# Supporting Learning through Spatial Information Presentations in Virtual Environments

Eric D. Ragan

Dissertation submitted to the faculty of the Virginia Polytechnic Institute and State University in partial fulfillment of the requirements for the degree of

Doctor of Philosophy In Computer Science and Applications

> Doug A. Bowman, Chair Richard E. Mayer Chris L. North Francis Quek Tonya L. Smith-Jackson

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Keywords: virtual reality, visualization, large-display systems, educational software, spatial information presentations, learning, memory

## Eric Ragan <eragan@vt.edu> To: john@john-norris.net

Tue, Apr 23, 2013 at 8:06 PM

Hi John,

I'm a PhD student at Virginia Tech and am finishing a dissertation involving the use of 3D virtual environments for learning purposes. I'm writing to ask your permission to include two images from your site in my dissertation document. The document will be a publicly available research document and, of course, I will cite your web site.

Here are the two specific images I'd like to include: http://john-norris.net/wp-content/uploads/2010/05/PosterRowFC.jpg http://john-norris.net/wp-content/uploads/2010/05/birdseyeFC.jpg

Please let me know.

Thanks, Eric

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Eric Ragan
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http://people.cs.vt.edu/~eragan12/

John Norris <john@john-norris.net>
To: Eric Ragan <eragan@vt.edu>

Tue, Apr 23, 2013 at 11:22 PM

Hi Eric,

Please go right ahead and do so. Glad to have helped you out.

I would also be curious to read our paper when it is published.

All the best,

John (AKA Knoh Oh in SL)

http://john-norris.net

To: chris\_dede@harvard.edu

#### Dr. Dede.

I'm a PhD student at Virginia Tech and am finishing a dissertation involving educational virtual environments. I'm writing to ask permission to include a couple images of the ScienceSpace worlds in my dissertation document. I'd like to include an image of MaxwellWorld and one of NewtonWorld that I found at http://www.virtual.gmu.edu/ss\_photos. Can you let me know if this is OK?

Thanks, Eric

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Dede, Chris <chris\_dede@gse.harvard.edu>

Wed, Apr 24, 2013 at 9:48 AM

To: Eric Ragan <eragan@vt.edu>

Yes, please do. Glad you found ScienceSpace helpful...

--Chris

Chris Dede
Timothy E. Wirth Professor in Learning Technologies
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To: m.roussou@cs.ucl.ac.uk

Hi Maria,

I'm a PhD student at Virginia tech and am finishing a dissertation involving educational virtual environments. I'm writing to ask permission to include a couple images of the virtual playground in my dissertation document. I'd like to include images from your 2010 Virtual Reality paper (DOI 10.1007/s10055-006-0035-5) as examples of VEs used for conceptual learning. More specifically, I hoped to use the left image of Figure 4 and the middle-left image from Figure 5. I would cite the source. Can you let me know if this is OK?

Thanks,

Eric

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#### Maria Roussou <maria@makebelieve.gr>

Wed, Apr 24, 2013 at 10:43 PM

To: Eric Ragan <eragan@vt.edu>

Dear Eric.

Sure.

I am attaching the pictures that I believe you want to include, for your convenience. Good luck with the completion of your dissertation; I would be interested in reading it after you're done.

Best wishes,

Maria

Maria Roussou, Ph.D, MFA, M.Sc makebelieve design & consulting T: +30 6977325456 | www.makebelieve.gr

#### 2 attachments





#### Eric Ragan <eragan@vt.edu> To: dickeymd@muohio.edu

Fri, Apr 26, 2013 at 2:48 PM

Dr. Dickey,

I'm a PhD student at Virginia Tech and am finishing a dissertation involving educational virtual environments. I'm writing to ask permission to include an image from Active Worlds in my dissertation document as an example.

Specifically, I'd like to include Figure 2 from:

Dickey, M. D. (2005). Three-dimensional virtual worlds and distance learning: two case studies of Active Worlds as a medium for distance education. British Journal of Educational Technology, 36(3), 439-451.

Can you let me know if this is OK?

Thanks, Eric

Dickey, M. D. (2005). Three-dimensional virtual worlds and distance learning: two case studies of Active Worlds as a medium for distance education. British Journal of Educational Technology, 36(3), 439-451.

Eric Ragan PhD Candidate Center for Human-Computer Interaction Dept. of Computer Science, Virginia Tech http://people.cs.vt.edu/~eragan12/

### Michele Dickey <dickeymd@miamioh.edu>

Fri, Apr 26, 2013 at 8:47 PM

To: Eric Ragan <eragan@vt.edu>

Hi Eric,

Sure you can use it. Good luck with your dissertation⊕

md

Michele D. Dickey, Ph.D. Professor **Department of Educational Psychology** Miami University 513-529-3741