No End of Worlds

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This paper argues for a flip side of the relationship between physical play space and digital game space. In play, we engage with specific game worlds and their functionalities. We embrace our new role in their settings and 'transform' ourselves. Many – including myself (Nitsche 2009) – have explored this effect. This paper argues that the transformation is a two-way street. It is not unidirectional into the gaming system where the player takes on a virtual role. Most of all, it is not limited to the player and their identity. Instead, fictional videogames spaces can transform 'outwards' and redefine our living rooms and ultimately our understanding of physical space as such. The main goal of this essay is to outline two different approaches of this outwards directed transformation, exemplify their differences in related game designs, before it will close with the new questions that these spaces pose.

Against Turkle's (1996) visionary statement that 'Real Life' can be 'just one more window' I argue that we are in the process of losing the comfort of the window 'frame.' Instead, Real Life and its spaces are imbued with digital media and neither of these two can be seen as separate. This should not be misinterpreted as a continuation of an existent tradition of mediated space. When Tolstoy takes us on a stroll of the battlefields at Waterloo in the end of *War and Peace*, his prose may affect the way we understand the very same space today but the book as medium does not significantly affect this space. In contrast, videogames' materiality continues to expand into the physical realm. Whether it is through the Kinect cameras, the Guitar Hero controller, or through the eye of an Augmented Reality application – digital media spaces expand in manifold ways into the physical, re-shaping, re-using them. In the form of location aware cell phones, this conquest of the physical is becoming mainstream on levels even beyond video gaming. The paper will break down the influence into two seemingly distant positions: that of the arbitrary space allocation and of specific spatial adjustments.

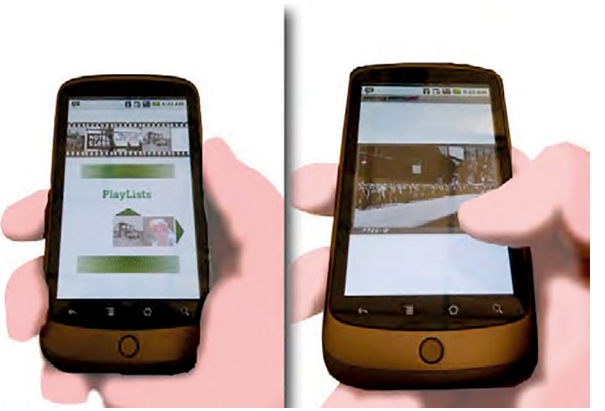
Anywhere Space

The project *Next Generation Play* (NGP), conducted by the Digital World & Image Group at Georgia Tech, was one example for a near ubiquitous computing interaction design. The project allowed players to collect media elements from a range of sources, including an interactive TV-application, a barcode scanner, and from web sites. Media include images, texts, sounds, or videos. Once collected, these media can be arranged into playlists in a collaborative way using Android cell phones. Players create own playlists and program their media experience collaboratively anytime as long as internet connectivity is provided.

Older paradigms typically saw media production, programming, and distribution centralized. NGP was a design- and implementation-exercise in a spreading of media experiences in an uncontrolled and decentralized way. While the consumption might have been shared, the selection of what media to experience was traditionally not shared. Hence the fight for the remote control in TV, which is being replaced by individual multi-screen media consumption. Especially in the TV-production and consumption processes were spatially separated and confined: the studio vs the living room.

NGP dissolves many of these traditions. Instead of a single regulated source of media, the surrounding world is seen as a constant source of media elements. Beyond the experience of advertisement panels, large displays, programmed soundscapes, and countless signs and icons that litter urban architecture and that try to deliver a message of some kind, NGP proposes that these manifestations can be used as physical links into an underlying media landscape. Online the image of the poster for a new blockbuster movie is often a button – a 'transcoded' entity (Manovich 2001) – that links to a trailer for that product. NGP builds on that concept or transcoding, adding interactive TV- and web-features, and not only considers a media element a possible link to another underlying media experience, but also allows players to collect these media connections, share them, and assemble them later into new forms (fig. 1a-b). In this system, one can collect a trailer from a poster in the subway station, a book from an educational TV-program, a music piece from a book, and a song text from the band's official web site. Once collected, the player is free to arrange the items in any way they want, sharing them with others, and play them back whenever and wherever desired.

