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The Logic of Play in Everyday Human-Computer Interaction

Communication, simulation, interactive narrative and ubiqui-
tous computing are widely accepted as perspectives in human-
computer interaction. This paper proposes play as another pos-
sible perspective. Everyday uses of the computer increasingly
show signs of similarity to play. This is not discussed with re-
gard to the so-called media society, the playful society, the grow-
ing cultural acceptance of the computer, the spread of computer
games or a new version of *Windows*, but in view of the playful
character of interaction with the computer that has always been
part of it. The exploratory learning process involved with new
software and the creative tasks that are often undertaken when
using the computer may support this argument. Together with
its high level of interactivity, these observations point to a sense
of security, autonomy and freedom of the user that produce play
and are, in turn, produced by play. This notion of play refers not
to the playing of computer games, but to an implicit, abstract
(or symbolic) process based on a certain attitude, the play spirit.
This attitude is discussed regarding everyday computer use and
related to the other mentioned perspectives.

Everyday computer use can be seen from a number of different per-
spectives. It can be understood as communication, simulation, inter-
active narrative and ubiquitous computing. This paper attempts to
show that human-computer interaction and play share strong simi-
larities. The initial question is therefore: How can play appear in ev-
eryday computer use?

Computers are used differently than other machines by their users, and the interaction happens to have a lot in common with play. The notion of computer use is taken to mean everyday, purposive, explorative, creative "productivity application[s]" (Bolter/Gromala 2003:61), as opposed to the playing of computer games, the construction of hardware, or the coding of software. Computer users appear to play more than users of other technical devices and the computer lends itself to being played. Of course, computer users are not always playing and not with everything, nor in all activities in the same manner and to an equal degree; in repetitive tasks they are not playing as much as in creative ones. This play is not explicit, but is implied by explorative learning, experimentation, creative tasks and "internal drama created by […] self-gambling" (Dombrower 1998:186).

Necessary and purposeful actions, the production of goods and work temporarily take a back seat to play. This is a change of perspective which happens quickly and without external indications. In this paper, this perspective is described, discussed and related to other possible perspectives. If something is to be said about play, it should be clear which notion of play is chosen. This discussion adopts the definition of play of Huizinga, who describes it as

> an activity which proceeds within certain limits of time and space, in a visible order, according to rules freely accepted, and outside the sphere of necessity or material utility. The play-mood is one of rapture and enthusiasm, and is sacred or festive in accordance with the occasion. A feeling of exaltation and tension accompanies the action, mirth and relaxation follow (Huizinga 1955:132).

It remains to be shown where and in which form this play can be demonstrated in human-computer interaction.

This paper does not provide instructions on how computer use can be turned into a kind of action game, nor on how it can be organized on a low level to resemble play. Although some rules may result that may aid in designing future computer use, this paper is centered on recognizing how the computer is "a realm already shaped by the structures of games" (Murray 1997:129).

Play

According to Huizinga, play is identified by multiple features. Only the convergence of these defines play. They interact, build and depend on each other and together form an integrated unit. Freedom is a fundamental characteristic of play. Without freedom, play is not imaginable. Freedom is involved with three different aspects of play: freedom to play, freedom from the ordinary world and freedom of choice inside the 'magic circle' of play.

Repetition is another sign of play. Play is without end. It is terminated by outside causes. All play is unique, though at the same time it can be repeated. Play requires and produces a certain kind of order. This order originates from and initially expresses itself through rules. It is not limited to these rules, however, but manifests itself on a higher level in play's "rhythm and harmony" of "tension, poise, balance, contrast, variation, solution, resolution, etc." (Huizinga 1955:10).

A certain tension marks play as a process whose course and result are not known beforehand, and for which there is a reasonable chance for a successful outcome. This ambivalence can be described as a free and easy oscillation between different poles, especially between winning and losing and triumph and failure. Play must separate itself from the everyday world. This happens primarily in the heads of the players and secondarily through "material props" (Dunne/Raby 2001:28) such as jerseys and designated fields and courts. This feature is called secludedness or limitedness.

