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Digital Storytelling in a Shared, Distributed 3D-Environment

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Content

Introduction	5
Brief theoretical background	5
Thoughts during the construction	6
Annotated script for StoryPlace	7
Hypertext/hypermedia place	8
Personification place	9
Causality place	10
Interactivity place	11
Dramaturgy place	12
Spatiality place	13
Temporality place	13
Next steps	14
Notes	15

Digital Storytelling in a Shared, Distributed 3D-environment

Introduction

[Transcript from presentation]. This is a somewhat strange presentation. I shouldn't even be here – at this specific location – , and you could be wherever you wanted to (as long as you can hook-up to the Internet). All you should see, really, is my avatar (the representation of me) in the 3D-environment, and you should all be avatars as well. That would be the accurate way of presenting this, the way it was meant to. But since that is not the case, I'll talk you through the represented ideas. [End of transcript].

At CID (Centre for User Oriented IT-Design)¹ at KTH² (The Royal Institute of Technology) in Stockholm we have been working with shared, distributed 3D-environments for several years. The focus of attention has often been collaborative work or the use of 3D for presenting material, like an exhibit. This project "StoryPlace" deals with a somewhat different use of the environment. I wanted a reactive environment with clearly defined motives for the locations. The work is a result of ongoing discussions within the research group, and it happened to be me who tried to visualize the concept, based on my own research regarding narration in digital environments. I'll begin with a brief theoretical backdrop (or rather position statement) and in the full paper there is an annotated script from the construction of this 3D-environment I named "StoryPlace"³.

Brief theoretical background

In a broad sense, I want to bridge the gap between traditional narratives and the new expectations of a high level of interactivity and the call for hypermedia structured material. I'm trying to bring some of the experiences from cinema, radio and television to the production of material, which is to be viewed on a computer screen.

In this specific case, I want to make the presentation in a shared, distributed 3D-environment, to explore some of the possibilities of actually being in the environment I'm trying to promote the use of! I chose Active Worlds not because of the features (there are several compromises made to increase data rate), but for the ease-of-use. It's fairly easy to create a mockup, which is precisely how this presentation should be looked upon.

I started off by trying to pin down the essentials of what constitutes a narrative. I wanted to present a toolkit to which any producer, script writer, or graphic artist working in a digital environment could relate, and find possible applications, in their own work. This is by no means revolutionary, but I hope that the combination of habits, conventions, and traditions, drawn from a wide range of disciplines, can contribute in some way.

As a point of departure: I do not find it fruitful to try to determine whether this or that is a narrative. I believe that narrative is a continuum the boundaries of which are utopian. The

five elements that I suggest constitute a narrative are apparent in narratives to different degrees. They are not necessarily essential. In different contexts, the narration focuses on different elements in the narrative. What then is narrative? A narrative takes place somewhere, denotes a time frame, includes something like characters that act in some way, and these actions (or events) are organised in some motivated order and, finally, the combination connotes and promotes personification with the events and characters by a receptee⁴. Expressed in a condensed way, the five elements that constitute narrative are: spatiality, temporality, causality, dramaturgy, and personification.

Thoughts during the construction

One of the original ideas of the project was to create a single environment for all examples I have to show when talking about new aspects of narration in digital environments. One CD-ROM after another has to load, and still the examples aren't all to the point. In a slightly pretentious mood I thought I could build my own set of examples, trimmed to my needs and desires. I think I struck out there, but it has been a quite interesting way of working. I soon found myself looking for building material at different object yards that only vaguely resembled my original idea. Sometimes you do find it, often you don't. And you adapt your idea to what kind of means for visualising is at hand. Of course you can create your own material from the ground and up. But that takes away one of the marvels with working in this environment: to be able to build something quick and easy and functional. In Active Worlds they have made several compromises to increase speed. And they have made a pretty good job. You can actually walk around in real-time 3D, even with a modem connection. But the price for this is high. It's hard to implement interactivity (apart from the often very rewarding interaction with others); and there is no support for other formats than JPEG (for images and animations) and .wav and MIDI for sound. Just think of what you, for instance, could do with QTVR or streaming QuickTime within the world (instead of forcing the user to leave the environment and show that kind of content in the web-window).

Annotated script for StoryPlace

You arrive at a gate. At the top it says: Welcome to StoryPlace (Fig 1).