Fig. 1: NGP running on an Android-phone; a: assembling a playlist, b: playback of media



We termed the interaction with media artefacts a 'media play space' and this play space stretches across different locations and boundaries. Following a philosophy close to the idea of an Internet of Things, it treats physical forms like signifiers for associated data that can be transcoded to feed a media application.

This architecture makes spatial conditions almost arbitrary. Media as play objects can be embedded almost anywhere, available anytime, and be shared, arranged, and activated wherever and whenever needed. Locations are infused with media but the way this infusion happens is through a form of arbitrary parallel world. The same principle is at work at many Augmented Reality systems – such as *Pokémon Go* (Niantic 2016) or *Wikitude* (Wikitude 2008) – that add media to certain locations and objects, but remain unaltered by the original space. AR systems do not necessarily demand an alteration to the spaces they augment, but they provide a parallel additional layer to it.

A special challenge to this spatial arbitrariness is the design of Alternate Reality Games (ARG). Part of their concept is Elan Lee's tongue-in-cheek mantra "This is not a game." It implies that the spatial restrictions to a given spatial frame are gone through an extensive game fiction that often spreads across all kinds of media and design:

> My definition is very loose. An alternate reality game is anything that takes your life and converts it into an entertainment space. If you look at a typical video games, it's really about turning you into a hero; a super hero, a secret agent. It's your ability to step outside your life and be someone else. An ARG takes those same sensibilities and applies them to your actual life (Ruberg 2006).

In ARG, the space and the media can be tightly interwoven. Players have to be in certain locations at certain times to receive specific phone calls, for example. At

the same time, ARG live through the creation of a wide player base that operates as a team using all elements of web communication. They mix highly specific events with 'available for all'-media design.

NGP does not aim to convert the player permanently but instead to make a parallel media play space available at all times. It does not demand players to "step outside your life and be someone else" and does not ask them to play a role. Instead it allows a collaboration on an artificially created media play space. In contrast, in Lee's vision of an ARG the stage expands outwards, becomes continuous in the 'Real Life.' One continues to play a role in a fictional setting. But in both cases the physical world is re-shaped even when the servers are down and the game has ended.

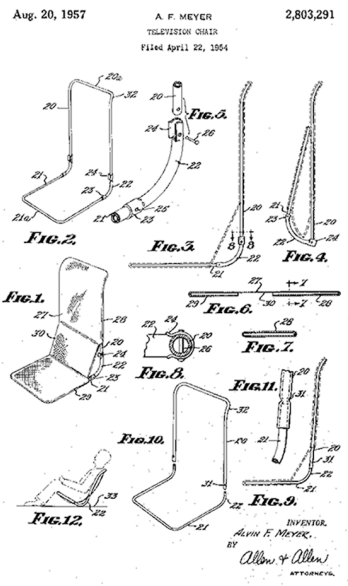
Changing Space

ARGs offer already a glimpse into how games can infuse the 'real' world. At this end of the spectrum, we look at how games affect the organization and spatial understanding of our homes, workplaces, cities, and other structures. To illustrate the point, I will concentrate first on the living room. Whether it is the space we need to play our Kinect, or a multi-player split screen set up on other consoles – games demand spatial re-structuring of our living rooms.

One example for this development inside our homes is the change of furniture. New media posed new challenges to interior designers that have evolved into everyday arrangements from the bookshelf to the media console, including the development of the chair in relation to media:

> With the advent of television many homes are presented with the problem of seating a number of people in a limited area. My chair is particularly well suited for handling such occasions in that the chair takes up a minimum amount of room and can simply be placed on the floor, the chair being foldable for storage purposes (Meyer 1957).

Fig. 2: Meyer's original television chair design, 1957



In the case of the 1958 TV-chair (Fig. 2), the particular media usage – having friends over for a TV-viewing – is still seen as a temporary event and the furniture is provided as a fill in to support it. TV had not conquered the living room and viewing functionality was deemed necessary only temporarily – much like the mechanically folding cinema seats provide today. Likewise, many more recent game-chairs use a 'rocker' design that often allows owners to fold and store the chair easily. It might appear that digital games are still seen as temporary inhabitants of our living rooms, but we can see a development into a permanent transformation, too.