The purposeless nature of play is a characteristic which explicitly separates it from the sphere of need, compulsion and purpose and therefore from the context of the everyday world. Play expresses itself in concrete and visible actions as well as in a state of mind that is not at all concerned with material things. Play is, however, not to be confused with illusion, deception, fiction or hallucination (Scheuerl 1965:83). The player is intensely absorbed by play. This step outside of ordinary life is a phenomenon that is caused first and foremost by the player's own essential participation and not by sensory stimulation.

If and as long as these features of play characterize an activity, it is possible to be play for a player, but there is no automatism – the question of whether someone is playing can only be answered by himself. Play happens instantaneously from one moment to the next if the criteria are met and if the player decides to play. While playing, he continuously checks the occurrence of the criteria; as fast as play begins, it can also end if he decides to stop playing or when the criteria are no longer satisfied for him (Salen/Zimmerman 2004:94).

Play is primarily a perspective of the player: an idea, an attitude. Play can only be play *for somebody*. The play spirit is a mood which the player takes on and which simultaneously captivates the player. Play *is* not (in the sense of an artifact or product) but is always *being made to happen* (in the sense of a process).

What is the play spirit that makes an activity appear as play to the player? "To dare, to take risks, to bear uncertainty, to endure tension – these are the essence of the play spirit", writes Huizinga (1955:51). Suit's "lusory attitude" is a "state of mind whereby game players consciously take on the challenges and obstacles of a game in order to experience the play of the game itself" (Salen/Zimmerman 2004:574). For Bateson (1972:191), the play spirit is a "delimited psychological frame, a special and temporal bounding of a set of interactive messages".

Play cannot be bound to the execution of certain activities, the handling of certain objects or to the visitation of certain places. Of course, play has to do with external actions, but these are not everything. For both theater and the game of football, the concrete action is secondary to its meaning inside the play. The visible action appears as the result, expression and reflection of the primary perspective.

The sensual representation supports and enables play in many cases and also offers an additional incentive to play. The player's play spirit and the outward expression of play influence and motivate each other. In ideal play, both elements fit and complement each other (Schaller 1861:9 in Scheuerl 1965:110). It is obvious, though, that the more competitive games become, the more the outward expression is reduced. The player's thrill of acting is nearly completely replaced by the challenge of testing his playing abilities and by the competition.

When it is now stated that the user's interaction with the computer can become play, it is meant that it becomes play *for him*. In this context, the user enters the world of the computer as a player. The playful interaction emerges in explorative learning, for example. The use of computers for creative tasks supports this view, because while almost all activities can be viewed as play, creative processes are always playful. Their characteristics are similar to those of play: Freedom, a certain tension and relaxation, movement and mental associations, openness, a joy of discovery that focuses on a clearly defined goal, the emergence of something new as well as success and failure.

The interaction with the computer might appear to the user as a competition with the machine or with himself. The computer's high level of interactivity and its complex reactions support this impression. The course and outcome of the interaction are open-ended in many cases. Although everyday computer use is, of course, not designed as a competitive game, it might appear to the user as such.

When he regards the computer as an opponent or a challenge, a kind of internal struggle can develop between himself and the computer, based on his competence and confidence using the computer. The outcome or result of the interaction is often not known in advance.

In human-computer interaction, an explorative approach eclipses the methodical or preplanned course of action (Lunenfeld 1999:8). It finds and creates a place for "danger, adventure and transgression" (Dunne/Raby 2001:6). This interaction with the computer has, compared to the use of other (technical) devices, a clear affinity to play.

Scheuerl (1965:169) sees learning as a process to appropriate skills that are not realized through normal development. A learner learns only by doing something; he learns what he is doing. The only thing that can be called educational play with some justification is experimental play (idib.:54), or rather the playful exploration, such as with construction kits, which lets the player, driven only by his curiosity, try things out and make errors. This method can be seen as quite effective and successful.

The playful interaction with the computer cannot limit itself to neophyte trial and error. A beginner is not yet playing a game; he is still learning how to play and pick up the basic skills. Play can only occur wholly after the game is understood and its requisite skills are mastered. The more a player's skill improves and approaches mastery, the more free play can become. Explicitly educational games (for example under the title of 'serious games') have been proposed, but are conceptually debatable and not widely successful. If they are promoted, it is assumed that play can be utilized for learning, practice, exercise or training purposes.

