A THEORY OF THE VIEWER EXPERIENCE OF INTERACTIVE TELEVISION

by

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This thesis is presented for the degree of

Doctor of Philosophy

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I declare that this thesis is my own account of my research and contains as its main content work which has not previously been submitted for a degree at any tertiary education institution.

Maurice McGinley
Abstract

This research addresses a gap in knowledge of how and why people might use new technologies to interact with television. The emerging medium of interactive television (iTV) is qualitatively different from other screen-based interaction paradigms, including personal computers, console games, and internet-based video services. This qualitative difference means we cannot assume that human computer interaction (HCI) knowledge and guidelines from these other domains can be applied to television use. If iTV is to succeed, it will need to find interaction paradigms appropriate to the television viewing context.

It has been argued that sound theory is a prerequisite for the growth of the discipline of HCI, but that existing HCI theory tends to be too specific for broad application or reuse. HCI theories tend to be borrowed from other disciplines, such as cognitive science, and often prove too complex to be tractable by user interface designers. Hence the call for the development of HCI theory integrating models from related human sciences, formulated to be tractable by designer practitioners. In response to this call, this thesis develops an integrative theory of the user experience of iTV formulated for the use of iTV designers.

A constructivist Grounded Theory methodology was used to derive the theory from data. The theory is based on data collected from: i) three iTV projects investigating interaction approaches for Children’s content, for News programs, and for Messaging applications in a remote western Australian desert community; ii) a detailed analysis of iTV interaction, iii) reviews of relevant literature from HCI, Media Studies and Psychology disciplines. A purpose built database contained more than 1700 discrete theory-related notes, including 94 identified themes, all interlinked by more than 3700 relationships. Twenty five categories were developed from patterns identified in the data through an abductive and inductive process of clustering, sorting, and abstraction; directed by criteria of explanatory power, elegance, coherence, clarity, and precision; with constant comparison to the data. The resultant theory was validated according to its ability to generate hypotheses relevant and useful to iTV design practitioners, and its ability to augment pre-existing design guidelines.
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