Place and ITV: Playful Design Strategies Towards Place-Oriented ITV

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Contents

Abstract

Providing users with a sense of place – related to a specific geographic location in which one is situated, or linked to a faraway place, or even giving place-like qualities to virtual spaces such as massively multiplayer online role-playing games – has been deemed central for several forms of digital interactions. In the past decade, studies from human-computer interaction and computer-supported cooperative work have specifically addressed this theme, but the scarcity of works of place specificity focusing expressly on interactive TV suggests a gap in the current research, whereas the latest developments in mobile TV would seem highly coherent with such topic. To

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contribute to closing this gap, some initial directions are suggested here by pointing at compatible treatments of the notion of place in related fields, for example, the design of pervasive urban games. Game designers and game scholars might provide operational concepts that help understanding the role and the potentialities of places for interactive TV. Two general types of artifacts are selected here: works that are anchored to the experience of faraway places and works that leverage the physical location in which the user is. Their analysis yields three design strategies (experience anchoring, place permeability, and distributed storytelling), offered here as "objects to think with" and to spur further research and design. By pointing at them and at other similar strategies, similarities between digital games, ITV products, and other similar artifacts emerge and allow us to speculatively trace possible future convergences.

Keywords
Interactive television • Place • Mobile platforms • Pervasive games • Urban games

Introduction

The already multifaceted relationship between interactive television (ITV) systems, content producers, and audience/users has become even more complex with the increasingly pervasive diffusion of handheld devices and mobile TV solutions. However, ITV research so far has touched only tangentially the notions of place and place specificity, whereas other artifacts – from location-aware apps to mobile games – have already experimented with nuanced approaches to provide users with different kinds of "sense of place." The concept of "place" is a notion that humanistic disciplines such as ethnography and geography share with more technical ones such as human-computer interaction (HCI), ubiquitous computing (UbiComp), and game studies. By examining recent developments in the cognate fields of mobile, pervasive, and urban game design, ITV researchers may gather useful insights and design implications towards creating more engaging, effective, and expressive place-oriented ITV experiences.

Current practical concepts from game design will be examined to propose innovative, technologically mediated, and playful experiences fostering a connection between users and physical places. The relationship between human-computer interaction, meaning-making, physical places, and narrative contents is indeed complex and has been discussed from a variety of perspectives: here, practical exemplars will be framed first within a general and theoretical background in semiotics and then through practical insights drawn from the design of pervasive and urban games. It will be argued that thoughtfully designed locative artifacts may articulate the relationship between narrative structures and place specificity in nuanced and effective ways, which may inform further ITV research.

Among the many possible place-related ITV applications, this contribution will address specifically two of them – without necessarily arguing for their exhaustiveness – with the objective of teasing out further design insights vis-à-vis novel ITV solutions. First, interactive television may convey a "sense of place" to remote users, allowing for mediated explorations of faraway locations. Moreover, ITV might embrace mobile technologies and aim at deeper interactions with physical places and the practices that happen in those contexts. To exemplify the first group, three advertisement games (or *advergames*) will be presented, demonstrating how the common practice of accessing online maps may be made ludic. From their analysis, the design strategy of experience anchoring will be generalized and presented. The second type of place-related application will yield two other strategies, entitled place permeability and distributed storytelling. To discuss the first one, three pervasive games that require players to access place-specific knowledge will be discussed; to address the second one, two urban games that task users with producing place-specific short video contents will be presented. Whereas most of the selected artifacts discussed here are not ITV products per se, some of their key characteristics will be teased out and offered to ITV researchers as inspiration towards more refined, location-based, playful experiences.

In sum, this contribution aims at moving an early step towards an interdisciplinary dialogue about place, interactive technology, playfulness, and design between ITV, HCI, UbiComp, and urban game studies, by offering generative tools and "objects to think with" to ITV practitioners and scholars.

ITV Between Narrativity, Playfulness, and Place Specificity

Advances in interactive TV technologies have opened new scenarios for innovative narrative forms bridging the gap between storytelling, interactivity, and connection with physical places: this section will briefly survey the state of the art on these elements and their relationship. "Mobile TV is still in its infancy" (Sørensen and Nicolajsen 2010), but nonetheless, it constitutes a promising entry point from which to examine the relationship between interactive TV, storytelling, and physical places. Outside the domain of ITV, the connection between places and technosocial practices has been examined from a variety of perspectives. In a foundational paper on place in human-computer interaction and computer-supported cooperative work (CSCW), Harrison and Dourish argue that "Space is the structure of the world, [however] appropriate behavioral framing comes not from a sense of *space*, but from a sense of *place*, [and a] key principle describes the relationship between the two is: space is the opportunity; place is the understood reality" (Harrison and Dourish 1996). From the perspective of data mining and information architecture, Li and Goodchild remark "[place] reflects the way people perceive, understand, and interact with their environment [and] place names are omnipresent in conversations, documents, and news stories" (Li and Goodchild 2012). Digital technologies for telepresence have been experimented with in order to provide a "sense of place" for users: for example, Turner and Turner (2006) report on a telepresence

application allowing a virtual tourist visit of the city of Edinburgh, Champion (2008) and Sylaiou et al. (2010) mention virtual heritage and virtual museums applications, and Deaton et al. (2005) refer to location-specific training environments. However, the number of ITV artifacts engaging places is scarce, highlighting a visible gap in the current research on interactive TV and mobile ITV: while a number of apps and mobile experiences – from commercial products such as Foursquare/Swarm, to games such as Ingress, to more art-oriented projects – have successfully addressed physical locations in a playful way, ITV seems to be still lagging behind in this respect.

In addition to this, playfulness seems to be another notion that has been only sparsely addressed by ITV researchers. "Traditionally, television used to be about narrativity, but not about agency and intercommunication; [. . .] games used to be about agency, but not about narrativity and intercommunication; and [. . .] the Web used to be about intercommunication, but not about narrativity and agency" (Ursu et al. 2008). However, as Murray (2012) recently underlined, digital TV is already "delivered on the same screen and often through the same device that provides access to videogames and websites, [and] we can see the possibility of a future environment of true convergence in which everything we can do on a computer or a game console can also be done in the context of television viewing" (2012). For this reason, a significant convergence is taking place between different digital media (Jenkins 2006), but designers today also have the possibility of experimenting with innovative forms of interactivity that bridge linear and ludic forms of storytelling. Considering two possible scenarios – a "static media model" that assumes the continued separation between TV and game platforms and a "digital revolution model" that hypothesizes the disappearance of noninteractive television formats – Murray points at a middle ground on which to experiment with design innovations. In the same vein, the relationship between play, narrative, and place may be outlined as follows. Historically, screen-based media such as cinema and television had a profound impact on the practices of constructing, telling, and interpreting narrative texts. Whereas more traditional TV storytelling lacked interactivity and early exemplars such as the *kinoautomat* (Hales 2015) were technologically limited, other experiments on the technological and artistic sides of TV narratives are currently exploring flexible and multilinear formats. Currently, the two most common solutions for implementing a degree of interactivity in TV-related experiences rely on additional services complementing traditional shows (Nandakumar and Murray 2014; Murray et al. 2012) or on multilinear narratives created constructing a branching tree with short audiovisual segments (Piacenza et al. 2011; Charles et al. 2011; Réty et al. 2008). In addition to these, other experiments on the convergence between TV and participatory and social media have been recently proposed (Hess et al. 2011; Almeida et al. 2012). In the first case, current examples of interactive services enhancing TV shows include the Info Card service (Google 2013) available for contents accessed through the Google Play service, which allow user to pause video streams and have access to information about the actors present on screen. Multilinear branching narratives, instead, date back to the foundational Dragon's Lair (1983) laserdisc video game and still

constitute a cornerstone of TV interactive storytelling and cognate media. As an example of this, the upcoming interactive narrative "Her Story" (Barlow 2015) makes use of multiple video clips to cast players in the role of a detective interrogating a suspect.