The more dominant the media form, the more persistent the specialized furniture and interior design. In the case of the TV-chair, this has led to more dominant recliner seats and home-theatre set-ups. While early television audiences were not even sure where to put the new TV-set (Barfield 2008), many of today's architectural features for home interiors optimize TV-viewing in specific domestic areas (Spigel 1992). It is not particularly difficult to see how this will demand a comparable adjustment to the living room. In the case of game chairs, for example, there are changes in function and design noticeable.

Fig. 3: Ultimate Game Chair V3, 2008

The *Ultimate Game Chair V3* (fig. 3) offers reclining options and twelve integrated motors to provide a kind of large-scale force feedback. Other chairs feature integrated speakers or wireless connectivity. But no matter where the game media infusion of the home will lead us, it illustrates the extension of game space into physical worlds. As the sales sheet for the *Ultimate Game Chair V3* claims, the product attempts both: it "blends into any living space" while it also allows you to "get in the game and feel the action." Through these kinds of physical transformations our living rooms (and the more specialized 'game room' spaces) are adjusted to the needs of specific game world extensions.

While the first movement outlined above was one toward arbitrariness in the mapping of the physical and the virtual, this movement is one of physical transformation supporting the game world. Here the specific space changes to adjust to the given media and their content.

Not unlike the architecture of theme parks that is optimized to a certain pre-structured experience design, these game worlds that "become flesh" are all encompassing multi-sensual modifications toward a specific game experience. As they evolve, this concept of gradually materializing game worlds reframes our existing physical surroundings. Adidas sport shoes carry AR-worlds; Webkinz plush toys become 'alive' online; game-chairs have become fused hybrids of game interface and sitting utility. The game world is integral part of my non-digital

everyday world as we stumble over USB-cables and *Skylanders* (Toys for Bob 2011) figurines in our children's room and make decisions about our coffee tables with the functionality of the Kinect in mind.

Making Sense

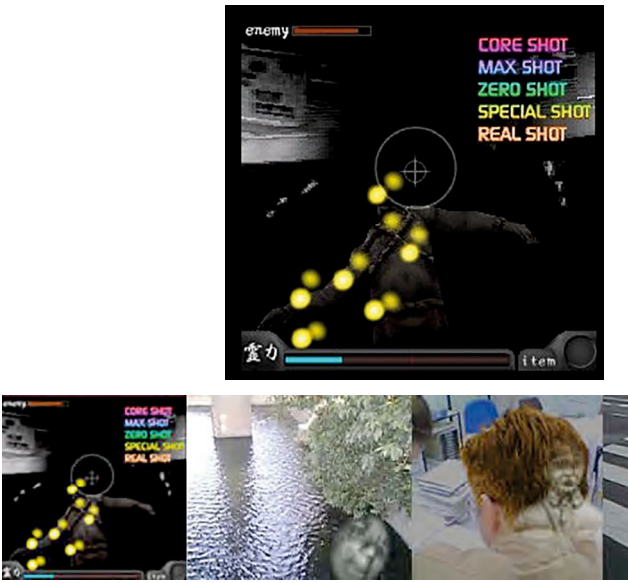
In opposition to the traditional vision of Virtual Reality as a replacement world in which we log in and tune out, a *Matrix*-ghost world, I have suggested two different perspectives regarding games' spatiality in relation to the physical world: one is a seemingly boundless cross-media view (exemplified in handheld games and especially cell phone applications); the other is the growth of a hybrid space in our homes (exemplified in game chairs and furniture). One sees an expansion of the game space into arbitrary physical territories, the other sees the invasion of detailed elements into our domestic space. How, then, can we include these kinds of developments in a spatial game design?

An often chosen point of connection is the player's body as the interconnecting hinge around which the game's spatial design has to evolve. It has been identified as a central design criterion for digital media (Dourish 2001) and has long become a central point in interaction design, spawning whole academic departments. Instead of questioning this approach, we shall take it as a given and ask how a player-centred design for game spaces might look when considering the here suggested two spatial approaches.

In Game Studies, Juul (2009) provides a brief pointer to space-driven mimetic interfaces that support game spaces' invasion in the living room. I do not necessarily see the need for more mimetic game control but instead for consistent mapping of these controls. Players do not need to control virtual avatars the same way they would control their physical body. However, the way in which they control the avatar has to provide a meaningful cognitive connection. The result of that connection is one of *diegesis*, not *mimesis* (knowing that a pure format of either is impossible). Some example cases should help to illustrate this. To highlight the differences both examples will be taken from mobile phone games.