If educational games are criticized here, it is not because it is doubted that players learn something. The critique is focused on the practice of telling the player one thing while aiming for another: The deception is not that the learning is hidden, but that the reason to learn is disguised (Scheuerl 1965:215). Play is not played to learn. A

game that is played as a means of or for the purpose of learning cannot be called a game at all. Learning through play is always an unintended, unnecessary by-product.

Play and creativity appear to stand in a close and reciprocal relationship and stimulate each other. In the same manner as explorative learning, creativity stipulates a situation of freedom, security and competence. For Kay (1972), the child who explores the world becomes a potential computer user; "children of all ages" could use the computer, led by their instinct to play and their creativity. In the field of art, an indisputable and deep connection between play and creativity exists, also found in the realm of technical innovation and development (Adamowsky 2000:242). The playful creative process is not limited to professional designers, painters or musicians, rather, it is increasingly evident in everyday computer use.

For an activity to become play, it must be suited for play; the more control and autonomy a person gains, the larger is the potential for play. – Is play in this context meant as protest, a means of self-defense and a way to attain goals in the ordinary world? It should be noted that media have always been used as means to fight for as well as against power. In these conflicting fields, the development of the interactive computer takes place.

The computer has been proven to be a medium of control and power and a tool to gain freedom and question authority. Since the 1970s, it has been obvious that the computer has been a tool not only to improve the world but also to redistribute power (Seeßlen/Rost 1984:17). The questions that concern the discussion in this section are those of the computer user: Can I play? Who or what impedes me? This conflict is a struggle for the control over the computer that is being fought on different fronts with different results. Playful interaction appears naturally on the side of freedom and challenges control. But play is not meant or understood as protest. Players do not aim to change the world through playing.

Narrative

First, the notion of narrative must be defined. Stories are taken to be detached from the actions of the readers or listeners and finite. They are often well formed according to classical literary principles and usually follow a plot. These properties characterize their special appeal for the readers or listeners, who can only participate by musing, comparing, reflecting and identifying.

It might appear self-evident to apply the idea of interactive narrative to the interaction with the computer and to offer its user a well-formed, satisfying and interesting experience. Therefore, it needs to be shown that stories are a valid way of looking at the world. Stories play an important role in people's lives. For Mateas (1999), they constitute a fundamental part of the "human experience": "[…] many argue […] [that] narrative is […] a fundamental organizing principle of human experience […]." Kay (1996) sees them as "our basic 'wiring' as human beings", and "[t]hroughout history, people have learned how to make sense of the world around them through stories." For Laurel (2004:74), people understand the world "largely through narrative construction. […] we look at the world with storytelling brains." Mateas consequently concludes that stories lend themselves to be used in artificial intelligence to understand the world.

If people can regard their current activities as stories and can structure them accordingly, then following this logic, this also applies to human-computer interaction. With narrative as a paradigm in human-computer interaction, the discussion centers not on constructing theatrical plays with the computer, but on everyday computer use. Well-known is Laurel's concept of *Computers as Theatre*. She aims at designing interaction to follow narrative guidelines. AI would be used to form the experience of the user "into the rising and falling arc of classical drama" (Murray 1997:200). Computer use would then be "both pleasing and amendable to artistic formulation", an "experience […] that it is enjoyable, invigorating, and whole" (Laurel 1993:120).

While it is evident that interactive narrative is not widely accepted nor used in human-computer interaction, it is also conceptually unclear whether it is especially appropriate or even possible at all. The distinct and new capabilities of the computer as an interactive multimedium are not recognized by narrative and cannot express themselves in it or through it. The computer appears to be more than "bardic work" (Murray 1997:10) and the continuation of the book and cinema in the tradition of the printing press by different means. It is disputable whether stories can be seen as a perspective to structure current actions, but this is the precondition for using narrative in interaction and for designing the computer, which is called an "instrument for action" by Manovich (2001:90), in such a way.

Until a few years ago, games and stories appeared as explicitly separated entities. There were few and unsuccessful attempts to associate them. In the last years, however, computer games have been published that increasingly seem to relegate the game play to the background. A high level of narration apparently compensates for the missing gameplay, bringing this separation into question. The ways in which game and story continue to oppose or even contradict each other are discussed in this section.

