Announcing the Final Examination of Charles Greenwood for the degree of Master of Science

Time & Location: April 3, 2019 at 10:00 AM in HEC 450
Title: Real-Time Editing in Virtual Reality for Room Scale Scans

Much work has been done in collecting scans of room sized (and larger!) areas for representation upon a computer screen, and in editing those scans digitally. Likewise, there are numerous programs for creating or altering objects using primitive shapes in a three dimensional work space. In this paper, the author discusses the design and implementation of tools that support the editing of roomâ€”scale scans within a virtual reality environment, and in real time. The moniker REVRRSS (â€œreverseâ€œ or, for Firefly fans, â€œreaversâ€œ) thus stands for Realâ€”time Editing (in) Virtual Reality (of) Room Scale Scans. The tools and methods were evaluated for usefulness by the author based upon whether they meet the criterion of real time usability: did the tools respond quickly enough to seem natural and fluid. Users evaluated the editing experience with traditional keyboardâ€”screenâ€”mouse and with a head mounted display and handâ€”held controllers for Virtual Reality. Results show that users overwhelmingly preferred the VR approach. Innumerable future projects are possible within the REVRRSS framework developed here.

Major: Computer Science

Educational Career:
Bachelor's of Applied Computer Science, BS, 2000, Illinois State university

Committee in Charge:
Joseph J LaViola, Chair, Computer Science
Charles Hughes, Computer Science
Mark Heinrich, Computer Science

Approved for distribution by Joseph J LaViola, Committee Chair, on March 21, 2019.

The public is welcome to attend.