Real: Another Edition (Tecmo 2004) extends the ghost hunting of the underlying *Fatal Frame* (Tecmo 2001) game franchise into a location-based cell phone game (fig. 4a-d). The game can provide hints to players where to search for virtual ghosts. Players then set out to hunt those ghost manifestations, which are overlaid in a hybrid reality way over the imagery available in their physical surrounding.

Fig. 4: Real's game play; a: fighting a ghost with the cell phone camera, b-d: overlay of the ghost world over the visible physical surroundings



Players have to find the locations of new ghosts, discover the individual ghost as it appears on the phone's screen, and 'shoot' it with the camera. Mirroring the very same design principle behind the purely digital game franchise *Fatal Frame*, where the player uses a magical camera to defeat ghosts as they appear in the 3D-polygon world, *Real* takes the interaction principle one step further as it now locates the ghosts in the physical surroundings of the player. It clearly cites traditions of spirit photography but literally projects these spirits into any physical surrounding, thereby changing the nature of this surrounding (it is depicted as haunted) without relying on a specific adjustment of the location as such (any spot could be haunted).

Kitsune (Roberts 2010) is an example for a location-based game that overlays whole territories on each other. To play *Kitsune* players have to navigate physical space in order to engage with the virtual world (fig. 5a-c). The overall concept of the two overlapping worlds was informed by the idea of a border zone (fig. 6), much like the Japanese *satoyama*.

Fig. 5a: screen shot of the game running on the Android-phone, b: Kitsune *at work in Piedmont Park, c: playing* Kitsune

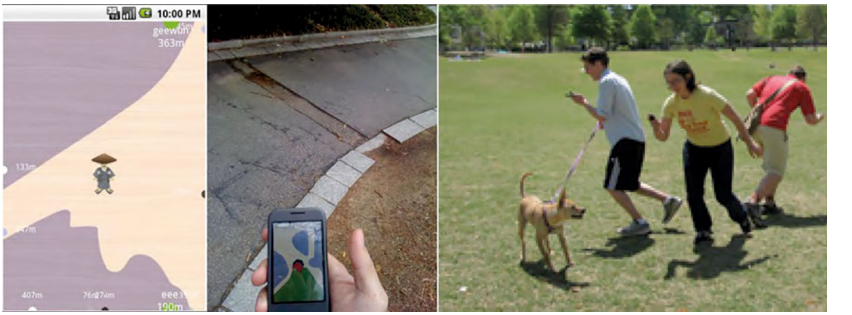
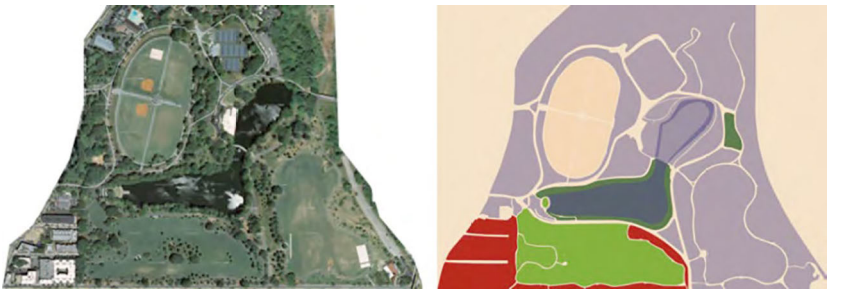


Fig. 6a: aerial view of Piedmont Park, b: Kitsune's *fictional virtual map*



Accordingly, the game cites Japanese folklore in its virtual world as it stages players as multiple hunters and one player can become the hunted fox spirit, *Kitsune*. Where *Kitsune* differs from other part- or full-location-based cell phone systems – such as *Parallel Kingdom* (PerBlue 2008), *Can You See Me Now*? (Mixed Reality Lab 2003) or *Ingress* (Niantic 2004) – is that it puts emphasis on the physical behaviour of the players on location and reflects it in the virtual game world. For example, the virtual avatars become transparent and invisible whenever their players stand still in the physical world for a certain time (and the accelerometer does not sense movement). Likewise, catching the fox depends on the casting of a virtual net between the hunters, using the cell phones, their direction, and their accelerometer. Thus, not only is location used as a physical player interface, but so are gestures and full-body movement.