Digital Narrativity

In the wake of founding metaphors such as Janet Murray's holodeck (Murray 1997) or Brenda Laurel's computers as theatrical performances (1991), the practice of computer game design has significantly evolved in the past decades and produced outstanding interactive artifacts that merge playful competition with nuanced storytelling structures. On this topic, the compatibility between narrative and competitive components has been discussed at length in Game Studies: indeed, a lively debate on the role (central or ancillary) played by narrativity in games took place in the last decade, and this is not the occasion for revisiting it. Marie-Laure Ryan (2001, 2004, 2006; Jannidis 2003) argues for understanding the quality of being a narrative ("storiness") as fuzzy and scalar rather than as a dichotomy between stories and nonstories as binary categories. Indeed, reasoning in terms of storiness allows researchers to appreciate the convergence between digital games and TV-like experiences. A number of highly immersive virtual environments have been recently published by the entertainment industry and acclaimed by digital media critics – in agreement with the vision of playable media as a powerful medium for storytelling. Recent AAA titles such as Heavy Rain (2010), L. A. Noire (2011), and The Last of Us (2013) exemplify recent progresses in this sense. However, it is not the intention here to argue for a transition of games as a whole towards experienced inspired by TV storytelling. Rather than propose general assumptions, this chapter – coherently with the interest in interactive narratives that traverses ITV research – will programmatically focus on playful experiences that foreground storytelling components. As noted elsewhere, "[Ryan's] revised definition considers narrative to be every semiotic object—verbal or not—capable of evoking specific cognitive effects in its interpreters' minds. In other words, Ryan is proposing to separate linguistic phenomena from the quality of being a narrative, understood as a sort of cognitive template at work in many different media, including [interactive systems]" (Koenitz et al. 2015). The narrative traits that characterize most ITV experiences are indeed pointing in this direction, and, for this reason, the curated list of exemplars assembled here is composed of artifacts favoring a high level of scalar storiness over competition.

An approach grounded in semiotics will provide useful theoretical scaffolding to examine narrative structures in interactive experiences. In the most general terms, semiotics refers to a systematic study of signs, their possible uses, their classification, and their role in social contexts. Eco (1976) distinguishes general and specific semiotics: the former is a more philosophical approach concerned with the emergence of meaning, whereas the second describes the organization of particular systems such as linguistics, narratives, proxemics, or iconography.

As an analytical category, the concept of narrativity belongs to the specific semiotics that examines the formal characteristics of storytelling. It constitutes the deepest, most abstract identifiable level of any text and the common layer for any meaningful artifact regardless of the medium adopted. In this sense, narrativity is the deepest, most general, and abstract identifiable level of any text and the common layer for any meaningful artifact regardless of the medium adopted. As stated elsewhere, "[it] should be intended as the logical baseline of every form of expression, and it can be described in highly abstract terms [and] does not refer to 'having a narrative' or 'being a narrative' in the ordinary or literary sense of the term, but it is defined as the quality of every text to be formulated as a network of semantic oppositions and of actantial roles that change over time following a canonical schema" (Ferri 2015). If one adopts such a broad logical definition, as Compagno and Coppock remark,

> every meaningful artifact or activity is then narrative in this abstract theoretical sense, and all cultural productions specify the way in which they determine how an interpreter is able to understand and respond to them (thus integrating these interpretations into his/her prior cultural knowledge base). If we agree on this notion of narrativity, then computer games cannot but be narrative. (Compagno and Coppock 2009)

Pervasive Gaming

With the popular diffusion of GPS-enabled mobile terminals, playable and narrative artifacts have rapidly expanded – as they are no more bound to specific times and places but can be meaningfully experienced in a broad variety of physical locations. This has led to the development of urban games and other locative media, producing compelling user experiences leveraging playfulness across a variety of technosocial practices. The use of digital technologies to affect the way spaces and places are inhabited and interacted with is clearly not new. In particular, from the 1990s onward, a growing number of place-specific artistic and playful projects have explored the relationship between technologically mediated practices and the sociocultural contexts of public spaces. Among different influences on this topic, Mark Weiser's early vision of ubiquitous and pervasive computing is particularly relevant there: "we are trying to conceive a new way of thinking about computers in the world, one that takes into account the natural human environment and allows computers themselves to vanish into the background" (Weiser 1991). As artist and media theorist Martin Rieser recently argued: "[mobile media] dissolves traditional gallery and museum walls, and has allowed new audiences to relate to the spaces of their urban worlds by turning them both into places of possibility, where inner and outer spaces, histories and narratives can be interlocked and explored" (Rieser 2015). Similarly, pervasive and urban play "exists in the intersection of phenomena such as city culture, mobile technology, network communication, reality fiction, and performing arts, combining bits and pieces from various contexts to produce new play experiences" (Montola et al. 2009). In the past decade,

UK-based mixed-media artist group Blast Theory has been at the forefront of the design research related to locative, hybrid playful experiences. In collaboration with the Mixed Reality Laboratory at the University of Nottingham, Blast Theory developed seminal pieces such as Can You See Me Now (2003), where online players are chased through a virtual model by street players who play in a real urban environment, and Uncle Roy All Around You (2005), where street players were given a task to search for a character named Uncle Roy and remote players, together with professional performers, guided them in their quest. Similar experiences investigated the use of large public displays. For example, Nokia research's Manhattan Story Mashup (2007) combined online contents, mobile phones, and one of the world's largest public displays in Times Square to a large-scale pervasive game in Midtown Manhattan. As described by Tuulos et al. (2007),

> web players used [. . .] mashed up stories, either by writing new sentences or by re-using already illustrated sentences. A noun from each new sentence was sent to a street player [who] had to shoot a photo which depicted the word within 90 s. The photo was then sent to two other street players who had two guess what the photo depicts amongst four nouns, including the correct one. If the photo-noun pair was guessed correctly, the original sentence was illustrated with the new photo and it turned into an ingredient for new stories [the best of which] were shown on the Reuters Sign in Times Square. (Tuulos et al. 2007)

Indeed, pervasive technologies have been successfully adopted not only in the fields of interactive and public arts but also in the emerging field of urban game design. In other words, pervasive digital play makes use of interactive technologies to offer experiences that occur outside the spaces and times that would normally be dedicated to it and, by doing so, affects the ways we perceive and understand physical places. Similarly, location-based games constitute an emerging genre that brings together mobile computing and game design in order to engage players through the interaction with their surroundings. For the purposes of this chapter, these related genres will be gathered under the umbrella term of "pervasive games."

The idea of pervasive gaming has been frequently discussed in HCI literature in connection to mobile experiences, with Nieuwdorp (2007) compiling a thorough review of the related literature. While pointing at the heterogeneous and problematic use of the notion of pervasiveness, she also provides an operational definition: "Pervasive games are generally those that blur the boundaries between the game world and the real world, and where the game blends in with reality" (Nieuwdorp 2007). These practices link the virtual world to the real one: locative games leverage portable devices to set up place-specific situations for users to experience, for example, asking players to be at specific locations at certain times of the day. This chapter will refer specifically to a subset of Nieuwdorp's categorization, composed of three complementary perspectives on pervasiveness in respect to games:

1. Practices that *pervade* and *blend* with the physical world (De Souza e Silva 2009; De Souza e Silva and Sutko 2009),

2. Practices that *overlay* games with the physical world (Sotamaa 2002),
3. Practices that *intertwine* games with everyday practices (Stenros et al. 2012; Bichard and Waern 2008).

