Digital Tudor

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Abstract – Digital games are a rapidly growing cultural and social phenomenon. Game artists, museologists, and scientists with a background in 3D Visualisation, Creative Games, Heritage Studies, and Museum and Heritage Exhibition Design joined forces for a project to implement a complex structure of socio-historical knowledge about a tudor building in Manchester as a computer game.
The project investigates how a popular game engine can be modified to create Digital Heritage representations and how features which are popular and well known amongst dedicated gamers can be ported or modified to suit an interactive environment which corresponds to scientific standards.

MOTIVATION

Working as a game designer for a heritage project is probably as challenging as contributing to a game project as a scientist of heritage studies. In each case you have to understand the tools, methodologies and context of the other discipline. You have to cope with new technologies and with unforeseen requirements. In the case of our computer game for Ordsall Hall, a Tudor mansion in the Northwest of England, we allowed ourselves to make things even more complicated by grouping postgraduate students of a Masters programme in Creative Games with students of Heritage Studies, Arts and Museum Management and Museum and Heritage Exhibition Design. The objective of the project was to investigate how computer game-related environments usually used for leisure could incorporate serious aspects of a specific historic site.

Figure 1. Screenshot from the Creative Game about Ordsall Hall.

Different methods were employed by four research groups to ascertain the advantages and disadvantages of interfaces, game engines, narratives and media focus used in each of the approaches.

The challenge of the confrontation of game-driven design versus content-driven design led to questions of ludic forms versus narrative implementations as described by Frasca [1], Aarseth [2], Juul [3] and others.

SERIOUS, EDUCATIONAL OR CREATIVE?

The creation of 3-dimensional digital environments has been accompanied by a number of terms and notions which added particular flavours to the environments created. Jaron Lanier's *Virtual Reality* paved the way for a Californian New Age concept of an immersive space with unlimited telepresence. Cyberspace was the fancier version of Virtual Reality promising to connect the human body to the digital domain.

The term 'Serious Games' was introduced to describe projects that use computer game technology for purposes not generally considered to be part of the mainstream games industry. It soon became apparent that the very notion of Serious Games carries a number of problems when extended to game-related design which not only encompasses a range of applications for the Arts, Music and Social Sciences – as well as Architecture and Urban Planning – but also also the wide field of Health and Military Simulation. We understood that the so called Serious Games as defined by Henry Jenkins [4] at a recent Games Developers Conference run into a tricky problem of terminology, when having to explain why a battlefield simulation involving the US Army is supposed to be serious whereas a battlefield simulation produced by a commercial company is referred to as non-serious [5]. We therefore suggested in 2004 to call a set of games 'Creative Games' if the design, gameplay, application background or interface is based on innovative creativity rather than on conventional standards [6].

The games we are interested in might be creative, but not serious; they can be educational, but their pedagogical features alone would not classify them as creative.

KNOWLEDGE SPACE

The concept of computer-aided knowledge spaces is related to techniques of Mnemosyne, used by Greek 'singers' (Simonides of Cheos) and philosophers as well as Renaissance scholars [7]. This form of mnemotechnique, called loci or place method, was widely used by orators to memorize complete speeches. The orator selected a building and learned every nook and cranny very intensely until he was able to move about the building in his memory. As a preparation for the speech a plethora of items of different complexity and amount of detail could be placed in the memorized rooms, e.g. a scale for justice, etc. While delivering the speech the orator wandered from room to room and collected the hints to each point he wished to make.
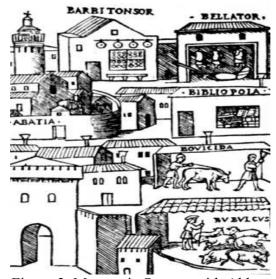

Figure 2. Mnemotic System with Abbey
(Johannes Romberch: Congestorium Artificiose Memorie, Venice 1533)

In the case of the digital *Ordsall Hall* knowledge space, a number of objects were carefully selected to work as key objects for the historic references. The game cannot be regarded as realistic as it concentrates on certain objects and leaves out others. Erik Malcolm Champion stated in *Evaluating Cultural Learning in Virtual Environments* that "*if we wish to understand how such ancient people as the Mayans of Lakam-Ha at Palenqué thought, believed and acted, we need non-realistic worlds*" [8]. The objects chosen lead to stories or micro-narratives about various aspects of daily life in Tudor times and introduce architectonic, social, political or military background facts.