When you enter a deep typically recorded voice say: "Welcome!" A number of signs form a half-circle and say, from left to right: "A narrative takes place somewhere, denotes a time frame, includes something like characters that act in some way and these actions are organized in a motivated order and the combination connotes and promotes personification with the events and characters by some receptee." [Originally I planned this information to be placed along a paved path, but I found it frustrating having to move to reach the next section in the same category. In fact Active Worlds has set a rather short visibility range to increase data rate which suggest you keep your locations closer together].

Occasionally, you hear trains passing by, dogs barking, motorcycles speeding, someone whistling, et. al, at a far distance.

Behind the half-circle is a small square and in the middle is a tall stand with seven signs (Fig 2):

"Spatiality", "Temporality", "Causality", "Dramaturgy", "Personification", "Hypertext/hypermedia", "Interactivity".

Leading from the square are seven paths in different colours. [The coloured paths were excluded since I thought the pedagogical ambition turned out to be a bit too obvious].



Fig 1. The entrance.

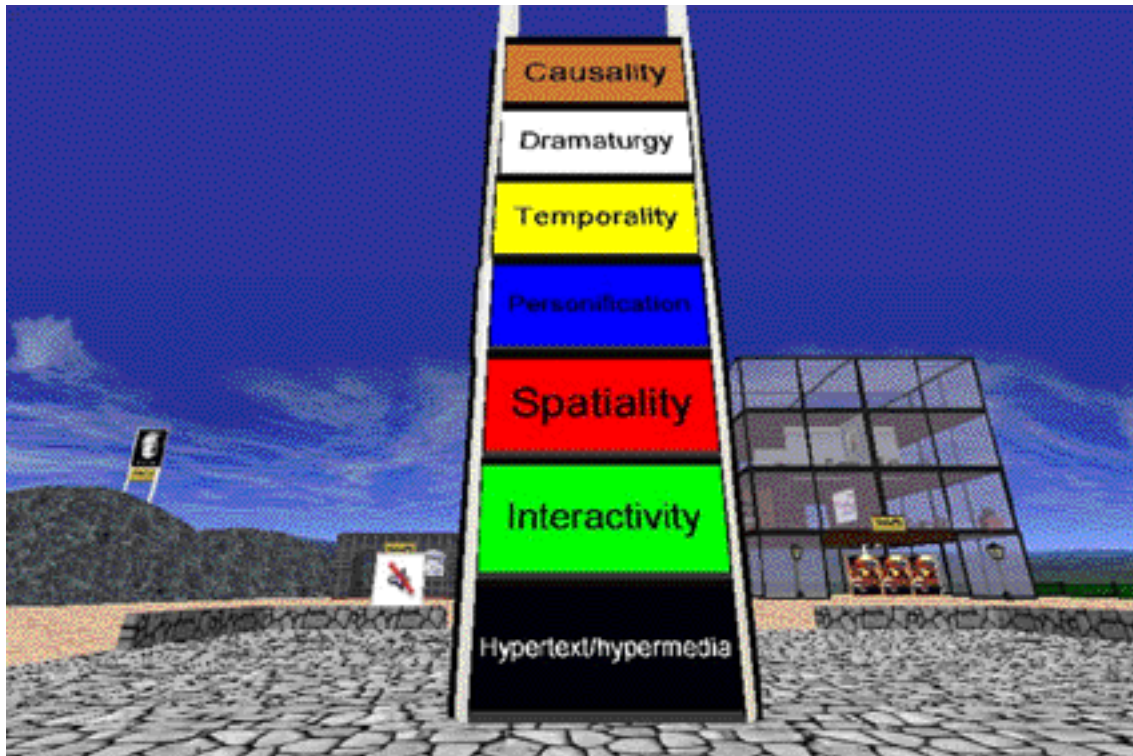


Fig 2. The navigation tower.

Hypertext/hypermedia place

If you follow the yellow path, you soon arrive at a small area surrounded with barb wire [I made it into a regular house instead (Fig 3). I liked the idea of having the cubes hanging from the ceiling]. A sign says: Hypertext/hypermedia. Inside eight cubes hang in the air, connected by strings [I couldn't find anything that resembles the fragility of strings and I let the cubes float around weightlessly instead]. They are marked with: Hypertext, Hypermedia, Multimedia, Non-linear, Non-central, Fragmented, Plastic, and Interactive. When you click the cubes a narrator starts.