Addressing the Place-Specificity Gap in ITV Research

Analytical categories that are related to the *storiness* (Ryan 2004) of digital artifacts and that pay specific attention to the relationship between playfulness, interaction, and physical places may provide ITV researchers with useful insights for developing locative experiences. Without being in contrast with other more quantitative methodologies, this interdisciplinary approach contributes to the field of ITV research and practice by providing categories that will allow more effective designs and focused comparisons between heterogeneous practices. As already discussed in depth elsewhere (Ferri 2014), the research contributions that are made possible by adopting methodologies that are informed by semiotics are programmatically *abstract*, *technologically agnostic*, *scalable*, and *generative*.

In the context of ITV research, these qualities may be further specified. Providing logical categories means keeping a close focus on deep semantic structures underlying the analyzed artifact rather than its specific figurative qualities. For design practitioners, this means generalizing beyond particular examples and finding more general similarities or differences across wide corpora. Technologically agnostic approaches allow researchers to compare experiences across different media, leading to a more nuanced understanding of pervasiveness in mobile practices. Focusing on scalable approaches makes possible the description of simple or complex activities regardless of their size or of the number of interactors (Murray 1997) taking part in them. The design strategies of experience anchoring, place permeability, and distributed storytelling aim at being generative concepts, capable of providing designers with useful insights: semiotic categories, while directly intended as design tools, can provide inspiration for practitioners. By definition, semiotic analyses are transmedia (Ryan 2004) and, thus, easier to generalize and adopt for comparing artifacts and experiences across different domains (e.g., ITV products vs. everyday practices or vs. unilinear television). This aims at three positive effects:

1. A more detailed understanding of the internal boundaries in the field, distinguishing different types of place specificity in ITV artifacts
2. More effective comparisons with other artifacts or experiences, made possible by adopting shared, general descriptive categories
3. Reinforcing an interdisciplinary dialogue with a common metalanguage to facilitate the selection of best practices and shared examples

Introducing a curated selection of playful and locative interactive experiences, this chapter aims at informing and complementing other more prescriptive design methodologies.

Digital Maps: Anchoring Playful Storytelling to Existing Online Services

In recent years, the impact of online mapping services on the general digital media ecosystem has grown considerably, and accessing geographical data through digital media has indeed become a commonplace HCI experience. Their ubiquitousness and recognizability make online maps likely candidates for design experiments that link narration, sense of place, and digital interaction with ITV systems. For these reasons, they constitute good examples to introduce the design strategy of experience anchoring.

Although Street View, currently part of Google Maps and Google Earth, was not the first online service to present first-person geolocalized images, it is today one of the most recognizable. It was presented to the public in May 2007 – first with content from select North American cities and the gradually expanding abroad – and is currently available on the vast majority of digital platforms, from desktops to mobiles. Street View produces an almost three-dimensional vision by putting into sequence a great number of bidimensional panoramas that were captured through a specialized tool – often mounted on top of vehicles. Subsequently, a semitransparent white line is superimposed to each image to indicate the trajectories on which users can "move," for example, showing a bifurcation near crossings and intersections to indicate the different choices available. As exemplified by a recent playful reinterpretation (Kohler 2015) that temporarily added the option of turning real street topographies from Google Maps in game levels for a Pac-Man (Namco 1980) clone, a number of game-related uses of online maps already exist.

A general overview of three exemplars – Mercedes-Benz: Escape the Map (Abbott Mead Vickers BBDO 2011), Unilever: Magnum Pleasure Hunt 2 (Lowe Brindfors 2012), and State Farm: Chaos in Your Town (DDB B-Reel 2011) – will be presented, followed by insights for ITV researchers and practitioners. By curating a short list of casual games that reinterpret and remediate online map services into playful user experiences, this section argues that these are not simply leveraging superficial figurative aspects of those service, but are rather ways to *make playful* the everyday experience of "remote places." In other words, they anchor playful digital contents both into physical places and into their mediated versions: by building upon an ordinary interaction such as accessing a digital map, the examples detailed here create playful experiences while remaining clearly connected to places through online cartography. The works considered are also "advergames" or "advertisement games" (Smith and Just 2009; Bogost 2007), a hybrid interactive digital genre elaborating on traditional ads to add interactivity and playfulness. Advergames are seldom considered in the academic discourse as their design quality is often lacking polish – however, as audiovisual advertisement constitutes a staple in traditional TV contents, examining advergames is here a fitting choice for pointing at some possible future characteristics in ITV. In sum, it could be speculated that ITV designers may follow parallel trajectories – possibly on different subject matters – to those adopted in creating these advergames by making playful an already-recognizable interactive experience.

Exemplars: Sport Cars, Ice Creams, and Killer Robots

In November 2011, Mercedes-Benz UK launched an advertising campaign entitled Escape the Map (Abbott Mead Vickers BBDO 2011), promoting its C63 AMG car model. Escape the Map leverages a multiplatform storytelling ecosystem comprising – in addition to the main escapethemap.com website – diegetic social media accounts, physical billboards on mounted on public buses in London, banner ads on the YouTube homepage, plus augmented-reality elements published on the Metro free-press newspaper and accessible through a specific app. The main part of this experience consists of a short and simple game, an interactive movie whose plot branches or arrests according to user input. The plot opens with Marie – the coprotagonist – introducing herself to the player. She describes herself as being "stuck in the Map," a virtual world whose visual characteristics are clearly reminiscent of the Hong Kong area of Street View. Those who spend too much time in the Map have their facial features covered by a blurring effect and, Marie says, she must escape before her face changes permanently. The goal of the game is to navigate through the branching narrative, driving a Mercedes car towards an exit; the difficulty level is – as it is usual for most advergames – very low, possibly to maximize the reach of the promotional message. Escape the Map is structured as a single audiovisual clip with a small number of branching points, such as choosing a path or another or entering a street address in a navigation bar. Many visual components in the game refer to the Street View aesthetics, with UI elements entering the narrative diegesis as if they were "real" parts of the game reality (e.g., giant map markers falling from the sky and threatening to crush the protagonists), or other visual effects simulating the low-resolution images resulting from a slow Internet connection (Fig. 1a, b).

Magnum Pleasure Hunt 2 – Around the World (Lowe Brindfors 2012) is a comarketing advergame promoting Unilever's ice cream brand Magnum together with other partners such as Bvlgari, Quiksilver, KLM Royal Dutch Airlines, Hotel Fasano, and Microsoft Bing. It is also coordinated with a corresponding TV advertisement campaign in the USA. In short, the game is a simple platformer where players guide an avatar collecting as many Magnum-branded items along bidimensional and three-dimensional levels. The action shows the protagonist of the game moving across a number of places – from New York, to Paris, to Rio de Janeiro. In her movements, the online map services provided by Bing Maps and Bing Streetside function as links between subsequent game levels: for example, we see the protagonist typing the name of a shop in an apparently extradiegetic navigation bar to teleport inside, as if changing the point of view in Bing Streetside corresponded to a physical movement inside the game world (Fig. 2a, b).

