

# Publications by Jeffrey Jacobson, Ph.D.

333 Lamartine St., Jamaica Plain, MA 02130  
617-435-0517, jeff@enterprisevr.com  
<https://www.linkedin.com/in/jeffreyjacobsonvr/>

My doctorate focused on human perception, action, and learning in immersive space, with Virtual and Mixed Reality being the investigative tool. The approach looks at information flow in the mind and in the environment, the “distributed cognition approach to information science.

Below, you can see my academic publications, spanning two decades. (Not much in 2016 and 2017, because I was busy with my startup business.) Only publications are listed here. The summary also lists other things, like mentoring independent studies for students, grants written, etc; details available upon request.

<b>Summary of Publications</b>	<b>Lead</b>	<b>Contributing</b>
Refereed Journal Articles	6	4
Refereed Conference Papers	17	11
Winning Research Grant Applications	2	3
Refereed Posters, Talks, Demos, Panels	10	7
Invited Publications, Theses, Reports, Book Chapters	6	2
Invited Talks and Demonstrations	16	1
Other Talks, Posters, Demos, Workshops	14	3
Mentoring Master Theses, Independent Studies, and Undergraduate Internships	19	
Articles and grants reviewed, last four years	12	
Editorships, Tech Comm. Chairs, Conf. Org.	5	
Books		2

## Books

1. Gillam, R., & Jacobson, J. (Eds.). (2015). The Egyptian Oracle Project: Ancient Ceremony in Augmented Reality. Bloomsbury Publishing.
2. Helsel, S. and Jacobson, J. (1994). The VR Marketplace Directory Mecklermedia.

### Refereed Journal Articles

1. Sturz, L.A., Jacobson, J., Lawrence, T. (2014) Puppet Evolution; Film and Technology, *Puppetry Journal*, Spring, 2013 pages 12-17.
2. Jacobson, J., Sanders, D. (2013) The Vari House; Digital Puppeteering for History Education, *Journal of Immersive Education*, 2013, Institute of Immersive Education [PDF](#)
3. Jacobson, J. (2013). Digital Dome Versus Desktop Display; Learning Outcome Assessments by Domain Experts, *International Journal of Virtual and Personal Learning Environments*, IGI Global, 4(3). [PDF](#)
4. Schloss, A., Jacobson, J., and Handron, K. (2012). Active Learning in a Digital Dome with the Living Forest, *Journal of Immersive Education*, Institute of Immersive Education, 1(1). [PDF](#)
5. Jacobson, J. (2011). Digital Dome Versus Desktop Display in an Educational Game: Gates of Horus, *International Journal of Gaming and Computer-Mediated Simulations*, IGI Global, 3(4). [PDF](#)
6. Jacobson, J. and Holden L. (2007). Virtual Heritage: Living in the Past, *Techné: Research in Philosophy and Technology*, 10(3). [HTML](#) [PDF](#)
7. Jacobson, J. and Lewis, L. (2005). Game Engine Virtual Reality with CaveUT, *IEEE Computer*, 38, pp. 79-82. ([HTML](#))
8. Cavazza, M., Lugin, J., Hartly, S., Renard, M., Nandi, A., Jacobson, J., and Crooks, S. (2005). Intelligent Virtual Environments for Virtual Reality Art, *Computers and Graphics* 29(6): pp. 852-861.
9. Lewis, M. and Jacobson, J. (2002). Game Engines In Scientific Research, *Communications of the ACM*, 45, pp. 27-31. [PDF](#)
10. Whitney, S., Sparto, P., Brown, K., Furman, J., Jacobson, J., and Redfern, M. (2002). The Potential Use of Virtual Reality in Vestibular Rehabilitation: Preliminary Findings with the BNAVE, *Neurology Report*, 26 (2), 2002. [PDF](#)
11. Jacobson, J. and Hwang, Z. (2002). Unreal Tournament for Immersive Interactive Theater, in Lewis, C. and Jacobson, J. (2002a), *Game Engines for Scientific Research*, *Communications of the ACM*, January. [PDF](#)

