion in the Low Cost VR Competition: The Power Glove Serial Interface. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp.169-175). Piscataway, NJ: IEEE Service Center.

Hashimoto, H., Kunii, Y., Buss, M., and Harashima, F. (1993). Dynamic Force Simulator for Force Feedback Human-Machine Interaction. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 209-215). Piscataway, NJ: IEEE Service Center.

Henry, D. and Furness, T. (1993). Spatial Perception in Virtual

Environments: Evaluating an Architectural Application. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 33-40). Piscataway, NJ: IEEE Service Center.

Hirose, M., Yokoyama, K. and Shin'ichi, S. (1993). Transmission of Realistic Sensation: Development of a Virtual Dome. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 125-131). Piscataway, NJ: IEEE Service Center.

Hirota, K. and Hirose, M. (1993). Development of Surface Display. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 256-262). Piscataway, NJ: IEEE Service Center.

Ishii, M. and Sato, M. (1993). A 3D Interface Device with Force Feedback: A Virtual Work Space for Pick-and-Place Tasks. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 331-335). Piscataway, NJ: IEEE Service Center.

Iwata, H. (1993). Pen-based Haptic Virtual Environment. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 287-292). Piscataway, NJ: IEEE Service Center.

Janin, A.L., Mizell, D.W., and Caudell, T.P. (1993). Calibration of Head-Mounted Displays for Augmented Reality Applications. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 246-255). Piscataway, NJ: IEEE Service Center.

Kameyama, K. and Ohtomi, K. (1993). A Direct 3-D Shape Modeling System. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 519-524). Piscataway, NJ: IEEE Service Center.

Kandel, S., Boe, L.-J., and Orliaguet, J.P. (1993). Visual Detection of Coarticulatory Anticipation or...Guessing What Has Not Yet In Proceedings of IEEE 1993 Virtual Reality Annual International

Symposium, VRAIS '93 (pp. 148-154). Piscataway, NJ: IEEE Service Center.

Kazman, R. (1993). Making WAVES: On the Design of Architectures for Low-end Distributed Virtual Environments. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 443-449). Piscataway, NJ: IEEE Service Center.

Maggioni, C. (1993). A Novel Gestural Input Device for Virtual Reality. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 118-124). Piscataway, NJ: IEEE Service Center.

Manhart, P.K., Malcolm, R.J., and Frazee, J.G. (1993). Augeye - A Compact, Solid Schmidt Optical Relay for Helmet Mounted Displays In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp.234-245). Piscataway, NJ: IEEE Service Center.

McNeely, W.A. (1993). Robotic Graphics: A New Approach to Force Feedback for Virtual Reality. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 336-341). Piscataway, NJ: IEEE Service Center.

Metzger, P. (1993). Adding Reality to the Virtual. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 7-13). Piscataway, NJ: IEEE Service Center.

Millman, P.A., Stanley, M., and Colgate, J.E. (1993). Design of a High Performance Haptic Interface to Virtual Environments. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 216-222). Piscataway, NJ: IEEE Service Center.

Morishima, S. and Harashima, H. (1993). Facial Expression Synthesis Based on Natural Voice for Virtual Face-to-Face Communication with Machine. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 486-491). Piscataway, NJ: IEEE Service Center.

Moshell, J.M., Blau, B.S., Knerr, B., Lampton, D.R., and Bliss, J.P. (1993). A Research Testbed for Virtual Environment Training Applications. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 83-89). Piscataway, NJ: IEEE Service Center.

Nelson, M., Cavaiuolo, M., and Yakovleff, A. (1993). A Heterogeneous Architecture for Stereoscopic Visualisation. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 349-356). Piscataway, NJ: IEEE Service Center.

Ohya, J., Kitamura, Y., Takemura, H., Kishino, F., and Terashima, N. (1993). Real-time Reproduction of 3D Human Images in Virtual Space Teleconferencing. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 408-414). Piscataway, NJ: IEEE Service Center.

Pope, S.T. and Fahlen, L. E. (1993). The Use of 3-D in a Synthetic

Environment: An Aural Renderer for a Distributed Virtual Reality System. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp.176-182). Piscataway, NJ: IEEE Service Center.