Chaos in Your Town (DDB B-Reel 2011) is a playful app advertising the State Farm insurance company and that may be used to create customized video clips to be shared through e-mail or social networking sites. It adopts the narrative and visual elements already explored in a series of TV advertisements produced for the same brand, where two characters chat with great calm as a giant robot destroys

Fig. 1 (**a**, **b**) Escape the map (Abbott Mead Vickers BBDO 2011)

their neighborhood. Chaos in Your Town asks the user for a street address and – if any Google Street View imagery is available for the corresponding coordinates – it automatically generates a short video clip where the destroyer robot from the TV ad is shown walking nearby streets as it knocks buildings down (Fig. 3a, b).

Design Insights: Towards the Experience Anchoring Strategy

The three digital media formats – online map services, advertisement, and video games – that are brought together in these examples interact with each other at

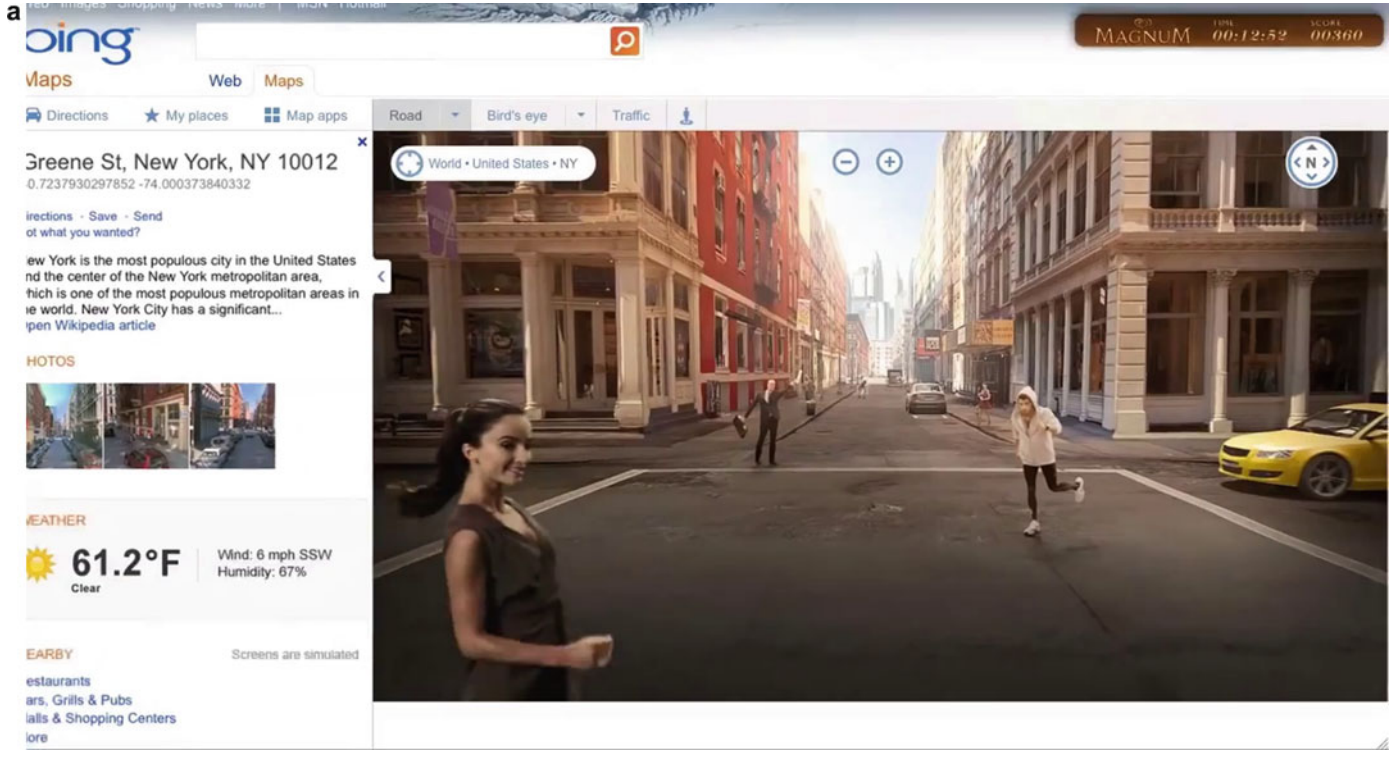

Fig. 2 (continued)

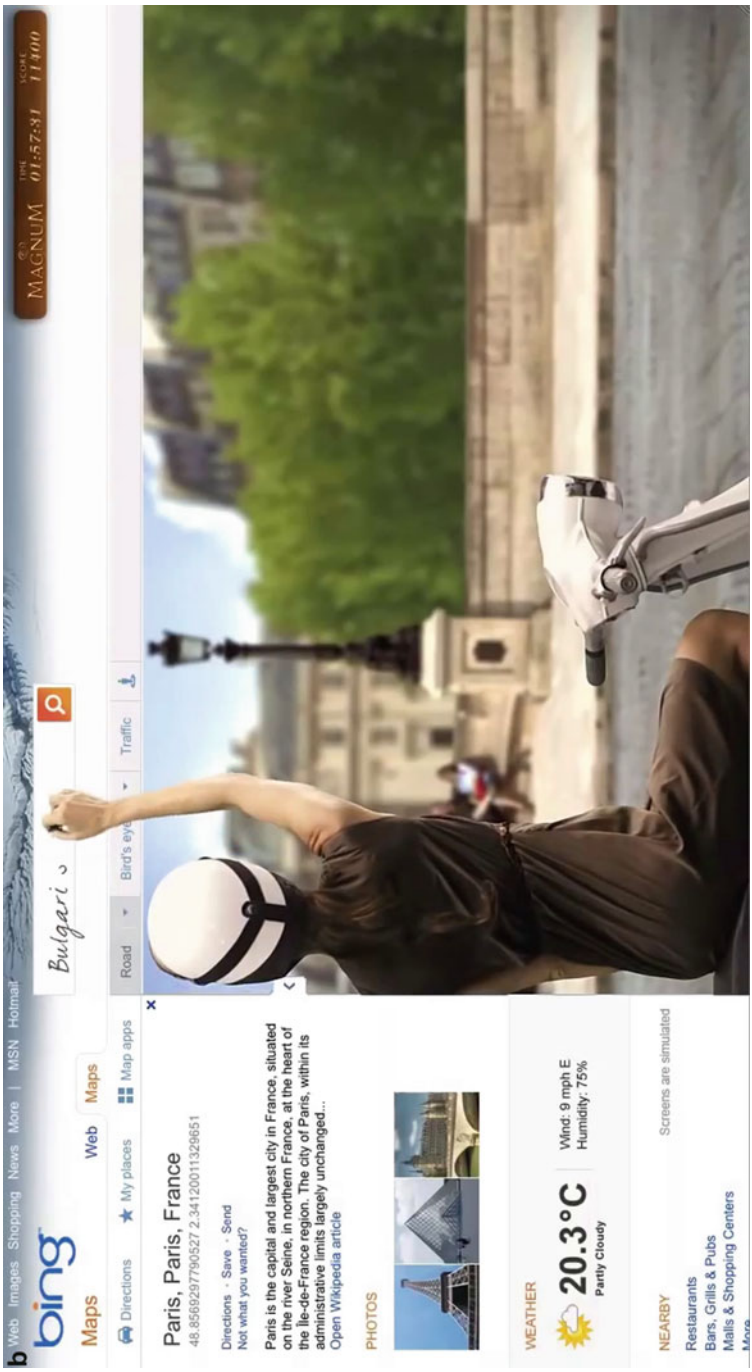

Fig. 2 (**a**, **b**) Magnum Pleasure Hunt 2 – around the world (Lowe Brindfors 2012)

