10.4 development(s) – hybrid multimedia

In chapter 1, we introduced the notion of *digital convergence* to explain the occurrence of the great variety of elements of multimedia applications, from a technical perspective. From an aesthetic perspective, this great variety of elements may easily lead to chaos, unrelatedness or divergence, where meaning gets lost in a multitude of perspective(s). To cut a long deliberation short, for simplicity, let's assume that *meaning* lies in the context, the story or *narrative structure*.

For 2D images, Semiotics identify narrative elements, that is relations between objects in the image that suggest a story, such as a diagonal line from a person to a door, or a relation of an object to the viewer, such as a gaze towards the viewer, a technique that has been used only since late renaissance painting.

More than paintings or 2D images, film is the medium for conveying narrative structures. The art of storytelling in film has been perfected in such a way that Hollywood films may seem more real than life. However, as emphasized in Remediation, this is not due to any inherent form of naturalism, but to the fact that we have got accustomed to the conventions applied, that is the techniques of cutting, montage, camera movements, close-ups, etcetera. In a highly recommended book, Film, Rudolf Arnheim gives an extensive analysis of the principles of montage and film technique, and he explains why film is such an effective medium:

frame(s) of reference

> It is one of the most important formal qualities of film that every object that is reproduced appears simultaneously in two entirely different frames of reference, namely the two-dimensional and the three-dimensional, and that as one identical object it fulfills two different functions in the two contexts.

Due to the subtle play between these two *frames of reference* film may be considered an art form, and as such perhaps the dominant art form of the 20th century. As a mass medium, film may be characterized by what Arnheim, following Benjamin, called the *aesthetics of shock*, replacing reflective distance with immersive thrill. As an art form, however, it is the dominant paradigm for aesthetic awareness, lacking however still one dimension, *interactive dynamics*.

As observed in Remediation, interaction is what distinguishes video games from film. Current day technology allows for high-resolution photorealist graphics, that make video games or virtual applications almost indistinguishable from film. Virtual reality technology as applied in video games adds arbitrary choice of perspective, as exemplified in first-person shooters or fly-overs, as well as an arbitrary mix of the imaginary and real, as in CG movies, in an interactive fashion.

Now, should we take the aesthetics of interactive video games as the standard for interactive applications? Not necessarily, since the naturalism strived for in most games may at best be characterized as naive realism, mostly photorealism. As observed in Semiotics, realism is a social construct, and hence the program for developing an aesthetics for interactive applications should perhaps include the development of appropriate *realisms*. Again with an eye to the history of art, where we have for example *impressionism*, *cubism*, *expressionism*, as a guideline in the design of interactive systems, it might be even better to look

for appropriate interaction-*isms*, styles of developing interactive systems and games from a particular perspective. Not excluding provocative perspectives! Cf. Avantgarde.

Where an arbitrary interactive system may differ from a game played for entertainment is obviously the actual outcome, the value attributed to that in the real world, and probably the effort required and the possible consequences. You would not like to run the risk to die a virtual death when answering your email, would you? However, when interactive systems replace task-bound functionality with fun, the difference becomes less clear.

As we indicate in Serious, one element not sufficiently captured by a classic game model, as introduced in HalfReal, is the narrative aspect of the game play. To quote HalfReal:

> *Game fiction is ambiguous, optional and imagined by the player in uncontrollable and unpredictable ways, but the emphasis on fictional worlds may be the strongest innovation of the video game.*

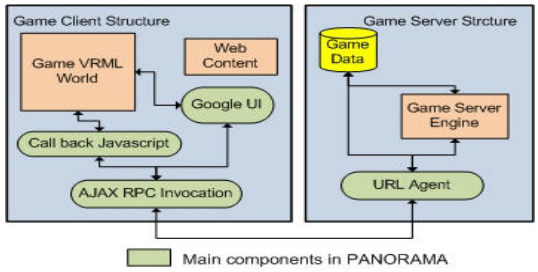
We may observe that many games already have a strong relation to reality in what narrative context they supply, or else in the realities of the media industry, in particular Hollywood. For *serious* interactive systems, we may assume an even stronger and in some sense more straightforward relation with reality, by the use of media content that is relevant for the life of the individual.

All these aspects of playing games are clearly relevant for the new interactive systems, which appeal more to *play* than *task-oriented* behavior. For example *rules* may be used to describe the visual characteristics of a system (e.g. the display of images as a flow in a particle system), *outcome* may be regarded as the benefits of the system (e.g. social awareness), *value* may include the risks of the system (e.g. a transgression of privacy), *efforts* is important when asking for contributions from the user (e.g. as image material to be displayed in the system), *attachment* may result when the system is installed (e.g. when people look forward to find new information), and finally *consequences* must be considered when a system is installed and used (e.g. interaction between people may actually change when they get to know eachother, for better or worse).

Given the large variety of games, including first person shooters, role-playing games, strategy games and decision-making simulation games, we can distinguish between a range of degrees of interaction, direct interaction, on the one hand, as for example in first person shooter and indirect interaction, on the other hand, as for example in simulation games, or role-playing games where the individual actions may contribute to a plot such that the effects will become visible at a later time. Where in game playing the variety of interaction modes seems to be well understood within each community of game players, for the development of more general interactive systems we will have to think seriously whether the target user will be able to learn the various modes of interaction, either by explicit instruction or during play. And as designers we must be concerned with the *rules of interaction* as well as issues of visualisation and interaction mappings, that is in other words which affordances the application offers for a particular group of users.

dynamic contribution(s) Another potential source of confusion lies in where the material comes from. Not in the sense of network transport or local storage of the platform of delivery, as discussed in the context of *convergence of delivery* in section 1.2, but in terms of *authorship*, which in our *participatory culture*, where users contribute content may result in a great variety of forms and formats. To develop multimedia applications and games that accomodate contributive authorship by a community of users is the great challenge for the next era (period).

In Mashups we wrote: *We explored the use of AJAX and web services in an X3D/VRML implementation of PANORAMA, a system meant to support social awareness in a work environment.* As explained in section 5.4, PANORAMA represents *casual encounters* in the work environment and displays *self reflections*, that is postcards and other item contributed by employees, at a large display in a central public space.



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The figure above, taken from PanoramaWeb, illustrates the architecture of an AJAX-based web implementation of PANORAMA, which includes facilities for game playing as *occasional battle(s)*, using a PHP server and the google GWT toolkit to allow users to contribute their image material, video's and whatever else.