Poston, T. and Fairchild, K.M. (1993). Virtual Aristotelean Physics. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 512-518). Piscataway, NJ: IEEE Service Center.

Regan, M. and Pose, R. (1993). An Interactive Graphics Display Architecture. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 293-299). Piscataway, NJ: IEEE Service Center.

Reichlen, B. A. (1993). Sparcchair: A One Hundred Million Pixel Display. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 300-307). Piscataway, NJ: IEEE Service Center.

Rosenberg, L.B. (1993). Virtual Fixtures: Perceptual Tools for Telerobotic Manipulation. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 76-82). Piscataway, NJ: IEEE Service Center.

Rosenberg, L. B. (1993). The Effect of Interocular Distance upon Operator Performance using Stereoscopic Displays to Perform Virtual Depth Tasks. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 27-33). Piscataway, NJ: IEEE Service Center.

Shaw, C. and Green, M. (1993). The MR Toolkit Peers Package and Experiment. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 463-470). Piscataway, NJ: IEEE Service Center.

Shepherd, B.J. (1993). Rationale and Strategy for VR Standards. In Proceedings of IEEE 1993 Virtual Reality Annual International

Symposium, VRAIS '93 (pp. 41-46). Piscataway, NJ: IEEE Service Center.

Shimoga, K. (1993). A Survey of Perpetual Feedback Issues in Dexterous Telemanipulation: Part II: Finger Touch Feedback. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 271-279). Piscataway, NJ: IEEE Service Center.

Shimoga, K.B. (1993). A Survey of Perceptual Feedback in Dexterous Telemanipulation: Part I. Finger Force Feedback. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 263-270). Piscataway, NJ: IEEE Service Center.

Singh, S.K., Kumar, A., and Shi, L. (1993). Generating Autonomous Dynamic Behavior for Computer Animation: A Constrained Optimal Control Approach. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 422-428). Piscataway, NJ: IEEE Service Center.

Slater, M. and Usoh, M. (1993). Presence in Immersive Virtual Environments. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 90-96). Piscataway, NJ: IEEE Service Center.

Soderberg, B. and Miller, D. (1993). Image Generation Design for Ground-based Network Training Environments. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 318-330). Piscataway, NJ: IEEE Service Center.

Song, D. and Norman, M. (1993). Nonlinear Interactive Motion Control Techniques for Virtual Space Navigation. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 111-117). Piscataway, NJ: IEEE Service Center.

Sowizral, H.A. and Barnes, J.C. (1993). Tracking Position and Orientation in a Large Volume. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 132-140).

Piscataway, NJ: IEEE Service Center.

Stanley, M.C., and Colgate, J.E. (1993). Real Time Simulation of Stiff Dynamic Systems via Distributed Memory Parallel Processors. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 456-462). Piscataway, NJ: IEEE Service Center.

Stry, C. (1993). Task-Oriented Design of Virtual Worlds. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 97-103). Piscataway, NJ: IEEE Service Center.

Su, S.A. and Furuta, R. (1993). The Virtual Panel Architecture: A 3D Gesture Framework. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 387-393). Piscataway, NJ: IEEE Service Center.

Tanner, S. (1993). The Use of Virtual Reality at Boeing's Huntsville

Laboratories. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 14-19). Piscataway, NJ: IEEE Service Center.

Yamamoto, K., Ishiguro, A., and Uchikawa, Y. (1993). A Development of Dynamic Deforming Algorithms for 3D Shape Modeling with Generation of Interactive Force Sensation. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 505-511). Piscataway, NJ: IEEE Service Center.

Yamashita, J. and Fukui, Y. (1993). A Direct Deformation Method. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 499-504). Piscataway, NJ: IEEE Service Center.

Yonekura, T., Ariyoshi N., and Watanabe, Y. (1993). ASPECT: Audio Spatial Environment for Communication - as a Three Dimensional Auditory Interaction Tool. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp.183-187).

Piscataway, NJ: IEEE Service Center.

Youn, J.-H. and Wohn, K. (1993). Realtime Collision Detection for Virtual Reality Applications. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp. 415-421). Piscataway, NJ: IEEE Service Center.