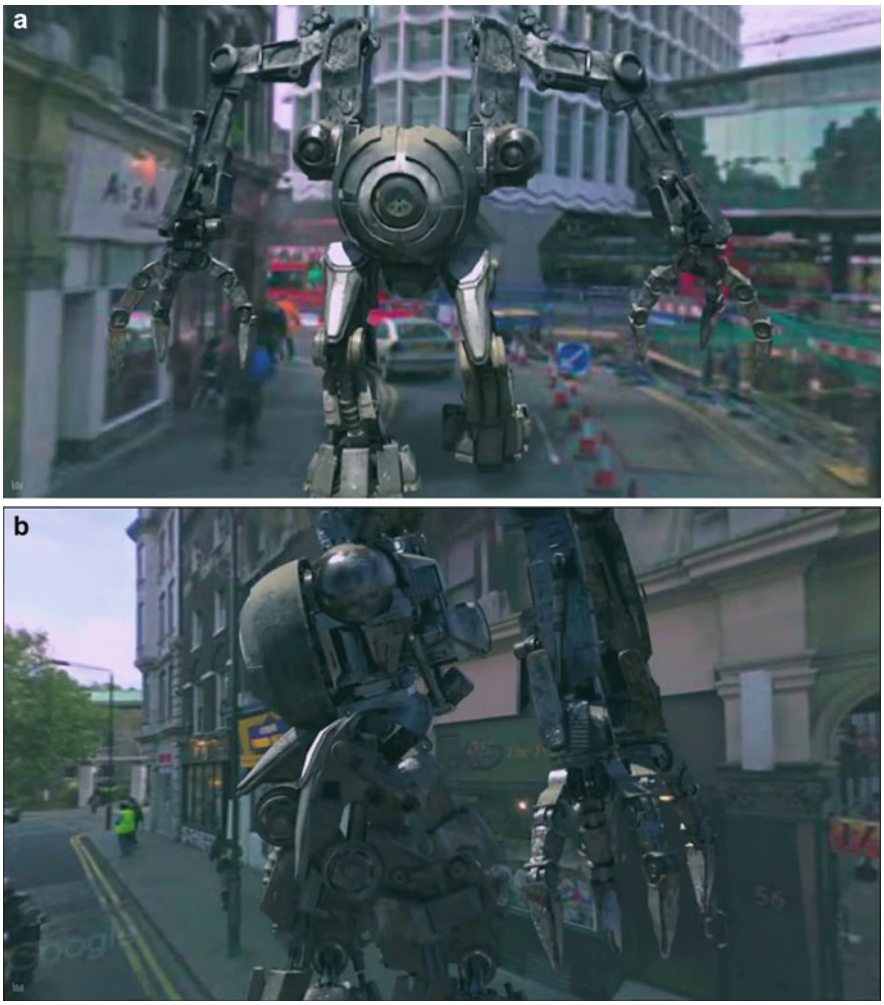

Fig. 3 (**a**, **b**) Chaos in your town (DDB B-Reel 2011)

different levels and, together, they transpose ordinary TV advertisement in digital interactive form. In other words, these exemplars point at complex phenomena (the interplay between linear texts, digital interactive narrativity, the professional context of TV advertising, and the user practice of accessing place-specific information through online maps) and make them playful by leveraging some game design elements. This conclusive paragraph will synthesize some design insights from a comparison and a brief close reading of the three artifacts, beginning from their figurative components to contextual and procedural elements and finally combining them into more general design implications.

All the three examples presented here adopt visual components that are typical of digital cartography, ranging from direct transfers from the content space of online maps, to the game diegesis (e.g., the blurred faces in Escape the Map that refer to the corresponding privacy feature in Google services but recontextualize it in a completely different narrations), to others that cross from interfaces to the space of playful interactions (e.g., the protagonist reaching and writing in an extradiegetic search box in Pleasure Hunt 2 or giant pointers falling from the sky and blocking the player's path in Escape the Map). In addition to this, other experiential elements are transposed into these exemplars. For example, the way in which Street View captures and digitally composes sequential images make human figures unnaturally still when observed by a user – as if one was blocked in the middle of a step. This figurative trait clearly derives from a technological limitation but has become iconic in how users perceive and expect online maps. Pleasure Hunt 2 expressly plays with such feature, depicting three-dimensional spaces populated by immobile passersby, around which the protagonist moves freely. From the point of view of users' contextual knowledge, specific, real-world references are presented within the games' fiction – from the streets of Hong Kong, Paris, and Rio De Janeiro to the custom street addresses that users are invited to enter in Chaos in Your Town. In other words, the gameplay practice of these artifacts is constituted by two consecutive remediations: a firsthand, physical experience of being in a place is transposed in a virtual stroll on Street View, and subsequently the experience of accessing online maps is "made ludic" as it is turned into a video game.

Indeed, the pieces discussed here base their expressive strategies on a partial verisimilitude, not only for their reference to actual geographical places in the real world but also because they prompt users to experience them using the same interface and technology that one would normally choose for accessing an everyday online mapping service. The points of contact between these games and Street View are indeed laden with multiple meanings. On the one hand, some of the selected locations anchor gameplay to specific places with exotic connotations (Paris, Rio de Janeiro, Hong Kong) that refer to socially shared narratives on the themes of luxury, pleasure, and distance/otherness. The third artifact, Chaos in Your Town, prompts users to enter their own street address in the very beginning of the experience and constructs a dynamic representation in CGI, superimposing a destroyer robot to the images of streets that are familiar for the user. In sum, the gameplay experiences generated with these artifacts remediate an everyday practice (accessing an online map) and embed in a second-order activity (experiencing a playful interaction). By doing so, they leverage a dual-design strategy with its bases – for the first two examples – on a reference on distant, exotic, and evocative places, whereas Chaos in Your Town reverses such approach by presenting familiar, almost mundane, views.

In sum, the design strategy at play in these artifacts can be described as a form of procedural translation (Bogost 2006) that identifies traits from a source domain (a web-based technological platform, visual and interface elements from digital maps, the experience of immediate access, and movement between faraway places)

and transposes them into a simple game. As advertisement products, elements of the promoted brand are clearly visible – although their analysis is not the focus at the moment – and are integrated in a more general playful experience. The three artifacts refer to a practice well known to the user – the use of online maps – to contextualize and anchor the gameplay in a daily experience. Branded elements are situated in a self-contained narrative that increases the storiness (Ryan 2004) of mundane online maps, leaving some freedom of action to the user without obscuring the brand identity and connecting it to other significant components (a sense of luxury and exotic for Magnum, a classic "damsel in distress" plot for Mercedes, and the idea of safety in spite of unexpected destruction for State Farm). What is unfortunately rather disappointing, for pieces with a relatively high production value, is that properly ludic components are left in the background.

