MICHAEL NITSCHE – VIRTUAL STORY SPACES (OCT 2003) – PHD SUMMARY

Real-Time 3-Dimensional Virtual Environments (RT 3D VEs) have reached a large consumer base (Summer 2003). To make RT 3D VEs as content-providing forms meaningful for interactors, it is necessary to structure them carefully. This thesis argues that narrative provides such a structure as it assists interactors in the comprehension of a RT 3D VE and designers in the creation of it. But how do narrative RT 3D VEs operate on consumer level personal computers? How does the user participate in them? What kind of structure can improve their effectiveness? Three main joint research projects have been conducted to address these questions: *Common Tales*, *Wayfarer*, and *Haven – Virtual College Cuthbert Hall*. In addition, a workshop experiment – the *Casablanca Experiment* – plus a number of commercial RT3D VEs provide further material for analysis.

Based on this material, the thesis investigates the use of principles from the fields of architecture, narratology, and film studies to develop a model of narrative RT 3D VEs concentrating on the spatiality of RT 3D VEs. After an introduction to the approach and the academic field the argument develops in steps:

First, the basic operational features of digital media and RT 3D VEs are examined and evaluated. These are *functionality* (including interactive access) and *presentation* (the way data is expressed and visualised in a meaningful way).

Secondly, textual and narrative qualities of RT 3D VEs and their implications for the user-interaction, the cinematic narration of the unfolding event, and the dramatic role of the user in the event are investigated. The description of flexible user-positioning concludes the chapter.

Thirdly, the spatial and temporal layers which are available to arrange evocative elements are analysed with reference to narratology and architectural theory. The comprehension of the events staged in such a spatio-temporal world is described by the concept of the *Story Map* that combines cognitive mapping and reading of the narrative evocative events encountered in virtual spaces. The *Story Map* presents a way to understand how users read narrative space and is a guide to RT 3D VE design.

The fourth part of the thesis delivers the space-driven structural model for organising narrative RT 3D VEs. This model is contextualised with a range of other narrative structures. The final conclusion suggests ways in which the methodology may be used in the future implementation of multi-user RT 3D VEs.