# Immersive 3D Worlds: Creating Virtual Reality Spaces

Drew Graham
Bemidji State University
agraham@bemidjistate.edu

Lyle Meulebroeck
Bemidji State University
mailto:lmeulebroeck@bemidjistate.edu

## Abstract

The world of 3D modeling is nothing new, nor is the need to share those models. In the past, sharing a 3D model meant spending hours rendering an image or short video. These renderings offered only a short limited look at the 3D model or space and could be very time consuming to generate. Imagine being able to let a client interact and explore all sides of a prototype or walk around a virtual model of their soon to be constructed home. With the evolution of Virtual Reality, it's now possible to truly immerse yourself in such a space.

By combining current Videogame creation software (Unity 3D) with current 3D modeling software, designers can easily create and share fully functional virtual models and spaces, eliminating the need to render limited and simple representations of their creations.
This presentation will walk the audience through the process of creating 3D models and spaces that can be explored in real-time. The presentation will include a demonstration of how nearly any 3D modeling program can be used to generate a completely self-contained model or space. The file generated eliminates the need for hours of rendering, has the benefit of being easily shared with a client, and can now be truly experienced using a virtual reality headset.

*Proceedings of the 2016 IAJC-ISAM Joint International Conference*
*ISBN 978-1-60643-379-9*

**Biographies**

ANDREW GRAHAM is an Assistant Professor of Technology, Art & Design at Bemidji State University. He holds a Bachelor's degree in Design Technology with an emphasis in Digital Design. He has a Master's degree in Career and Technical education and is currently finishing his doctorate in Higher Education Administration. His areas of focus include 3D Modeling, 3D Scanning, 3D Printing, Interactive Design, Video Production, Virtual Reality, Rapid Prototyping, and Portfolio Creation. Mr. Graham may be reached at agraham@bemidjistate.edu.

LYLE MEULEBROECK is an Assistant Professor of Technology, Art & Design at Bemidji State University. Mr. Meulebroeck holds a Master's Degree in Technology/Career and Technical Education and a BS in Industrial Technology with an emphasis in Model Making. Mr. Meulebroeck has industry related experience having worked as a model maker and a Project Engineer for Racing Champions/ERTL Toy Company for 11 years. He has been teaching for 14 years in a College/University environment. Course offerings include; Power Technology, Electricity/Electronics Technology, Automation, Materials Processes – Separating/Forming, 3D Parametric Modeling, Rapid Prototyping/3D Printing & Industrial Design. Mr. Meulebroeck may be reached at lmeulebroeck@bemidjistate.edu.