All said, as design insights to offer to ITV research, these pieces foreground:

- Playful activities anchored to concrete everyday media user practices and related technological platforms
- A thematic, figurative, and procedural connection to actual geographic places and to the related activity of browsing online maps
- A narrative layer intertwined with an interactive experience

From Place Permeability to Distributed Storytelling

As second part of this curated list, a complementary type of artifacts exploring the interplay between narrative structures and social, urban spaces will be discussed. Two live-action role-playing games (LARPs) and three pervasive urban games will be presented as prototypical exemplars to demonstrate two key notions – "TIAG/TINAG ambiguity" (Ferri 2009) and "distributed storytelling" (Ferri and Coppock 2013) – used here to support narrative experiences that are partially shared between a fictional diegesis and the actual, social context. In brief, the ambiguity between experiential frames (TIAG, or *this is a game*, opposed to TINAG, or *this is not a game*) is constructed by providing players with elements supporting partially contradictory interpretations that let different contextual rules overlap and mix fictional game elements with elements from the real world. This design characteristic is not exclusive to LARPs and pervasive games as such, but, as it will be shown, it is crucial in enhancing their contextual narrative effectiveness. Moreover, a sense of distributed storytelling is generated by delegating to participants a degree of authorial or curatorial control over some narrative components of a pervasive experience. Typically, this is obtained by assigning game-related tasks that require players to gather and assemble narrative materials and to reinterpret them in order to proceed with the playful experience. The relevance of these mechanics for ITV researchers and designers is twofold. Whereas the map-inspired pieces presented in the previous section contributed to convey a sense of place for remote users, allowing mediated explorations of faraway locations, as a complementary approach ITV might further embrace mobile technologies and aim at deeper interactions with physical places and

related contextual practices. In this vein, these examples demonstrate ludic and narrative place-specific activities that could inform future mobile ITV applications exploring physical spaces, leveraging GPS-enabled mobile terminals. Additionally, the pieces presented here rely significantly in their gameplay parts on user-generated contents – a characteristic that is already relevant in a variety of interactive digital media and that could be further integrated in mobile ITV experiments.

This second part of the chapter will be structured as follows. At first, a theoretical framing for the TIAG/TINAG ambiguity will be provided, followed by the discussion of three examples – an urban game experience and two live-action role-playing games: Big Urban Game (Lantz and Salen 2002), System Danmarc (Opus 2005), and Prosopopeia (IperG 2005). These three examples will be used to illustrate the design strategy of place permeability. Then the other strategy of distributed storytelling will be introduced and exemplified with two urban game examples: Mettiti in Gioco (Ferri 2011) and 3Cities (Salvador and Ferri 2013).

"This Is a Game" or "This Is Not a Game"?

As pointed out in the works of Huizinga, Goffmann, and other more contemporary game scholars (Huizinga 1938; Goffman 1961; Copier 2005; Stenros 2012), players of traditional, nonpervasive games are generally well aware of the ludicity of the activities they take part to. Such awareness has been address with a number of related concepts – such as the Magic Circle or the Lusory Attitude (Huizinga 1938; Suits 1978) – and generally defines the participants' preliminary acknowledgements of being in a playful situation. In this occasion, and building upon previous research on this topic (Ferri 2009; Ferri and Coppock 2013), this more general system of player expectations will be called the *this is a game* (TIAG) layer. More specifically, the cooperation between players and interactive systems – digital or nondigital – generates a ludic discursive universe within the TIAG layer in which gaming interactions are recognized as fictional. In simpler terms, we might understand it as the make-believe part of a game, in which a fictional world with temporary rules is established. As focalization (Genette 1972) shifts within this universe, users abide by TIAG interpretive rules and temporarily complement their ordinary expectations with a general tendency to accept fictional contents. In other words, this follows a very similar pattern as when interpreting other fictional texts – from novels, to movies, to computer games. However, some specific experiences also feature a second nested system of expectations within the TIAG layer – and pervasive games are prominent in their relying on this feature. As a pragmatic effect on users' interpretive activities, this second intradiegetic frame requires players to "pretend to believe that what is taking place is not a game"; for this reason, this layer will be designates as *this is not a game* (TINAG). The majority of pervasive and urban games relies on semiotic and procedural mechanisms that generate player engagement by creating ambiguity between the TIAG and TINAG systems. The following exemplars follow the evolution of this semiotic strategy from urban games to more complex pervasive live-action role-playing games.

Exemplars: Inflatable Game Pieces, a Danish Dystopia, and the Spirit World

The Big Urban Game (Lantz and Salen 2002), also called BUG, was situated at the intersection between urban gaming and public art. It was an event organized by the Design Institute of the University of Minnesota as a part of its Twin Cities Design Celebration, with the goal of encouraging residents of Minneapolis and St. Paul to see their surroundings in a whole new way and to support reflections about the design of urban space. Stakenas and Zurkov (2006) summarize the event as follows: "The BUG took place over five days in Minneapolis and St. Paul. Three teams raced 25-ft tall inflatable game pieces through a series of five checkpoints, hoping to make it to the final destination in the shortest amount of time." Big Urban Game was divided into a real-world physical game and its online counterpart. Designer Jane McGonigal describes its two parallel worlds (Fig. 4):

> Three thousand, three hundred and six members of the public registered to play [..] online and were divided into three teams: red, yellow, and blue. Each [..] online team partnered with a dozen real-world runners, who would be responsible for moving their team's [..] inflatable game piece around a 108 square-mile game board. Every morning for five consecutive days, the online players studied a digital map of the Twin Cities and voted for one of two potential racing paths. Every evening, after the votes were counted, the real-world runners raced through the city streets following the route chosen by their online counterparts. (McGonigal 2006, pp. 175–176)

This specific example bases its ludic and rhetoric effectiveness on exporting, or contaminating, the TIAG layer with meaningful real-world, place-specific elements, knowledge, and interpretation. Indeed, as noted elsewhere (Ferri and

Fig. 4 Big Urban Game (Lantz and Salen 2002)

Coppock 2013), "choosing the final path for the game-piece was not an easy task, as it required a good knowledge of the city or, even, an in-person tour to decide the best option" (Ferri and Coppock 2013). Again, Stakenas and Zurkov write:

> Because the game pieces were literally carried through city streets, greenbelts, and alleyways, players had to negotiate the pros and cons of each route, taking into account variables such as traffic jams, low lying bridges, and busy intersections. Neighborhood connected to neighborhood as the pieces traced their circuitous routes. Citizens were left wondering what might be next in a game where game piece-as-architectural spectacle was the rule of the day. (Stakenas and Zurkov 2006)

Taking part to the Big Urban Game meant accessing competences that are concretely related to the experience of navigating the real, physical world and importing them into a TINAG layer to produce strategic game decisions. "BUG not only featured an easily-recognizable Public Art intervention (its 25-ft tall inflatable game pieces have become almost an icon for the Urban Games genre) but required players to carefully consider features of the metropolitan areas to be traversed by the game" (Ferri and Coppock 2013). By expressly requiring the interplay between TIAG and TINAG layers, BUG was particularly effective in capturing players' attention through playful dynamics and to direct it to examine specific urban spaces through a different set of expectations.