Zhai, S. and Milgram, P. (1993). Human Performance Evaluation of Manipulation Schemes in Virtual Environments. In Proceedings of IEEE 1993 Virtual Reality Annual International Symposium, VRAIS '93 (pp.155-161). Piscataway, NJ: IEEE Service Center.

SIGGRAPH 93

Bergman, L.D., Richardson, J.S., Richardson, D.C., and Brooks, F.P., Jr. (1993). VIEW-An Exploratory Molecular Visualization System with User-Definable Interaction Sequences. In Proceedings of SIGGRAPH 93 , Computer Graphics [Annual Conference Series] (pp.117-126). New York, NY: ACM.

Deering, M.F. and Nelson, S.R. (1993). Leo: A System for Cost Effective 3D Shaded Graphics. In Proceedings of SIGGRAPH 93 , Computer Graphics [Annual Conference Series] (pp.101-108). New York, NY: ACM.

Funkhouser, T. A. and Sequin, C. H. (1993). Adaptive Display Algorithm for Interactive Frame Rates During Visualization of Complex Virtual Environments. In Proceedings of SIGGRAPH 93 , Computer Graphics [Annual Conference Series] (pp.247-254). New York, NY: ACM.

Gottschalk, S. and Hughes, J.F. (1993). Autocalibration for Virtual Environments Tracking Hardware. In Proceedings of SIGGRAPH 93 , Computer Graphics [Annual Conference Series] (pp.65-72). New York, NY: ACM.

Neira-Cruz, C., Sandin, D.J., and DeFanti, T. A. (1993). Surround-Screen Projection-Based Virtual Reality: The Design and Implementation of the CAVE. In Proceedings of SIGGRAPH 93 ,

Computer Graphics [Annual Conference Series] (pp.135-142). New York, NY: ACM.

Taylor, R.M., II, Robinett, W., Chi, V.L., Brooks, F. P., Jr., Wright, W. V., Williams, R.S., and Snyder, E.J. (1993). The Nanomanipulator: A Virtual-Reality Interface for a Scanning Tunnelling Microscope. In Proceedings of SIGGRAPH 93 , Computer Graphics [Annual Conference Series] (pp.127-134). New York, NY: ACM.

Zelevnik, R.C., Herndon, K.P., Robbins, D.C., Huang, N., Meyer, T., Parker, N., and Hughes, J.F. (1993). An Interactive 3D Toolkit for Constructing 3D Widgets. In Proceedings of SIGGRAPH 93 , Computer Graphics [Annual Conference Series] (pp.81-84). New York, NY: ACM.

HFES'93:

Proceedings of The Human Factors and Ergonomics Society 37th Annual Meeting Designing for Diversity, Seattle, Washington. October 11-15, 1993. Santa Monica, CA: Human Factors Society.

Adelstein, B.D. and Ellis, S.R. (1993). Effect of Head-Slaved Visual Image Roll on Spatial Situation Awareness. In Proceedings of The Human Factors and Ergonomics Society 37th Annual Meeting Designing for Diversity, volume 2 (pp. 1350-1354). Santa Monica, CA: Human Factors Society.

Arthur, E.J., Hancock, P.A. and Chrysler, S.T. (1993). Spatial Orientation in Real and Virtual Worlds. In Proceedings of The Human Factors and Ergonomics Society 37th Annual Meeting Designing for Diversity, volume 1 (pp. 328-332). Santa Monica, CA: Human Factors Society.

Brelsford, J. W. (1993). Physics Education in a Virtual Environment. In Proceedings of The Human Factors and Ergonomics Society 37th Annual Meeting Designing for Diversity, volume 2 (pp. 1286-1290). Santa Monica, CA: Human Factors Society.

Chignell, M.H., Poblete, F., and Zuberec, S. (1993). An Exploration in

the Design Space of Three-Dimensional Hierarchies. In Proceedings of The Human Factors and Ergonomics Society 37th Annual Meeting Designing for Diversity, volume 1 (pp. 333-337). Santa Monica, CA: Human Factors Society.