Participation in a game or story is primarily a question of perspective. The game emanates outward, towards the visible and the activity; the story provides inner reflection. A story is observed from the outside; its listeners or readers do not control its course or outcome. If they choose to act, to influence and change its course and outcome, they may turn it into an open-ended play (e.g., a roleplay).

In a story, the action is controlled by an author: Only he decides what is going to happen. Often, this control takes the form of the plot, which sets and keeps the narrative world in motion. A story's plot is the inner cause and motivation that neither depends on nor is able to handle external influences in any way. In games, the players are free from external control and are not subordinate to any authority

outside the game. There is no need for them to justify their game actions to anybody. Their interaction is the fundamental impetus that matters in the game and moves it forward; without interaction the game would stop immediately.

Whereas the world of the game comes into existence and is maintained through the actions of the players, the world of the story exists only as long as the listeners or readers do not act and interfere. When considering the development of computer games from the relatively trivial games of the 1980s to the complex and intricate games of today, it seems tempting to propose a "continuum between interactivity and storytelling" (Joiner 1998:154) onto which games can be placed.
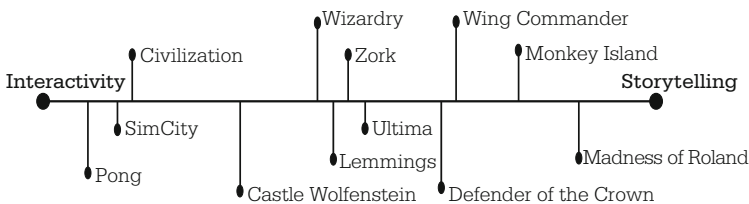

Fig. 1: Continuum between interactivity and storytelling (Joiner 1998:154)

What is missing from this view is the fact that the computer games shown on Joiner's continuum are games that are dominated by game play rather than plot in the first place. The pertinent story may be structured in simple pairs of action and reaction – as in MONKEY ISLAND (1990) – or might follow the interaction directly – as in DEFENDER OF THE CROWN (1986). Games function through providing a challenge. If a game ceases to rely on interaction in the first place, it stops being a game at all. The medial thrill of games as well as stories seems to lie in their extremes. They can converge towards each other, but risk losing their specific appeal in the process.

Calm Computing

For Mark Weiser, the development of the digital computer can be roughly divided into three phases, with ubiquitous computing being the third, following mainframes and PCs. Calm computing highlights a certain aspect of ubiquitous computing: "A calm technology will move easily from the periphery of our attention, to the center, and back." (Weiser/Brown 1996) This way of using the computer may be "embedded deeply, richly and tacitly in everyday life". The concept of calm computing describes a defensive use of technology that is integrated unobtrusively into the surroundings. Most of the time, it stays in the background of everyday life and only occasionally requires conscious attention. The power of calm computing lies in the periphery of perception, "what we are attuned to without attending to explicitly" (ibid.). The user makes effortless use of the technology that is hidden in his environment. Although the computer has long been accepted in society and has spread to all facets of life, its integration or disappearance can only be observed in a limited number of cases. In spite of a number of proposals for realizing ubiquitous computing and some effects it has had on the design of human-computer interaction, a general trend is not apparent.

Calm computing calls for a fundamental departure from a media use that requires attentive interaction. In contrast, a game demands the complete concentration of the player. A player directs all of his attention to the game he is playing. An obvious parallel can be drawn to the user who focuses his attention on his computer. When using a PC, a user is "not doing something else" (Weiser/Brown 1996). Play does not happen silently, inconspicuously, casually or in the background. A player willingly faces the challenge of a game, and dedicates all his effort.

Playful interaction with the computer is, in a certain sense, the opposite of calm computing. Whereas the user has to devote a considerable amount of attention to using the computer and to immersing

himself in its contents, in calm computing he focuses on the task at hand, paying no attention to technology. It is not applicable or advisable to employ ubiquitous computing in all situations. A disappearing interface that is no longer consciously perceived might diminish the psychological distance and therefore hinders critical reflection (Grau 2001). In digital art, there are a myriad of works that strongly bring the interface into the consciousness of the participant. This may also be one function of digital art (ibid.). Obviously, not all interfaces are suitable for all applications. Ubiquitous computing is not going to replace or supplant the attentive use of the computer by the user. Both perspectives will find their place in everyday computer interaction.