Live-action role-playing games (LARPs) are complex playful practices that, while they share some foundations with computer games and traditional tabletop role-playing games such as Dungeons & Dragons, are characterized by whole gameplay taking place in the physical world through fully embodied interaction. In other words, whereas standard tabletop role-playing games are based on series of speech acts in which each participant describes – in abstract terms – the actions undertaken by his/her avatar, LARPs require players to actually enact and physically perform the same actions. As Tychsen et al. (2006) explain,

> LARPs can be viewed as forming a distinct category of RPG because of two unique features: (a) The players physically embody their characters, and (b) the game takes place in a physical frame. Embodiment means that the physical actions of the player are regarded as those of the character. Whereas in a RPG played by a group sitting around a table, players describe the actions of their characters (e.g., "I run to stand beside my friend"); in an equivalent situation in a LARP, a player would physically run to the appropriate point within the game space. (Tychsen et al. 2006)

Whereas other LARPs are expressly escapist, in more recent years, several designers have become interested in exploring more mature themes through this medium. System Danmarc (Opus 2005) was intended to be overtly critical and to express a political vision not only by pointing at a possible future in which Danish society could collapse into a sort of rigid caste system but also by allowing participant to experience it in first person:

> In October 2005, 350 paying participants aged 16–42 experienced a dystopian future of Denmark where the weakest citizens had no part in the welfare society, no influence on the society they lived in and were confined in special low priority zones. It portrayed a Class C zone in Copenhagen, reserved for the citizens deemed useless for the society: a future Denmark, where democracy had degenerated. (Munthe-Kaas 2010)

System Danmarc was closely linked to a specific urban space – with a central square in Copenhagen used to set up the temporary stage for the game, using containers, metal fences, and other industrial materials with a clear *cyberpunk* aesthetics. The design team itself highlights the decision of making System Danmarc semipublic, as the diegetic part of the game was partially visible by ordinary passersby near the square, and with the initiative receiving considerable attention from local media. Lead designer Peter Munthe-Kaas writes: "The goal was to communicate the importance of democracy, participation and to outline societal problems in an exciting fashion. The organizers hoped to leverage the frustration and powerlessness prevailing in the LARP to inspire the participants to take action in real life" (Munthe-Kaas 2010).

Taking further the approach already experimented by System Danmarc, the Prosopopeia LARP series selected the opposite approach, allowing players to freely move across any public space and expanding radically the game's diegesis. Principally, Prosopopeia consisted of a ghost story where participants interacted with a fictional *spirit world* and were guided through different quests and storylines across the city of Stockholm. Intertwining of LARP elements with ordinary everyday practices was a defining characteristic of Prosopopeia. In this vein, Jonsson et al. (2006) detail the introductory phase of the experience: "When signing up for the game, the players were directed to a web site which contained a very short introduction to the game, ending with a very simple instruction that read: "You should now do all you can to forget about this project until it contacts you again. This is the only time the game will be presented as such. From now on everything is real"" (Jonsson et al. 2006). Going back to the interplay between TIAG and TINAG layers, we may describe the premise of Prosopopeia – players should take part to the game as if it was real – as a complete overlap between the two sets of expectations. In other words, there was no separation between the *players' own competences* (together with knowledge, assumptions, personal relationships) and *those of the fictional characters*. Jonsson et al. (2006) continue: "[every] information was supplied 'in game', as part of the preparatory [. . .] phase of the event. The typical elements of Larp preparations were absent; the players were not asked to prepare their character, create any costumes, or make contacts with the other in-game characters" (Jonsson et al. 2006).

Through the three examples examined here, a brief overview of the TIAG/TINAG dynamics at work in these artifacts may be constructed. TIAG and TINAG layers appear clearly separate only in relatively simple gameplay activities but overlap and intertwine significantly in more complex practices. This is made more evident by the interplay with physical places and with everyday activities that happen to interact spontaneously with the games. However, not all of such interactions exhibit the same characteristics. On one side, Big Urban Game effectively brought nonludic elements inside the ludic situation, proposing a difficult spatial task (navigating the most rational route across an urban area) and tapping in the contextual knowledge of participants to solve it. In this way, not only a playful activity is anchored to a concrete place, but it adopts specific rules to activate and reward place-specific interpretations (e.g., which is the best route from point A to

point B?). Vice versa, System Danmarc and Prosopopeia – two systems with a much higher storiness (Ryan 2004) – adopt the same mechanics in the opposite direction and anchor everyday places to ludic activities. Whereas BUG required players to access real-world knowledge, System Danmarc and Prosopopeia provided their audience with game-based fictional, critical lenses to produce original interpretations of real places. That said, BUG, System Danmarc, and Prosopopeia were not originally meant to be related to ITV research, but the mechanics around the TIAG/TINAG ambiguity may be ported inside interactive television contents and allow for innovative interactions between users, technological platforms, and the physical places in which they are experienced.

Distributed Storytelling

The design tactic of distributed storytelling directly asks users to produce, construct, and curate some storytelling contents. In other words, by adopting a distributed storytelling approach, location-based pieces allow players not only to access interactive narratives but specifically require them to actively create and share new contents as part of the game experience. Distributed storytelling might contribute to more participative ITV experiences, with closer relationships to physical spaces and to the sociotechnical practices taking place there. To illustrate this characteristic, two urban games will now be discussed, paying specific attention to the rules adopted for motivate players to gather, assemble, and reinterpret narrative fragments.

Exemplars: From the Bank of Stories to the Storywall

Mettiti in Gioco (Ferri 2011), also called MIG, is an urban game inspired by the well-known Massively Multiplayer Soba series (Tiltfactor labs 2007), reinterpreted to take place in smaller Italian towns. Participants to a MIG game are divided into groups and receive a sealed envelope containing the different missions to be completed and small handheld video cameras, with which they are asked to document their game experience. A first task requires players to translate into Italian food recipes written in other languages, asking for help to nonlocal passersby. As a second task, players were asked to collect a story set in the town in which the game was held and to retell it to a fixed video camera – at a specific installation named the "Bank of Stories." Those missions were designed to be complementary, requiring players to interact with both senior citizens to collect stories from the past and with recent immigrants to translate the multilingual clues and, while the game organizers had some degree of control over the first one, the selection of which local tales to collect, and who to approach to ask for these was left completely up to the players.

Indeed, requiring players to self-document their gameplay experience and to "deposit" a short narrative at the Bank of Stories was a defining feature of a

distributed storytelling strategy that differentiated MIG from the Massively Multiplayer Soba games:

> The act of retelling a story to be recorded on video in exchange for a prize thus adds value to the narration itself (a good tale is precious) and this builds a more personal, direct connection between players, passersby and the urban environment in which they are playing. In this sense, participants are no longer "just players" but they also take charge of a small but significant portion of socio-cultural, place-specific story-collection, −telling and -archiving practices. (Ferri and Coppock 2013)

Through this mechanic, players were not simply following a prompt given by the organizers but had a clear degree of authorial control over the creation and documentation of narrative contents. By doing so, a link between their playful activity, the place in which they were situated, and the people with which they interacted was established within the diegesis of the game.

A similar approach was adopted in the 3Cities (Salvador and Ferri 2013) urban game, which took place simultaneously in Bologna, Barcelona, and London in 2013. The game (Salvador and Ferri 2015a, b) integrated ludic elements with the exploration of public spaces and relied on simple game mechanics based on taking pictures with cameras or smartphones, leveraging a number of simple missions specifically designed to evoke the concept of transnational citizenship. Each team of players was tasked with carrying out a photographic exploration of a local neighborhood. Moreover, the pictures from each team were shared online in real time with others in the other cities, so that Italian, Spanish, and British players engaged in a dialogue at distance through images, as if they were describing a hypothetical transnational city composed of the three neighborhoods traversed by the game. For each location of 3Cities, a simple headquarter was set up to gather the players and their photos and to keep in touch with participants in other cities. The three tasks composing 3Cities were designed to touch language, architecture, and culture, the three themes through which the game aimed at constructing and visualizing a virtual transnational neighborhood that ideally reunited Barcelona, Bologna, and London.