Hypertext: "Hypertext denotes text composed of blocks of text and the electronic links that join them. Cited from George P. Landow".

Hypermedia: "The hypertext concept was introduced and elaborated on when the interfaces where text based. With the graphical interfaces of today's computers, the term hypermedia has instead been promoted".

Multimedia: "In evaluating (or producing) a product, the variables in the other cubes can be used in describing and assessing the content, multimedia".

Non-linear: "The user is presented with a set of alternative paths in the course of the reading/browsing. In the ideal case, the options are limitless".

Non-central: "A hypertext network has no natural center pole (and therefore no obvious starting-, or exit points). This affects the text in a manner that every section (or node) has

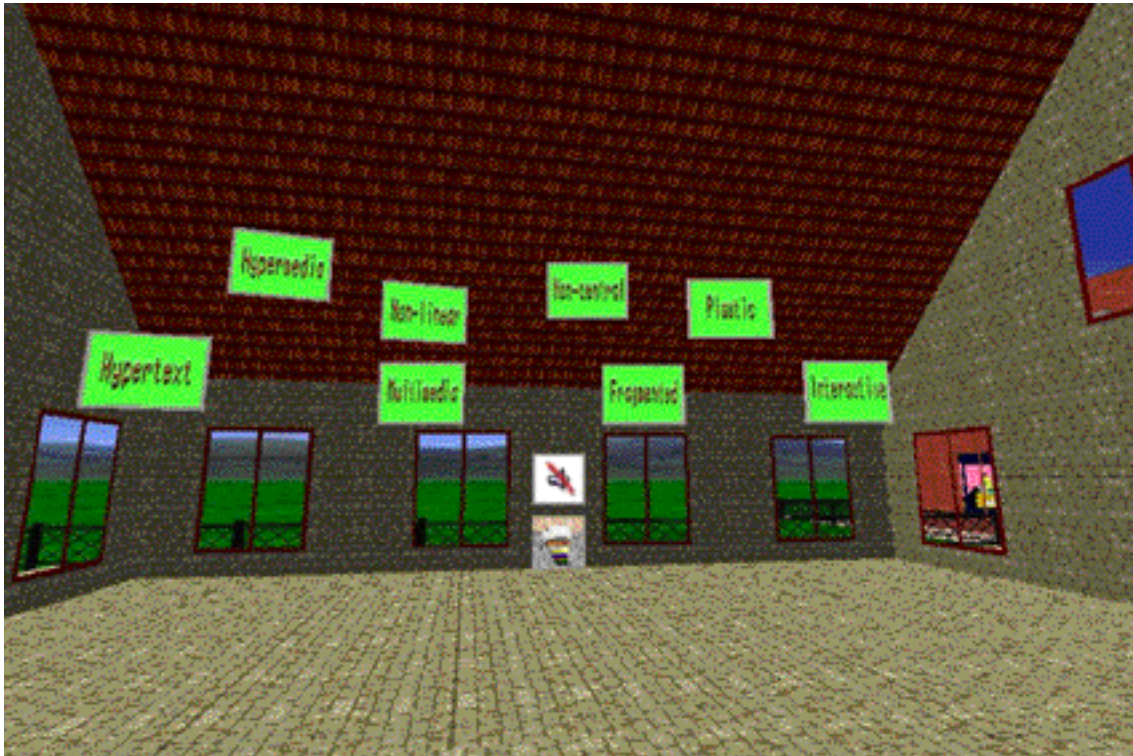


Fig 3. Hypertext/hypermedia.

to be self-containing (to some extent) since there are no confirmations that the user has done this or that before entry to a particular node”.

Fragmented: ”Since a user can go to any section (or node) this fragments the text, but it also means that every node is more ’complete’ (in a sense)”.

Plastic: ”A hypertext network is an infinite system. There is always the possibility of adding or changing things”.

Interactive: ”The user can choose paths, affect and alter the material”.

Personification place

If you follow the blue path, you soon arrive at a building with a gigantic statue of a man up front. He looks like an old moviestar (a bit like Cary Grant, Rock Hudson, Clark Gable) [I used an animated, and a bit mysterious lady instead...]. The door is between his legs. [...and let her stand on the roof].

When you enter, there is a corpse to your right. A voice-over says: ”The first time I killed someone, I was scared. Not scared to be doing it – I did it because I was scared.”

