University of Victoria | Graduate Studies

Notice of the Final Oral Examination
for the Degree of Master of Science

of

STEVEN BJORNSON

BA (University of Victoria, 2012)

"Interactivity by Design: Interactive Art Systems Through Network Programming"

Interdisciplinary Studies

Thursday, December 8, 2016
10:00AM
Visual Arts Building
Room A120

Supervisory Committee:
Dr. George Tzanetakis, Department of Computer Science, University of Victoria (Co-Supervisor)
Dr. Paul Walde, Department of Visual Arts, UVic (Co-Supervisor)

External Examiner:
Dr. Andrew Schloss, Department of Music, UVic

Chair of Oral Examination:
Dr. John Meldrum, School of Exercise Science, Physical & Health Education, UVic

Dr. David Capson, Dean, Faculty of Graduate Studies

Abstract

Interactive digital art installations are fundamentally enabled by hardware and software. Through a combination of these elements an interactive experience is constructed. The first half of this thesis discusses the technical complexity associated with design and implementation of digital interactive installation. A system, *dreamIO*, is proposed for mediating this complexity through providing wireless building blocks for creating interactive installations. The technical details - both hardware and software- of this system are outlined. Measurements of the system are presented followed by analysis and discussion of the real world impact of this data. Finally, a discussion of future improvements is presented.

The second half of this thesis examines an example interactive installation, Transcode, which uses the proposed system as the building block for the piece. The piece is presented as evidence for the value of the proposed system and as a work of art in it's own right. The use of the *dreamIO* system is detailed followed by a discussion of the interactivity and aesthetic form of the work. The purposes of these specific design choices are then presented. Finally, the work is analyzed through a combination of Relational Aesthetics and Cybernetics.