Foyle, D.C., McCann, R.S., Sanford, B.D., and Schwirzke, M.F.J. (1993). Attentional Effects with Superimposed Symbology: Implications for Head-Up Displays (HUD). In Proceedings of The Human Factors and Ergonomics Society 37th Annual Meeting Designing for Diversity, volume 2 (pp. 1340-1344). Santa Monica, CA: Human Factors Society.

Geiselman, E.E. and Osgood, R.K. (1993). Toward an Empirically Based Helmet-Mounted Display Symbology Set. In Proceedings of The Human Factors and Ergonomics Society 37th Annual Meeting Designing for Diversity, volume 1 (pp. 93-97). Santa Monica, CA: Human Factors Society.

Liggett, K.K., Reising, J.M., Beam, D.J. and Hartsock, D.C. (1993). The Use of Aiding Techniques and Continuous Cursor Controllers to

Designate Targets in 3D Space. In Proceedings of The Human Factors and Ergonomics Society 37th Annual Meeting Designing for Diversity, volume 1 (pp. 11-15). Santa Monica, CA: Human Factors Society.

Lloyd, C.J.C. and Reinhart, W.F. (1993). Requirements for HUD Raster Image Modulation in Daylight. In Proceedings of The Human Factors and Ergonomics Society 37th Annual Meeting Designing for Diversity, volume 2 (pp. 1335-1339). Santa Monica, CA: Human Factors Society.

McCann, R.S., Lynch, J.M., Foyle, D.C., and Johnston, J.C. (1993). Modeling Attentional Effects with Head-Up Displays. In Proceedings of The Human Factors and Ergonomics Society 37th Annual Meeting Designing for Diversity, volume 2 (pp.1345-1349). Santa Monica, CA: Human Factors Society.

Meliza, L.L. (1993). Measuring the Performance of Armor Platoons in the SIMNET Environment. In Proceedings of The Human Factors and Ergonomics Society 37th Annual Meeting Designing for Diversity, volume 2 (pp. 1186-1190). Santa Monica, CA: Human Factors Society.

Perry, C.E., Buhrman, J.R. and Knox, F.S. (1993). Biodynamic Testing of Helmet Mounted Systems. In Proceedings of The Human Factors and Ergonomics Society 37th Annual Meeting Designing for Diversity, volume 1 (pp. 79-83). Santa Monica, CA: Human Factors Society.

Robinette, K.M. (1993). Fit Testing as a Helmet Development Tool. In Proceedings of The Human Factors and Ergonomics Society 37th Annual Meeting Designing for Diversity, volume 1 (pp. 69-73). Santa Monica, CA: Human Factors Society.

Sampson, J.B. (1993). Cognitive Performance of Individuals Using a Head-Mounted Display while Walking. In Proceedings of The Human Factors and Ergonomics Society 37th Annual Meeting Designing for Diversity, volume 1 (pp. 333-337). Santa Monica, CA: Human Factors Society.

Sauerwein, T. A. and Molino, J. A. (1993). Simulating the Replacement of Spacecraft Modules by Means of a Telerobot. In Proceedings of The

Human Factors and Ergonomics Society 37th Annual Meeting
Designing for Diversity, volume 1 (pp. 43-46). Santa Monica, CA:
Human Factors Society.

Whitestone, J. J. (1993). Design and Evaluation of Helmet Systems
Using 3D Data. In Proceedings of The Human Factors and Ergonomics
Society 37th Annual Meeting Designing for Diversity, volume 1 (pp. 64-
68). Santa Monica, CA: Human Factors Society.

Zhai, S. (1993). Investigation of Feel for 6DOF Inputs: Isometric and
Elastic Rate Control for Manipulation in 3D Environments. In
Proceedings of The Human Factors and Ergonomics Society 37th
Annual Meeting Designing for Diversity, volume 1 (pp. 323-327). Santa
Monica, CA: Human Factors Society.

IEEE Symposium on Research Frontiers in Virtual Reality

Note: Because this conference just occurred, I have simply noted the
presenter and the paper titles. For more information call the VIS93

phone: 510-423-9368 or send email to Vis93@llnl.gov

IEEE Symposium on Research Frontiers in Virtual Reality, October 25-26, 1993, San Jose, CA. Symposium Co-Chairs: Steve Bryson and Steve Feiner.