When you move forward there is a statue [actually a framed picture] of Aristotle, click and he says: ”An action implies personal agents, who necessarily possess certain distinctive qualities both of character and thought; for it is by these that we qualify actions themselves,

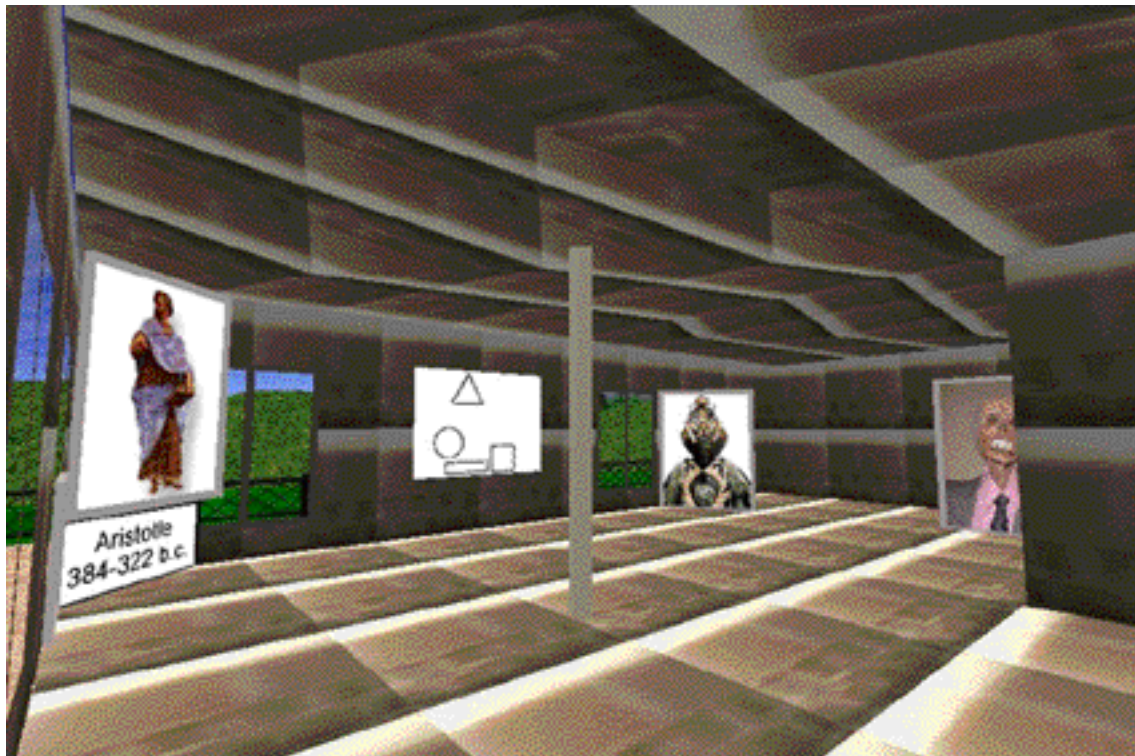


Fig 4. Personification.

and these – thought and character – are the two natural causes from which actions spring, and on actions again all success or failure depends.”

Beside him is a screen showing an animation with circles, squares and triangles, click and a narrator says: ”The characters do not need to be human characters. We can attribute these traits, feelings, and so forth, to basically anything. In an experiment conducted in the early 40’s, a research team of psychologists made an animated movie where a couple of circles, squares and triangles of different sizes moved around in a bigger square. People watching the film were required to reconstruct what had happened. To different degrees, they imposed a story structure to the presentation. ‘The big triangle chases the small one; and then the small circle comes to the aid of the small triangle,’ for example.”

On the other side is a strange little creature, click and a narrator says: ”Since we seem to want to impose meaning and causal relationships between events and the settings and characters involved, the simplest anthropomorphic figure will be considered as a character, if this figure is contextualized as a character”. Another, smaller voice says: ”Hi! My name is Bart. I can eat, pee, think and feel. Believe you me!” (Fig 4).

Causality place

If you follow the purple path, you soon arrive at a building with an illustration of a line and dots on, over the door [I excluded this since I thought the illustration didn’t contribute to the understanding of the location]. There is also a sign that say: Causality.