Communication

Communication is seen here as the purposeful transmission of messages between human beings. Meaning can be created in this process through individual interpretation of the participants only; meaning is neither transmitted nor hidden inside the medial text. When talking about communication with the computer, at least three aspects can be considered: entering commands by keyboard, Crawford's dialogical interaction paradigm and the exchange with artificially intelligent agents or robots. If the notion is just used as another term for interaction as in Suchman (1987), it does not bring anything new to the table.

Communication and play are regarded as different perspectives in computer interaction. Whereas communication aims at purposes beyond itself, play "contains its own course and meaning" (Huizinga 1955:9). Communication requires a distant, reflective use of media; play needs direct control and immediacy. Play can *use* communication, which happens quite often. Play is a "communication situation" (Manninen 2003), but cannot be reduced to that, of course. Players do not play to communicate.

What can be observed in computer interaction in connection with the communication metaphor is a deviation from the idea of direct control in favor of an indirect control of a computer or robot that is increasingly perceived as intelligent. This tendency removes the development of human-computer interaction from the concept of direct manipulation (Norman/Draper 1986). If the computer user deals with an agent or robot, he has to surrender immediacy. The more he surrenders, the smaller the potential possibility for play becomes. Play requires control, and in playing, the active component always outweighs the reflective component that happens to be so important in stories and in communication. Play must be done by the player. The communicative interaction with a robot does not invite play. When somebody has other people who play for him, he limits himself to the role of a spectator, as for example at a sporting event or the theater. The communication metaphor as perspective in designing the active or even playful interaction with the computer appears inapplicable in this regard.

Simulation

What are the characteristic properties of simulation? As seen here, its aim is to gain insight. Its approach consists of the transfer of certain aspects from either the natural or an artificial world, the dynamic or interactive experiment and the retransfer of the results. Simulation requires an extremely realistic representation of the actual to a virtual world (or from one medium to another); the representation is reduced in the process by removing some facets that are not relevant to the desired purpose. Completeness is not targeted. A simulation clarifies what is being simulated, inside which limits and under which conditions and preconditions. A simulation has to at least be dynamic. A picture, for instance, is not a (visual) simulation according to this definition. With such a dynamic simulation, observations and tests can be made. The simulation can even allow experiments to be conducted interactively.

The purpose of a simulation is the understanding of a situation, a process, a material, etc. A simulation functions only if the insights that have been gained can potentially be applied to the real world. This application gives the simulation meaning and legitimacy. If this is not possible, the simulation has failed. Not all transfers, representations and dynamic or interactive processes are simulations. Process control and illusion are examples for such processes. The computer appears in a certain regard as simulation because it employs models of reality that are dynamic and even interactive. What differentiates the computer from a simulation is its fundamental characteristic of creating reality. It is also used for simulations and as a simulator – but not exclusively, and not to such an extent that it could describe its nature completely or thoroughly. Not the gain of insight, but the *creation of reality* drives the user.

The certain dynamic that computers possess is not and has never been only a medial representation or visualization, but is in all cases part of the world and real life. The computer can neither be understood as a controlling device (as in process control), nor as an experimental or testing environment (as in simulation). Its use happens to be much closer to play, the creation of a new and sovereign world that has its own meanings, rules and special possibilities.

As it appears unlikely that computers are only simulations, it also appears improbable that games are only simulations. Computers as well as games have, of course, some striking resemblances to simulations, although they also differ fundamentally in important aspects. In simulation and in play, a remarkably accurate representation occurs in many cases. Simulations model their archetypes in a precise fashion so that relevant insight can be gained and transferred into the real world. Games take objects and activities out of the ordinary world and afford them new meanings that are often independent of their meanings in the everyday world.