The first mission (Linguistic Collage) tasked each team with producing a sentence composed of letters and words obtained by photographing street graffiti or signs scattered across the cities. In other words, this first mission required players to create a meaningful photographic collage using textual fragments obtained through an exploration of the surrounding urban space. Once the collage was successfully composed, to complete the first phase, each team had to share its creation with other remote teams in faraway cities. Every team not only sent their own collage to others but also received a similarly constructed sentence from the other cities and had to translate and visualize it using locally collected pictures with the same collage method. The second mission, entitled Travel to Another City, assigned two printed architectural images depicting details of buildings from other cities. The players' objective was to compose impossible perspectives picturing printed images of a city inside the photos of their own neighborhood, setting an architectural detail from another city in their own. The third mission, Pic Your Story, required players to create a short photographic storyboard composed of three

Fig. 5 (**a**, **b**) 3Cities (Salvador and Ferri 2013)

images, each one to be produced by a different team in each of the three cities. In other words, the first team shot a scene set in their local neighborhood, with a short caption if necessary, which was later sent to the other remote players to be completed with a second and third shot, creating a collaborative narrative production. As a conclusion to the 3Cities experience, a Storywall – a temporary exhibition space – was constructed in each of the three cities. The three Storywalls collected and publicly displayed all the images shared by players, constituting the visual identity of the event, documenting the participants' activities, and conveying a general insight of the game also to the nonplaying audience (Fig. 5a, b).

The distributed storytelling design strategy exemplified by these pieces empowers players with the selection, creation, and retelling of user-generated contents. In this way, users cease to be just an audience for this experience. Moreover, the distributed storytelling model moves away from the more traditional interactive schema where players control the instantiation of a preexisting branching narrative (Koenitz 2010, 2015): whereas most systems for interactive digital storytelling are constituted by a software component that, reacting to the user's input, present different narratives (either prescripted and selected from a repository or procedurally constructed at run time), these urban game experiences task participant with the actual production of completely new contents. Such user-generated fragments are then circulated among other players, becoming fully part of the playful experience. Similarly to the previously discussed exemplars, although the works presented here are not Interactive TV technologies, they may still yield useful insights for research and design in the ITV field. Indeed, emerging technologies for producing and sharing video fragments using mobile devices – with Periscope/Twitter (2015) being the most recent example – suggest the relevance of real-time user-generated content production for ITV systems. A distributed model of storytelling may provide users of future mobile ITV platforms with compelling, playful motivations for exploring and documenting specific places.

Conclusions

Providing the user with a sense of place – related to a specific geographic location in which one is situated, or linked to a faraway place, or even giving place-like qualities to virtual spaces such as massively multiplayer online role-playing games (MMORPGs) – has been deemed central for several forms of digital interactions. In the past decade, studies from HCI and CSCW to telepresence and digital cultural heritage have specifically addressed this theme (Harrison and Dourish 1996; Li and Goodchild 2012; Turner and Turner 2006; Sylaiou et al. 2010; Champion 2008; De Souza e Silva 2009), but the relative scarcity of works on place specificity focusing expressly on ITV suggests a gap in the current research, whereas the latest developments in mobile TV would seem highly coherent with such topic. To contribute to closing this gap, some initial directions were suggested here by pointing at compatible treatments of the notion of place in related fields, for example, the design of pervasive urban games.

Indeed, game designers and game scholars might provide operational concepts that help understanding the role and the potentialities of places for ITV. For this reason, this contribution addressed two loose types of artifacts: works that are anchored to the experience of faraway places and others that leverage the physical location in which the user is. Clearly, it cannot be claimed these two are the only possible options, as many others are likely to emerge in this evolving field. Three web-based advertisement games (Mercedes-Benz: Escape the Map, Magnum: Pleasure Hunt 2, Chaos in Your Town), or *advergames*, were presented to demonstrate how well-known experiences such as digital cartography could be made

ludic. Furthermore, this contribution also considered three pervasive experiences (Big Urban Game, System Danmarc, Prosopopeia) that require users to access place-specific knowledge in the game or game-specific knowledge in physical places and two urban games (Mettiti in Gioco, 3Cities) that task players with producing place-specific short video contents. The exemplars discussed here are not ITV products per se but exemplify specific design strategies that are compatible with ITV and mobile ITV: from this perspective, a set of preliminary insights may be offered to ITV researchers and designers. In sum, this overview has yielded three design strategies that might be named **experience anchoring**, **place permeability**, and **distributed storytelling** – certainly not an exhaustive set, but a first group to spur further research and design.

The convergence between computing platforms and television, exemplified by products such as the Google Chromecast or the Apple TV, might benefit from applications inspired by the first list of examples, building simple games and interactive narratives anchored to existing apps. The three selected advergames have elaborated on the interaction patterns of Google Street View creating playful situations for their users and, at the same time, leveraging the experience of instantaneously accessing remote places as a trope in their game design. As the number of apps in these new platforms increases, future works might adopt the design strategy of experience anchoring and use established conventions and expectations as foundations for new designs. In this vein, an ITV product may be anchored not only to actual physical places but also to their mediated representations and to the ways in which they are experienced through technology.

The design strategy of place permeability establishes a connection between a place – with its related expectations, context, stories, and sociotechnical practices – and a digital system. The examples presented here suggest how this influence is bidirectional: in one case, a pervasive game required participants to access their knowledge of the surrounding physical places, and, in the others, two LARPs provided players with a worldview and a perspective that would bleed into their everyday lives. It is possible to imagine future ITV contents adopting similar practices, for example, with mobile ITV systems addressing nearby physical places or with locative interactive experiences transcending the spaces in which they are set.

Distributed storytelling allows players not only to influence the development of a specific experience but to actually produce user-generated contents and weave them in the overall system. Although this design strategy is not exclusive to location-specific pieces, it is particularly effective in motivating players to explore their physical surroundings and interact with passersby in unexpected ways. Distributed storytelling taps into the practice of bottom-up video production and viral distribution on social networking services and leverages it for creating systems in which participants significantly add to the overall experience. Complex sociotechnical systems – possibly composed of an ITV platform plus a mobile app and elements of pervasive game design – might adopt and extend this design strategy.

These three design strategies are clearly not the only possible ones linking digital interactions, physical places, and interactive television contents. They are offered here more as objects to think with (Turkle 2007) than a complete taxonomy – also

because it is debatable whether such categorization would be heuristically useful or even possible. In other words, these strategies are presented more as generative tools for practitioners rather than descriptive and taxonomical categories for theorists. By pointing at them and at other similar strategies, some underlying similarities between ITV and other cognate disciplines emerge and may be speculatively traced to point at possible future convergences. In relation to this, there are evidently many more steps to be taken in this line of inquiry – both on the side of ITV research and design and on those of the other fields. In particular, mobile ITV systems seem especially promising in this context, both as platforms on which to experience interactive TV contents while being physically situated in a place and as tools for capturing user-generated fragments to be transmitted and interwoven in other experiences. Whereas this contribution is intended as a preliminary step bringing closer to the field of ITV the interdisciplinary dialogue about place, interactive technology, playfulness, and design, much more work is clearly needed. Research-wise, the exemplars discussed here underline the usefulness of a tighter dialogue between ITV and game studies, as innovative story-telling forms are emerging in the domain of digital play and could be productively imported also in ITV. As for new design works, two future tendencies emerge from the strategies discussed in these pages: on one side, the already-mentioned potentialities of mobile ITV platforms and, on the other one, devices such as the Chromecast, Steam Box, and Apple TV that accelerate the convergence between app and ITV experiences.

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