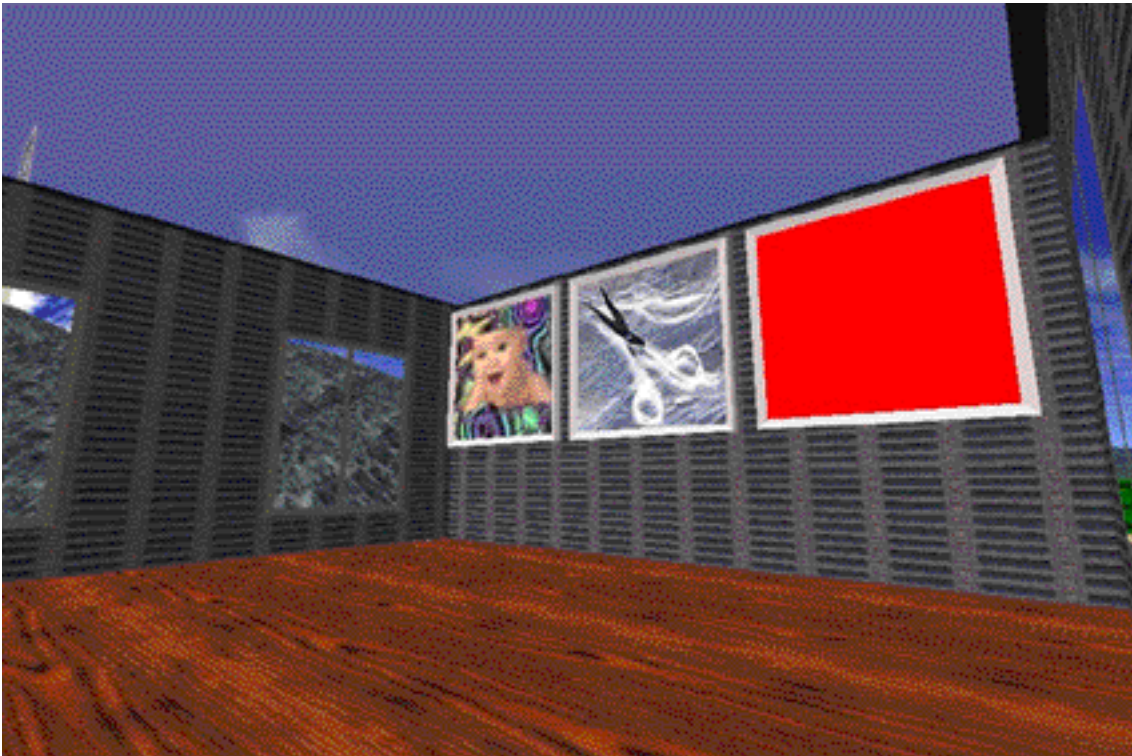


Fig 5. Causality. I only used three images: the toddler, the pair of scissors, and the colour red.

When you enter (Fig 5), there are a few objects on the floor: a book, a pair of scissors, a gun, a toddler [I chose to put the objects in a sequence on the wall instead, suggesting a reading of the objects as markers of events and characters]. You hear different sounds: a baby chuckle, gun shots, etc. Nothing else. No explanation. When you move out, there is a big sign over the door: "We seem to urge to put things in relationship with one another, impose causal relationships."

Interactivity place

If you follow the green path, you soon arrive at a building with a lot of blinking dots on (Fig 6). When you enter you only see one big button at the center of the room, click and a narrator says: "Interactivity is considered to be an essential part of a presentation in a digital environment. Interactivity is one of the most spectacular, unique features which digital media offers. It is through the users intervention the product comes to life."

On each side of the door there are buttons, click and a narrator say: "Interactivity is as much part of the design of a multimedia product as an animation piece or a 3D graphic. Interactivity must involve, engage, and motivate the user to explore the product." Click the other one and the narrator says: "While few would question that to capture interest and attention is crucial to the long-term success of any form of media, experience so far suggests that interactivity has exactly the opposite effect. Instead of capturing interest and attention, interactivity becomes too much like hard work and makes users switch off, mentally and physically. Interactivity can be too demanding for some people's taste."

