

**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

Murdoch University, December 2009.

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.

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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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Acknowledgements

I must first of all thank A'na, my wife, who supported me in every way during the long research project. A'na gave part of her life to this research. The research has also become part of the lives of my children, Seamus, Frances, Tex, and Nora, in the form of a father who was always “too busy”.

I thank my supervisor, Dr. Andrew Turk (from the Murdoch University School of IT), who introduced me to places and ideas I would never have found on my own, and who encouraged me to continue, when I would have quit. I am fortunate to have become friends with someone so intelligent, wise, kind, and fearless.

The Childrens and News iTV projects conducted for the Australian Broadcasting Corporation iTV projects were made possible through the Interactive Research Institute at Murdoch University, under the direction of Dr Duane Varan. I also thank the entire ABC New Media division for their support and contribution, in particular, Abigail Thomas and Chris Winter.

Dr Turk coordinated the larger iTV Messaging for Remote Indigenous Communities project (the “DIRT project”), and was responsible for establishment of relations with the remote communities, negotiations and arrangements for community access, and to ensure that cultural concerns were understood and respected. Dr Tony Eyers of Woolloongong School of Engineering was responsible for technical and engineering aspects of the project, with substantial contribution from Daniel Franklin (also at the Woolloongong School of Engineering).

The iTV Messaging for Remote Indigenous Communities portion of this research would not have been possible without the great assistance provided by Daniel Featherstone, the Media Coordinator for the Ngaanyatjarra Lands and Preston Thomas (and his family) at Kanpa. Thank you also to Ngaanyatjarra Council Media Committee members Belle Davidson and Noeli Roberts, for their patient and knowledgeable assistance. The wise and patient and understanding assistance I gratefully acknowledge the cooperation provided by the Ngaanyatjarra Council and the communities of Kanpa and Irrunytju and the funding and in-kind support from the Desert Knowledge Cooperative Research Centre, Murdoch University, the University of Wollongong, Imparja TV and OPTUS. The Centre for Appropriate Technology (Alice Springs) also provided valuable assistance.

I am deeply grateful to you all.

Maurice McGinley