Both games are typical examples for ubiquitous computing and the games that evolved from these new technologies. At the same time, they illustrate two very different spatial concepts outlined in the first half of the essay. *Real* is based on arbitrary spaces. Its very core design – just as the one at work in the *Fatal Frame* series at large – is the challenge that any ghost might appear at anytime, any-

where. *Kitsune* uses the landscape architecture of the existent Piedmont Park in Atlanta, but transforms it into a specific hybrid space. While *Kitsune* is not an example for a domestic space transformation, it nevertheless shows all the same signs for specific space referencing. It can only be played in Piedmont Park.

Ending in Questions

The spaces outlined here depend on play. They are diegetic, fictional worlds that are remarkable in their almost adverse spatial concepts, but depend on comparable game functionality when it comes to the question how they are played and how they come into being.

Both depend heavily on sensing technology to allow the digital system to make better sense of the surroundings. While cell phones lack numerous features that are standard in game consoles, they are superior in two ways: one is constant connectivity, the other is a range of sensors from microphones, to cameras, accelerometers, compass, or multi-touch. Overall, game consoles are playing catch up with these features. Newer generations, such as the Nintendo Switch, focus on new implementations of already existing functionalities, such as mobility and basic movement detection. These advances will continue but to realize the above noted spatial grounding of future games in our living rooms or in 'anywhere' scenarios, we would need spatial sensing in future console games. For example, cameras will not only detect players and their movements but also elements of furniture and interior design; cameras and other sensors will not only detect body weight, posture, speed of movement but also room temperature, light levels, acoustic conditions to adjust play conditions to them. Whether the spatial design follow the arbitrary spaces philosophy or the specific domestic space invasion: the system needs methods to engage with the surroundings in order to re-interpret them.

I am asking to consider game worlds as co-inhabitants of our living spaces and for technology to realize this in more detail. This is not a technological quantum leap but already very feasible as indicated in the projects and games discussed above. For example, cell phones already offer a range of the called for sensors – and more. It is more a question of realizing the potential how to enable games to become valid extensions of our spatial spheres.

References

Barfield, Ray E. (2008): *A Word from our Viewers: Reflections from Early Television Audiences*, Wesport, CT: Praeger.

Dourish, Paul (2001): *Where the Action Is: The Foundations of Embodied Interaction*, Cambridge, MA/London: MIT Press.

Juul, Jesper (2009): *A Casual Revolution: Reinventing Video Games and their Players*, Cambridge, MA: MIT Press.

Manovich, Lev (2001): *The Language of New Media*, Cambridge, MA/London: MIT Press.

Meyer, Alvin F. (1957): *Television Chair*, patents.google.com/patent/US2803291.

Mixed Reality Lab (2003): *Can You See Me Now?*, Android/iOS: Blast Theory.

Niantic (2004): *Ingress*, Android/iOS: Google.

–––– (2016): *Pokémon Go*, Android/iOS: Nintendo.

Nitsche, Michael (2009): *Video Game Spaces: Image, Play, and Structure in 3D Worlds*, Cambridge, MA: MIT Press.

PerBlue (2008): *Parallel Kingdom: Age of Thrones*, Android/iOS: PerBlue.

Roberts, Andrews (2010): *Kitsune*, Android: Georgia Institute of Technology.

Ruberg, Bonnie (2006): *Elan Lee's Alternate Reality*, gamasutra.com/view/feature/130182/elan_lees_alternate_reality.php.

Spigel, Lynn (1992): *Make Room for TV: Television and the Family Ideal in Postwar America*, Chicago, IL: University of Chicago.

Tecmo (2001): *Fatal Frame (Project Zero)*, PS2: Tecmo.

–––– (2004): *Real: Another Edition*, Android/iOS: Tecmo.

Toys for Bob (2011): *Skylanders: Spyro's Action*, Wii et al.: Activision.

Turkle, Sherry (1996): *Life on the Screen: Identity in the Age of the Internet*, London: Weidenfeld & Nicolson.

Wikitude (2008): *Wikitude*, Android/iOS: Wikitude.