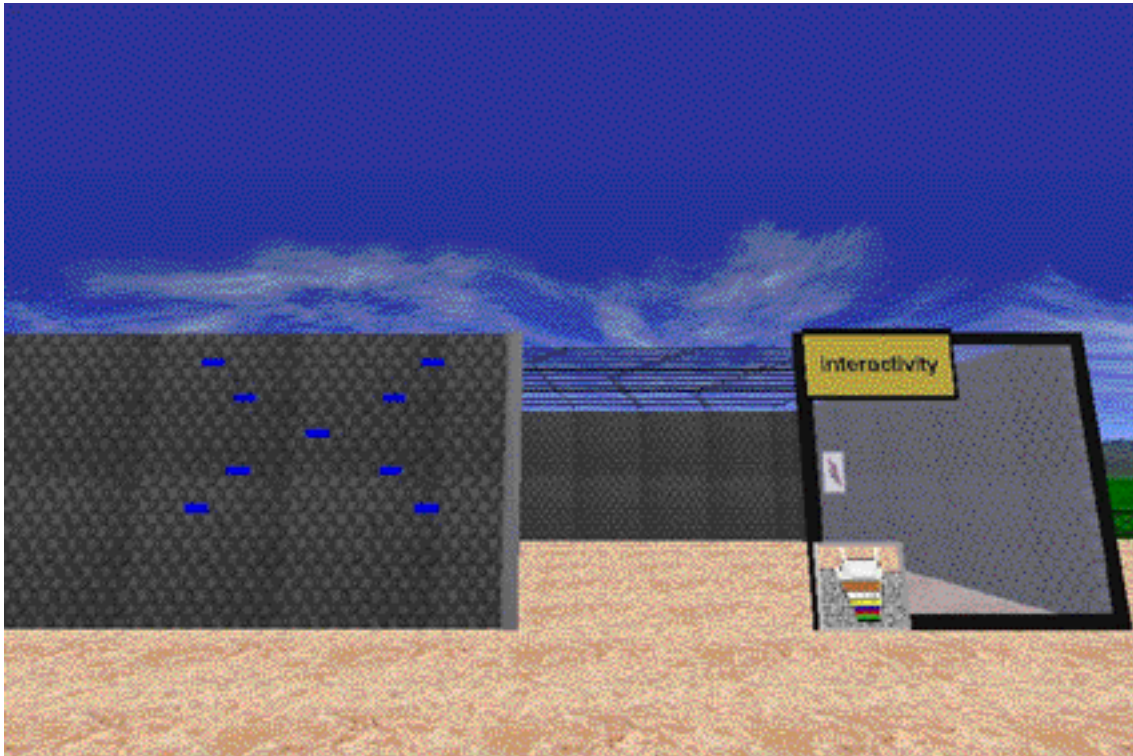


Fig 6. *Interactivity*. The blinking dots are in this still image just blue, otherwise they shift colour simultaneously.

Dramaturgy place

If you follow the red path, you soon arrive at the top of a hill and a sign that says: Dramaturgy. Behind it you see something that looks like an old Greek amphi theatre (Fig 7). Aristotle is standing to the right [or a picture of him], click and he says: "A story is an imitation of an action that is complete, and whole, and of a certain magnitude; for there may be a whole that is wanting in magnitude. A whole is that which has a beginning, a middle, and an end. A beginning is that which does not itself follow anything by causal necessity, but after which something naturally is or comes to be. An end, on the contrary, is that which itself naturally follows some other thing, either by necessity, or as a rule, but has nothing following it. A middle is that which follows something as some other thing follows it. A well constructed plot, therefore, must neither begin nor end at haphazard, but conform to these principles." *Poetics* (330 b.c.).

If you move down the stairs towards the stage you see four signs that say: "In act 1 (the beginning) the characters are presented (the protagonist and the antagonist), the conflict, the time, and the place.", "Act 2 (or the middle) is the main section where the conflict develops and supporting characters and story lines are introduced.", "In act 3 (or the end) the conflict is resolved.", "At the end of every act, there is a climax or turning point which alters the story progression or the protagonists actions." [Since these signs are located on your way down it's hopefully not as frustrating as the previous excluded example with signs along a path, but rather representing a gathering of knowledge].

On the stage, Jean-Luc Godard is standing, click and a narrator asks: "But surely Mr. Godard, you believe that a story needs a beginning, a middle, and an end?", Godard answers: "Yes, but not necessarily in that order!".