A representation into play is not a facsimile but an allusion. Often, an initial situation of conflict instigates, explains or enables play, and the players recognize such a situation from the ordinary world. But play is not a substitute for such situations, and play does not depend on the everyday world. Objects and activities are drawn into play, but in the process, they lose their ordinary meanings and acquire new ones. The setting and the background story are examples of additional elements that initially have some attraction for the players, although this wanes as the play goes on.

SIMCITY (1989) is a well-known example of a game that seems to be a simulation and which in many ways acts as such. However, games have a different set of priorities than simulations. Games provide an experience for the players, whereas simulations produce insight for researchers. Games do not become games by simulation, and simulation is not a characteristic feature of play. Some simulations exist that happen to also be games, but games can generally be seen as simulations only in a very limited sense.

Consequences

The creation of the perfect medium with a complete and naturalistic representation is an old dream. According to Arnheim (1957:157), it leads to a mechanical instead of an artistic representation. At the very latest, postmodern art separated itself from this dream or has made it one of its themes. The pursuit of a highly perfect illusion was then taken up by mass media and mass technologies.

In mass media, there has always been and still remains an unabashed and also uncritical pursuit of realistic representations. The design of media is therefore not recognized as a creative process of choice and selection that differentiates them from the ordinary world, but as a hurdle that has to be overcome each time by the newest technological developments. The more the computer is seen as a mass medium, the greater the danger is that it takes up this tendency. But the new and exciting quality of the computer is not the

presentation of content, but the essential participation of the user. The computer is a medium of action, not of reflection; the main task of the representation is to facilitate interaction. For that purpose, a realistic representation does not appear to be especially useful.

A perfect medium would not solve all design problems but, in contrast, would prevent all design. Medial representations are not incomplete compared to the everyday world; they are in fact complete. A photorealistic representation has nothing to do with art. If art does not limit itself and select its means, it only imitates life and nature instead of creating them. The further development of naturalistic media will nonetheless continue for two reasons: It is and will remain a popular challenge to attempt to achieve reality through media, and the thrill of media appears to increase the closer it comes to the edge of the real world, albeit *without crossing it*. This edge cannot and must never disintegrate because this would terminate the game at once.

The notion of consistency can only be used relatively; something is consistent only with regard to something else. In designing human-computer interaction, consistency with the natural world or with an artificial world can be targeted. For novice computer users, a consistent representation might be helpful. Generally speaking, such a representation neither does justice to the specific properties of the medium, nor is it in fact consistent. The greater the experience of a computer user and the more confidence he acquires, the less important consistency becomes.

While the demand for consistency does not coincide with the demand for realism, at least two situations can be identified in which consistency is given up in favor of other design principles: One is a different expectation of the user, the other the higher effectiveness of another solution. In human-computer interaction, consistency is in itself not a valid design goal but aims at a highly effortless and smooth interaction. It appears that media cannot be media without relinquishing consistency, and that this is also quite clear to their users.

The interaction with the computer is not limited to the forms of interaction with other media and does not orient itself on naturalistic representations or consistency with the ordinary world, but leverages the new and unique possibilities that the computer offers. The abstraction in this representation is thereby seen as a means of design to indicate the possibilities for user participation.

As experiences with computer games demonstrate, a realistic (e.g., graphical) representation is not a precondition or substitution for play and is not even conducive in all cases. Examples that support this argument include the computer games of the 1980s, in which technical limitations forced the developers to concentrate on game play, the voluminous CD-ROM games of the 1990s, in which graphical extravagance could not hide the missing game play, as well as the current first-person shooters, in which cinematic elements are disabled by players who focus on the game play. These examples also indicate that the trade-off between representation and interaction will not disappear through future technical innovation but will remain an aspect of media design.

A medial representation is seen here as part of the world, not as its substitute. According to Svanæs (1999:180), the Apple *Macintosh* desktop metaphor functions not because of its naturalistic appearance or because of its high realism or consistency, but because it creates its own meanings, nearly completely independent of the everyday world. All media appear to be, to a certain degree, independent of the ordinary or natural world, as with telephone and film. Similarly, the virtual world of the computer is understood primarily not through references, comparisons and associations to and from the real world, but is seen as an incontestable part of everyday life and reality. In the computer, there are no false real objects, but true virtual ones. For Krämer (2000:85), the essence of media technologies lies in the creation of worlds.