Figure 3. Items used within the mnemotic system of Romberch

The arrangement of rooms, objects and interactive keypoints poses a number of questions that we tried to tackle from a heritage studies standpoint as well as from an artist's viewpoint:

- How does the appearance of the rooms contribute to the meaning of the objects contained in these rooms?
- How does the appearance of the learning subject in the virtual environment contribute to the learning process and the possible modes of acquiring knowledge?
- How do modes of movement contribute to emphasizing certain topics in the field of knowledge?
- Is it essential for users to have a bird's eye view of the terrain they are exploring?
- Is a visualisation-based approach, an activity-affording approach or a hermeneutically rich game design most appropriate for the intended use as a creative educational game? [8]

CONCLUSIONS

Based on a comparative study of the four different implementations we arrived at observations that led us to the following tentative conclusions:

1. As suggested in an earlier publication [9], the appearance of the rooms significantly contributes to the experience of being immersed, actively watching, using, constructing or deconstructing a room. Different levels of abstraction of the main hall of the Tudor building taught us that a high degree of realism contributes to the seductiveness of the game. At the same time we observed that musical background can easily compensate for a lack of realism and still immerse the player in the gamescape.

2. The project teams experimented with first person view as opposed to behind view settings. It turned out that the most convincing implementation offered first person and non-first person views as an alternative that could be chosen by the player. The historic costume in which the player pawns were dressed made it possible to counterbalance gaming stereotypes. We observed that the interest and care taken in guiding a historically attired pawn through the gamescape added an enormous amount of pseudo-responsibility to the virtual environment. Philip Muwanga, the designer of one of the levels built for Ordsall Hall animated the guide/pawn to turn to the player and produce a polite bow at gamestart. The effect seems to have been that players identified themselves with the pawn much more than when only having seen the character from behind.

Figures 4,5. Player pawn and real actors in historic costumes

3. To navigate the spaces of different content the users have to keep moving. They can walk, run, climb, jump, crouch, swim or fly according to the spatial situation. The Frankfurt-based cultural scientist Manfred Fassler has mentioned in his publication *Cyber-Moderne* that the etymological root of the German word for experience ('Erfahrung') stems from 'fahren', i.e. 'to move' [10]. We consider the process of actively exploring a quasi-spatial structure as the key mechanism for creating a semantic structure that is neither linear nor hierarchical. It is clear that the technology of a computer game is a helpful tool for the mediation of complex content. We also consider the freedom of the user to go his or her own way in the virtual environment is an important feature that allows for individually shaped relational networks inside a complex field of knowledge.

4. Due to the low complexity of the building that provided the setting for the game, we decided not to have a map of the building displayed in the game. This helped to maintain suspense as the gameplayer found hidden doors, escape routes or traps. One of the implementations, *Victorian Escape*, briefed the players to find a way out of the building. This referred to a real historic situation when the Catholic owners of the house had to flee from soldiers. A lack of control within the spatial layout helped to increase the gameplay excitement.

5. The approaches tested by students involved a hermeneutically enriched gametype, a visualisation-based game and an activity-affording game. The choice to implement one or the other was often influenced by personal preferences and educational background. Whereas the puzzle solving games obviously asked for facts to be remembered or to be guessed, the more realistic implementations favoured a 'virtual

sense of place' [8]. A viable situation seems to have been found by an implementation which attributes different modes of usage to various rooms. The garden containing bows, arrows and a target allowed for activity affording gameplay, whereas the Great Hall with information about objects and historical background information was obviously hermeneutically enriched and at the same time visually stimulating.

A question still to be investigated is whether Digital Heritage game design should prearrange areas of one of the three types of environments and lead the player into a preferred behaviour or whether game design should offer these possibilities side by side and at the same time. A current trend in complex commercial 3D environments – as shown in *Grand Theft Auto, San Andreas* or similar games – is to allow for deviant behaviour or individually chosen unorthodox behaviour in any given situation. The player is free to chase a car, listen to a song on the car stereo or just enjoy the beauty of the cityscape. This kind of freedom, which seems to work well in contemporary commercial applications, is opposed to the old concept of a stringent game narrative – or a main narrative with minigames, interrupting the large narration at a certain stage. The minigames have to be played only at a certain time and for a fixed period. Afterwards the story has to go on until it reaches its conclusion. It seems to us that games in the field of Digital Heritage could employ either of the two strategies. One can imagine a story being told about a building, a historic site or a person via the game. At the same time activity-based or visually-focused activities can be of high interest. We are obviously skirting the borderline between Educational Games and Creative Games when we try to make up our mind whether we want to tell a story or let the player play. The first approach is closer to narratology, the latter to ludology. Espen Aarseth discusses this dilemma in terms of 'genre trouble' [2], and yet it is conceivable that a joyful way of balancing the demands of play and narrative can be discovered which is not at all troublesome. We hope that some of the experiments made with the Creative Game *Ordsall Hall* point in this direction.

ACKNOWLEDGEMENTS

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