Gossweiler, R., Long, C. , Koga, S. and Pausch, R. DIVER: A Distributed Virtual Environment Research Platform

Iwata, H. and Noma, H. Volume Haptization.

Hubbard, P.M. Interactive Collision Detection

Nemire, K. and Ellis, S.R. Calibration and Evaluation of Virtual Environment Displays

Pausch, R., Shackelford, M.A. and Proffitt, D. A User Study Comparing Head-Mounted and Stationary Displays

Rosenberg, L.B. and Adelstein, B.D. Perceptual Decomposition of Virtual Haptic Surfaces

Loomis, J.M. Understanding Synthetic Experience Must Begin with the Analysis of Ordinary Perceptual Experience.

Cruz-Neira, C., Leigh, J., Papka, M., Barnes, C., Cohen, S.M., Das, S., Engelmann, R., Hudson, R., Roy, Trina, Siegel, L., Vasilakis, C., DeFanit, T.A. and Sandin, D.J. Scientists in Wonderland: A Report on Visualization Applications in the CAVE Virtual Reality Environment.

Loftin, R.B., Engelberg, M., and Benedetti, R. Applying Virtual Reality in Education: A Prototypical Virtual Physics Laboratory.

Song, D. and Norman, M.L. Cosmic Explorer: A Virtual Reality Environment for Exploring Cosmic Data.

Hart, J.C. On Recording Virtual Environments.

Cohen, M. and Koizumi, N. Virtual Gain for Audio Windows.

Speigle, J.M. and Loomis, J.M. Auditory Distance Perception by Translating Observers.

Astheimer, P. What You See is What You Hear.

On The Net

Jerry Isdale's revised version of What Is Virtual Reality? A Homebrew Introduction and Information Resource List, Version 2.1, Oct. 1993:

The primary distribution points for electronic form of this paper are:

- 1) CompuServe CyberForum as 'whatvr.zip'
- 2) ftp site suneo.uwaterloo.ca in the pub/vr/documents area as whatisvr.txt
- 3) ftp site ftp.u.washington.edu in public/virtual-worlds/papers as

whatisvr.txt

Also available is What is Group 3, an introduction to the Group 3 Virtual Reality Development Project. Group 3 has since been replaced by the Cyberforum Workgroups. The electronic text is available at the sites listed above as 'group3.txt'.

For those of you fortunate enough to have access to the Mosaic interface on a Mac, XWindows, or Windows environment:

Cruz-Neira, C., Leigh, J., Barnes, C., Cohen, S.M., Das, S., Engelmann, R., Hudson, R., Papka, M., Roy, T., Siegel, L. Vasilakis, C., DeFanit, T.A. and Sandin, D.J. Scientists in Wonderland: A Report on Visualization Applications in the CAVE Virtual Reality Environment.. Available at <http://www.ncsa.uiuc.edu/EVL/docs/cave/vrpaper/report.html>

The VR homepage at the WWW site is now at:
http://www.ncsa.uiuc.edu/Viz/VR/vr_homepage.html.

>From the VR homepage, you can take a look at the Beckman Institute, the Visualization Laboratory, the CAVE home page, as well as:

Visualization applications used by the NCSA VR Lab: The Virtual Backhoe/Wheel Loader, The Cosmic Explorer, The Redshift Survey, Navigation through Information Space, and the Virtual Director.

Tool Development-- dataflow application programs and Virtual Devices

NCSA VR Lab Hardware

Bill Sherman, the document author, also gives you the ability to connect to relevant USENET newsgroups and related ftp sites. He's even working on a way of displaying comic strips that reference Virtual Reality, getting permission from the copyright holders of the series of Doonesbury strips regarding VR, for example.

The Mosaic interface is the cutting edge of cyberspace exploration. "Mosaic is an Internet-based global hypermedia browser that allows you

to discover, retrieve, display documents and data from all over the Internet."

--NCSA Mosaic Demo Document

(<http://www.ncsa.uiuc.edu/demoweb/demo.html>)

For those of you who do NOT have direct connection to the Internet and can't use Mosaic. You can ftp to NCSA's site at <ftp.ncsa.uiuc.edu>, take a look at the VR directory there. It's not multi-media, but it's information.

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