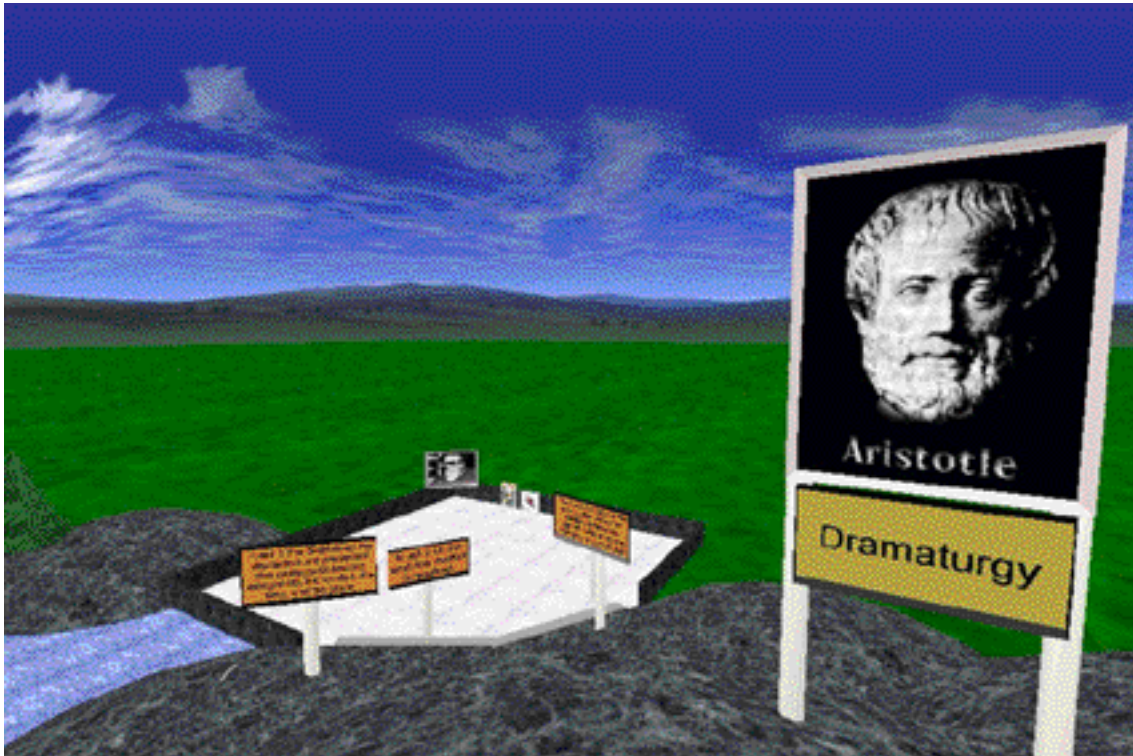


Fig 7. Dramaturgy. Way down there one can discern Jean-Luc Godard.

Spatiality place

If you follow the black path, you soon arrive at a glass tower [I made it into a bigger glass cube instead to be able to use more of the inside space]. Over the door it says. Spatiality (Fig 8).

When you enter you see a piece of a wall in the middle of the room. If you go to the other side you see a youngster who whispers: "You didn't see me, but you thought there was something on the other side of this wall. I'll give you some information in return: Look out for the man known as The Whistler!" You suddenly hear someone whistling from somewhere. Behind the youngster is an elevator. If you go in there you can go to level B, 1 and 2. On level 1 you occasionally hear the whistling. There are tables and chairs, but no whistling man. On level 2 you hear the whistling somewhat stronger. In a far away corner you find a tape recorder with the whistling sound, but where is the man? [I made a third level to increase suspense and prolong the resolution].

Temporality place

If you follow the white path, you soon arrive at a building with a big clock [I used an hourglass instead to add an eternal sense of the place] over the door and the sign: Temporality. When you enter, a tower clock tolls three times (Fig 9). On the opposite wall is a cartoon strip with four images [Actually six images]. Beside them is an animation telling the same story [Shown in the web window]. A poster says: "Same story, different time of the telling." Another poster asks: "How long does it take to read a book?"

By the door is a poster saying: "We live in and with time, and it is within that temporal dimension that our ways of seeing is established. Jacques Aumont"



Fig 8. Spatiality. Behind the brightly coloured wall is the youngster standing.

Next steps

What I haven't done here is to put the ideas of the place to any test. I would like to see how people just wandering around on their own or in a group behave, and what kind of experience or knowledge they get out of it. I would like to compare this with a version with an implementation of one or more robots, programmed with answers to the faq's, or acting like guides. These robots are getting more and more common in different worlds in Active Worlds. Some of them are quite elaborate, and it might even take a while to figure out if it's an avatar or a robot (which I definitely think is a dangerous route to take). I also would like to see if this environment can handle an on-line tutor giving a talk to one or more visitors. In what way can the use of the environment contribute? Does it contribute? I definitely think it helps you to remember things, and rather abstract arguments can be made concrete. In the ideal case you show more than you tell. You give the visitors (or citizens) an experience, perhaps even a personal experience.