### Refereed Conference Papers

1. Jacobson, J. (2012). Expert Evaluation of Student Presentations to Assess Learning in an Interactive Digital Dome; Opening the Gates of Horus, *Annual Meeting of the American Educational Research Association (AERA)*, Vancouver, CA, April. [PDF](#)
2. Nambiar, A., Jacobson, J. (2012) Spatialized Audio for Mixed Reality Theater: The Egyptian Oracle, *International Conference of Auditory Display*, Atlanta, GA, USA, June, 2012. [PDF](#)

3. Sumners, C., Schloss, A., Handron, K., and Jacobson, J. (2012). Immersive Interactive Learning Labs for STEM Education, *Annual Meeting of the Society for Information Technology and Teacher Education (SITE)*, Austin, Texas, USA, March 5-9. [PDF](#)
4. Hawkins, J., Jacobson, J., and Franklin, J. (2011). Greco-Roman Music in Context; Bringing Sound and Music to Virtual Pompeii, *World Conference on E-Learning in Corporate, Government, Healthcare, & Higher Education (E-Learn)*, Honolulu, Hawaii, October. [PDF](#)
5. Jacobson, J. and Handron, K. (2011). Virtual Spaces in Portable Digital Domes for Learning in Science and Cultural Heritage (Demonstration), *Annual Meeting of the American Educational Research Association (AERA)*, New Orleans, May. [PDF](#)
6. Handron, K. and Jacobson, J. (2010). Extending Physical Collections Into the Virtual Space of a Digital Dome, *The 11th International Symposium on Virtual Reality, Archaeology and Cultural Heritage VAST (2010)*, Artusi, A., Joly-Parvex, M., Lucet, G., Ribes, A., and Pitzalis, D. (Editors), Paris, France, September. [PDF](#)
7. Jacobson, J. and Preussner, G. (2010). Visually Immersive Theater with CaveUT 2.5, *World Conference on Educational Media (ED-Media)*, Toronto, Canada, June. [PDF](#)
8. Jacobson, J. (2010). Digital Dome Versus Desktop Computer in a Learning Game for Religious Architecture. *Annual Meeting of the American Educational Research Association (AERA)*, Denver, CO, April-May. [PDF](#)
9. Troche, J. and Jacobson, J. (2010). An Exemplar of Ptolemaic Egyptian Temples, *Computer Applications and Quantitative Methods in Archaeology (CAA)*, Granada, Spain, April. [PDF](#)
10. Weis, A., Jacobson, J., and Darnell, M. (2010). The Virtual Theatre District of Pompeii. *Computer Applications and Quantitative Methods in Archaeology (CAA)*, Granada, Spain, April. [PDF](#)
11. Gillam, R., Innes, C., and Jacobson, J. (2010). Performance and Ritual in the Virtual Egyptian Temple. *Computer Applications and Quantitative Methods in Archaeology (CAA)*, Granada, Spain, April. [PDF](#)
12. Johnston, M. and Jacobson, J. (2010). Virtual Space, Virtual Puppet, Authentic Experience, *Teachers College Educational Technology Conference (TCETC)*, New York, NY, May. [PDF](#)
13. Jacobson, J., Handron, K., and Holden, L. (2009). Narrative and Content Combine in a Learning Game for Virtual Heritage, *Computer Applications to Archaeology*, Williamsburg, VA. [PDF](#)
14. Henden, C., Champion, E., Muhlberger, R., and Jacobson, J. (2008). Sharing the Magic Circle with Spatially Inclusive Games, *SIGGRAPH Asia*, Singapore, December. [PDF](#)
15. Henden, C., Champion, E., Muhlberger, R., and Jacobson, J. (2007). A Surround Display Warp-Mesh Utility to Enhance Player Engagement, *International Conference on Entertainment Computing*, September, Pittsburgh, PA. [PDF](#)