When the experiences with computer games are transferred to the everyday interaction with the computer, it appears that no fundamental progress in the development of human-computer interaction is connected to (photo)realistic representations. A trade-off exists between intricate, naturalistic representation and interaction. For certain applications such as films, this is not a problem. But for interaction with the computer, a balance tipped in favor of representation appears inadequate. The demands to concentrate on interaction are correspondingly clear. The representation using the computer is a representation for action. This includes the desired focus on the fundamental aspects of a representation that is well aware of its limitations and that makes them clear to the user. An abstract representation appears more suited to such a task than a purely realistic one.

Conclusion

Play appears as a possible perspective in human-computer interaction as there are a number of features that are common to both activities. This play is an attitude of the player that does not aim for a concrete activity or for a tangible result. It cannot be limited to certain contents, times or places. It is not a method, a system or determined from outside play, but a willingly chosen perspective that enables and invites the player to experience his activities as play.

The playful interaction with the computer is not concerned with an outward expression of play, but with the confrontation with a challenge that can go beyond the necessary, for which a course is uncertain and the outcome unknown. The user sets goals and benchmarks for himself and tries to attain them by struggling with the computer. Play in everyday computer use occurs during experimentation and explorative learning; the more the computer is recognized as a medium that is used to undertake creative tasks, the clearer its relation with play becomes. Obviously, play does not dispose of the purpose

but overcomes it for the duration of play; play then dominates and forms the computer use. Useful and necessary activities that pass for non-play move towards the sphere of play and become play.

The idea of play as a perspective is not a new idea that has been brought about by the proclamation of a fun or leisure society, which now also encompasses computer use. The interaction with the computer has always been playful, and its promulgation in society has enabled this perspective to appear plausible to its many increasingly competent and experienced users. This interaction is, however, always standing at a crossroads between an efficient, controlled and purposeful use and playful, free and self-controlled interaction.

Without a doubt, computer use does often pursue goals and therefore lies outside the sphere of play. However, this computer use can still become play that may not nullify the purpose, but which overcomes it effectively. If play occurs in computer use, it is *despite the fact* that the computer is used instrumentally. In everyday uses of the computer, elements of play can occur, allowing the subjective perspective of play to be adopted and expressed.

> Certain activities whose whole *raison d'être* lies in the field of material interest, and which had nothing of play about them in their initial stages, develop what we can only call play-forms as a secondary characteristic (Huizinga 1955:199).

The interactive computer in everyday use appears as such a medium.

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Barry Atkins

Response

It is refreshing to encounter a paper focused on the computer industry and games that see a possible lesson, or lessons, to be learned for other forms of software development from entertainment software, which is often seen as the poor relation of other forms of computing. It is also heartening to trace the care with which the author is aware of the difficulties of making too large a claim for the potential benefits to other forms of development, and an awareness, although necessarily not explored in great depth in a paper with such broad ambition, of the politics embedded in the borderlands between play and other computer use. For those of us who have worked for employers who disable access even to Microsoft Solitaire, Minesweeper or Pinball because of a perception that the enabling of play reduces the possibility of useful labor, and consequently view the corporate playfulness of a Google or the Microsoft of Coupland's Microserfs with some envy, some of the local issues of power, authority and subversion that are touched on here are an everyday issue.

The explicit attention, for Cermak-Sassenrath, is on the computer that once would have been a beige box, and enables corporate labor – as is clear in his characterization of a game as demanding all the attention of a player, where lived experience would tell us that the screen relationship between player and game console (often located in shared social space and increasingly marketed and displayed to consumers as a social hub) differs and is of a different order. In focusing on the machine predominantly imagined in the office rather than the home, an interesting distinction is foregrounded: the extent to which the computer is now always already seen as a potential site of play, whatever its intention and function in the workplace. That this remains a live issue, and an urgent one, is also plain. In one very real

sense games work within the binary logic of computer processing architecture, and have taken that tool for labor and repurposed it for entertainment that sees the computer always a site of tension between productivity and the non-productive excess of our leisure practice.