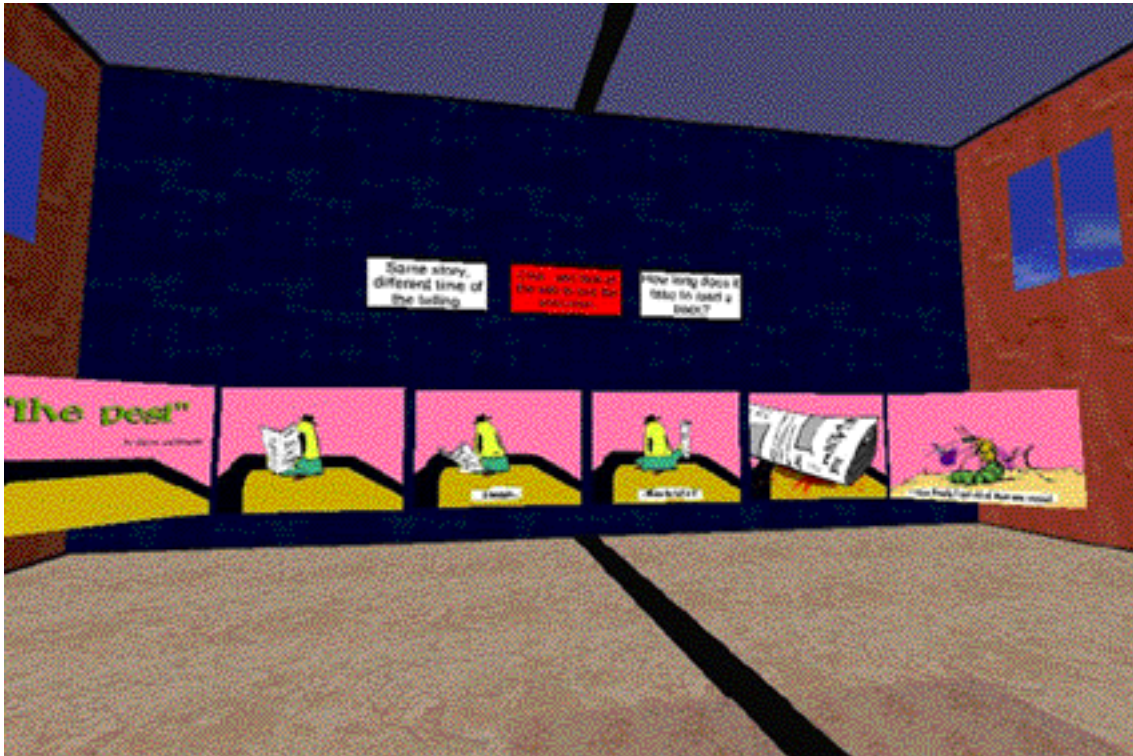


Fig 9. Temporality. This is the cartoon strip version of the story.

Notes

¹ <<http://www.nada.kth.se/cid>>

² <<http://www.kth.se>>

³ StoryPlace can be found at:

<http://www.worlds.net/cgi-bin/teleport?CID_14.5S_10E_270>.

You need to download the free browser at: <<http://www.activeworlds.com>>.
(Only for PC).

⁴ This system is a combination of the structuralist approach derived from Roland Barthes, Tzvetan Todorov, Seymour Chatman, Mieke Bal, Gérard Genette, Claude Brémont, André Gaudreault et.al, and the phenomenological approach inspired by Martin Heidegger, Maurice Merleau-Ponty and Michel de Certeau, apparent here by Arthur Asa Berger, Don Ihde, Vivian Sobchack et.al. The term 'personification' is loosely connected to the discussion provided by David Bordwell in *Making Meaning: Inference and Rhetoric in the Interpretation of Cinema*, (Cambridge: Harvard UP, 1989), 152, where he notes that: 'The critic uses the schema to build up more or less 'personified' agents in, around, underneath, or behind the text. Such agents, once endowed with thoughts, feelings, actions, traits, and bodies, become capable of carrying semantic fields.'