16. Jacobson, J., Rendard, M. L., Lugin, J. L., and Cavazza, M. (2005). The CaveUT System: Immersive Entertainment Based on a Game Engine. *ACM SIGCHI International Conference on Advances in Computer Entertainment Technology (ACE 2005)*, Valencia, Spain, June. Original Long Version in PDF format. (It was accepted as a short paper.)
17. Jacobson, J. and Vadnal, J. (2005). The Virtual Pompeii Project, *World Conference on E-Learning in Corporate, Government, Healthcare, & Higher Education (E-Learn,)* Vancouver, Canada, October 24 to 28. [PDF](#)
18. Jacobson, J., Kelley, M., Ellis, S., and Seethaler, L. (2005). Immersive Displays for Education Using CaveUT, *World Conference on Educational Multimedia, Hypermedia & Telecommunications (ED-MEDIA)*, Montreal, Canada, June 27 to July 2. [PDF](#)
19. Jacobson, J. and Holden, L. (2005). The Virtual Egyptian Temple, *World Conference on Educational Media, Hypermedia & Telecommunications (ED-MEDIA)*, Montreal, Canada, June 27 to July 2. [PDF](#)
20. Jacobson, J. (2002). Configuring Multi-screen Immersive Displays With Existing Computer Equipment, *Proceedings of the Human Factors and Ergonomics Society 46th Annual Meeting*, Baltimore, Maryland, pp. 760-765, September 30 to October 4. [PDF](#)
21. Jacobson, J., Redfern, M., Furman, J., Whitney, S., Sparto, P., Wilson, J., and Hodges, L. (2001). Balance NAVE: A Virtual Reality Facility for Research and Rehabilitation of Balance Disorders, *Proceedings of the Virtual Reality Software and Technology Meeting*, Banff, Canada, November. [PDF](#)
22. Jacobson, J. and Vadnal, J. (1999). Multimedia in Three Dimensions for Archeology: Information Retrieval With Interactive Models, *Proceedings of the SCI '99/ISAS '99 Conference*, Orlando, Florida, August 3. [PDF](#)
23. Jacobson, J. and Vadnal, J. (1998). Learning in a Highly Interactive, Low-Resolution Virtual Environment: The Tomb of Lady-Hao, *Proceedings of the 1998 IEEE International Conference on Systems, Man, and Cybernetics*, Orlando, Florida, October 11 to 14. ISBN: 0-7803-4778-1 [PDF](#)
24. Jacobson, J. and Lewis, M. (1997). An Experimental Comparison of Three Methods for Collision Handling in Virtual Environments, *Proceedings of the Human Factors and Ergonomics Society, 41st Annual Meeting*, September 22 to 26, Albuquerque, New Mexico, Vol. 2, p. 1273. [PDF](#)
25. Jacobson, J. and Lewis, M. (1997). Collision Handling in Virtual Environments: Facilitating Natural User Motion, *Proceedings of the 1997 IEEE International Conference on Systems, Man, and Cybernetics*, Orlando, Florida, October 12 to 15. [PDF](#)
26. Lewis, M., Lenox, T., Roth, E., Roberts, L., Shern, R., Rafalski, T., and Jacobson, J. (1997c). Support of Teamwork in Human-agent Teams, *Proceedings of the 1997 IEEE International Conference on Systems, Man, and Cybernetics*, Orlando, Florida, October.

## Invited Publications, Theses, Technical Reports, Book Chapters

1. Jacobson, J. (2017). Authenticity in Immersive Design for Education, in *Virtual, Augmented, and Mixed Realities in Education*, eds. D. Liu, C. Dede, J. Richards. Springer. In press.
2. Jacobson, J. (2012). The Egyptian Oracle; Live Reenactment in Augmented Reality, *High-Tech Heritage: How Are Digital Technologies Changing Our Views of the Past?* Amherst, MA, USA, May 2-4. Presentation. [Abstract](#)
3. Jacobson, J. (2012). Interaction Beyond the Desktop, *ARVEL Super News, Summer, 2012*. [HTML](#)
4. Jacobson, A. (2011). Egyptian Ceremony in the Virtual Temple; Avatars for Virtual Heritage, *Whitepaper and Final Performance Report to the National Endowment for the Humanities*. Digital Startup Grant #HD5120910. PDF
5. Jacobson, J. (2011). Dome Theaters for Education, *ADL Newsletter for Educators and Educational Researchers*, October [HTML](#)
6. Jacobson, J. (2008). Ancient Architecture in Virtual Reality; Does Immersion Really Aid Learning? **Doctoral Dissertation**, School of Information Sciences, University of Pittsburgh. URN: etd-04222008-172117. [PDF](#)
7. Duncan, M., Kelley, M., and Jacobson, J. (2006). High School Graduate Refines Gyromouse Interface For Virtual Reality; Preteens Play Crucial Role, *Computer Graphics Quarterly*, Vol. 40, No. 2, ACM SIGGRAPH (publisher), August, 2006.