To some extent, however, this is also subject to a form of cultural specificity that Cermak-Sassenrath does not highlight. The status of PC gaming in Germany is certainly of a different order from that of Japan, where the console is and remains the dominant vehicle for game delivery. In most of Western Europe and North America it is possible to map a decline of the personal computer as primary platform for game playing, which reflects a change not just in hardware advances, but of cultural shifts in the meanings ascribed to consoles once positioned as firmly for children alone. Rather than an error, however, this only points up the immensity of the task the author sets himself in taking on the notion of the computer and the computer game without narrowly defining his terms. In taking his lead from HCI, and using its categories and classifications in constructing his analysis of the lessons that might be taken from games to other forms of computing, he offers interesting observations that could only benefit from being broadened to application in a more general gaming context.

That personal computers are themselves no longer solely beige boxes, however, also points up the extent to which this is a time of rapid development in terms of the integration of computing devices into our homes and lives. Building on the work of Weiser, Cermak-Sassenrath sensibly foregrounds calm computing as a critical term (and even as an evolutionary stage on the way towards ubiquitous computing) and, once again, touches on areas that might reward more extensive unpacking. To see everyday computer use as somehow oppositional to contemporary game play would be to ignore many of the more interesting developments and innovations of recent years, however. There is something fascinating in the Nintendo Wii, for example, in that it both points up the innovation inherent in

its motion sensing technology and so highlights its status as technological artefact, while making a claim for simulatory potential that would imply an erasure of its interface. I swing the Wiimote as a bat and am invited both to be unaware of my act of formal control, and to marvel at the technological achievement in erasing that barrier to interaction. In that sense it is both calm, and not-calm in the moment of play, perhaps more accurately mapping onto Weiser's definitions than Cermak-Sassenrath allows. We can even see the Nintendo advertising for the Wii as positioning its hardware and software with care – cameras are focused firmly on social groups interacting as much with each other as with the software, with the Wii seen as a tool for interchange between players and not solely a cybernetic loop between player and machine.

Similarly, the increased availability of games on mobile devices has led to the mass experience of gaming software which is not demanding on the attention of the player, which can be switched off instantly and ignored in a way that traditional PC or console games could not. There is less of the ritual engagement with the game as event outside of other activities as we take our miniature consoles, or game enabled devices such as the iPhone, on to public transport or to public places. One can imagine an argument where the extent to which games software and hardware acts as a Trojan Horse to introduce computing hardware into our everyday lives, and our attitudes towards that introduction are another area where this touches on a politics of consumption. I can play PEGGLE (2007) on the iPhone supplied by my employer, but it is also a device that slaves me to the office through push email and 24/7 availability. What I, or any other consumer or gamer, may think of this is something that might be thought through before too many lessons from games are assumed to be applicable to more 'productive' computing. It is even possible that the status of game as non-productive might be a crucial determinant of its appeal that would see 'playful' productive software fail in the marketplace.

As with all informed thinking in the area of design, this paper explores the reality of use and begs questions about what we might learn from that use, particularly in its construction of a playful attitude or spirit that conditions our encounter and engagement with devices. It is possible even to see the games consoles as being something more invidious, perhaps, than mere examples of calm-computing, and the struggles of Sony and Microsoft to dominate the living room distribution of media through their games boxes as about the concealment of the very computer-ness of what is inside the casing.

These are, of course, debates that are not really touched on here, concerning the antithetical positioning in so many instances of play to work, and assumptions that lack of productivity itself is a key indicator of game-ness, whether we follow Huizinga (as Cermak-Sassenrath largely does) or look at other theorists of games. Cermak-Sassenrath's own characterization of computer use maps the territory: 'computer use is taken to mean everyday, purposive, explorative, creative [uses]' before inserting the crucial term 'opposing' use for games. What is crucial is the author's understanding, in relation to educational and serious games, that deception is not a sensible strategy and that as consumers games players are also conscious of the boundaries between play and labor, and the attempts that may be made to redirect them from one to another.

Certainly, we might all welcome the addition of the 'play spirit' to the design of the software which is such a feature of our everyday lives, and of the insights of game development applied to HCI with as much care as the other informing perspectives traced here. How this intangible, but crucial, aspect and elements of contemporary games might see application, however, might be harder to demonstrate.

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Biography

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