

A performance-based approach for interactions in public spaces

Licia Calvi,

NHTV University of Applied Sciences, Breda, The Netherlands

Abstract:

Performative interactions in public or semi-public spaces presuppose some sort of public, of bystanders or passers-by, that play the role of the spectators and that directly or indirectly affect the performance. How can we make sure that these interactions are engaging for them? What do we, as interaction designers, need to do to make them feel involved in these performances? In this essay, we focus on staged performances and investigate the ambivalent role for performers and spectators many contemporary artists are striving to achieve in order to see if we can infer some principles, models or indications or find some theoretical framework to apply to the design and development of more engaging user experiences and embodied interactions when interacting with digital interfaces (for use in public and semi-public spaces).

Keywords: Staged performances, Interaction design, Performers and spectators, Theoretical foundations, Embodied interactions

Introduction:

The way we understand interactivity has changed a lot since the advent of mobile and ubiquitous technologies. With a mobile device, interactivity conquers public and semi-public spaces in the form of public interventions, for instance, like the SlingShot project (<http://www.youtube.com/watch?v=IKEFAFP4IC4>) or the Blinkenlights project in Berlin (<http://vimeo.com/6175054>). Both types of interventions require the participation of the people who are normally inhabiting that space, who can either simply observe what happens as spectators but who can also become involved as participants or even as performers.

Regardless of the role people decide to play, the spreading of such interactions offer designers new challenges in defining the user experience, either this user is the actual performer in the interaction, or just a spectator. Such experiences are called *performative*

interactions. The physical setting the interaction takes place in (either public or semi-public, in fact) determines the form this interaction may take in terms of the social implications it will bring along, that is the type and form of interaction that the presence of a public of bystanders or passers-by that play the role of the spectators and that directly or indirectly affect the performance determines: collaboration, acceptance, rejection, to mention a few possibilities. Engaging audiences in co-creation is another aspect of it.

The aim of this essay is to discuss the design of such experiences. The design challenge is to make sure that these interactions are engaging for this public: what do we, as interaction designers, need to do to make them feel involved in these performances?

In this essay, therefore, we will discuss some theoretical issues related to performative interactions adopting an approach that is based on the analysis of the role of performers and spectators that many contemporary artists are striving to achieve. This is done in order to see whether we can infer some principles, models or indications or to find some theoretical framework to apply to the design and development of more engaging user experiences and embodied interactions when interacting with digital interfaces. The approach we will propose focuses on the notion of engagement itself, as it could be drawn from staged performances. Engagement can be classified according to possible engagement types and, depending on them, on several engagement modalities - behaviours portrayed by the spectators, in a sort of dialogue among spectators; between spectators and the performer or between spectators and a possible interface.

The cultural turn taken by interaction design over the past years has made use of metaphors and principles originating from diverse disciplines, such as literary and critical theory, performance and theatre studies and the arts, in order to explain, redefine and realize interaction with technology. Although interfaces that are developed using these metaphors differ depending on the platform they use (still, Web-based, mobile or transmedia); the context in which they are to be found (private versus public or semi-public spaces); or their use (everyday, ludic or artistic), what, however, all these instances have in common is their striving to be “performance”.

Interactivity has in fact opened up to artistic practice and participatory artworks from Dada to Fluxus, but if we look at staged performances, we clearly see how the presence of an audience can have an impact on the actor/performer. In the '50s, for instance, this effect was deliberately pursued by artists like Allan Kaprow through his Happenings, where it was the spectator's reaction that decided the unfolding of the event, making each Happening a unique experience that could not be replicated. Similarly, John Cage and his famous 4'33" composition demonstrated how it is the perception of the audience (what they focus upon: the music or the absence of it or the gestures/movements of the musician, the sound of the environment, etc.) that determines how the performance will look, its outcome and ultimately the experience of it.

When applied to interaction design, most definitions of the term “performance” (see for instance Dalsgaard and Hansen, 2008; Schechner, 1998) precisely assume this

dichotomy, that is the relationship performer-audience, including the context/setting and the system the user/performer is interacting with.

In this essay, we intend to explore such a relationship even further, analyzing whether it is possible to implement the performer-spectator dyad present in staged performances, even when experiencing interactivity as performative interaction in different settings, like public or semi-public spaces. We will, for this purpose, refer to recent performances by the Serbian artist Marina Abramović (Abramović, 2011).

Performance

Spence, Frohlich, and Andrews (2013) propose a taxonomy relative to the use of performance within HCI depending on the way performers, spectators (or the audience) and the system interact. According to this classification, the work that we propose in this essay is situated at the level of engagement, although our interest in stage performances and the theatre as a metaphor to describe the social component of the resulting interactions ascribes it also to the staging category. In this, we align with Spence et al. (2013) who are quoting Schechner (1998), to consider 'theatre' as 'the event enacted by a specific group of performers' (Schechner, 1998, p. 71). The difference being that we want to keep the distinction between the different roles a performer (in the large) may play, visible, that is, roughly speaking, between "real" performers, i.e., the ones who are effectively starting the acting, and spectators, regardless of the fact that they may (or not) be involved in the performance and also of the form this involvement will take (see further).

The Artist is Present

In 2010 Abramović presented the performance "The artist is present" at MOMA in New York (Abramović, 2011). The performance involved the artist sitting at a table with an empty chair facing her. On that chair the audience was invited to sit. Each spectator could sit there as long as they wished and could do anything they liked apart from touching her or talking to the artist. Most were looking at her. At times, she was staring back; at times, she was closing her eyes. The audience consisted in fact of two groups: those who wanted to take part in this performance, and who were queuing, waiting for their turn to sit in front of her, and those who were simply attending the performance, the "real" spectators in a way, and who were sparsely displaced around this setting.

In 2011 a Danish game designer, Pippin Barr (2011), developed the video game version of Abramović's performance as a browser-based game (Fig. 1). The game reproduces more or less literally the live performance by focusing on the notion of "waiting" that was so central in the original artwork (Barr, 2011). However, the game fails to reproduce several other characteristic elements of the performance. First, that element of performing perception discussed in (Dalsgaard and Hansen, 2008) is absent as the player is playing alone. This is also missing in the gameplay itself: the character is alone in waiting for the moment to sit in front of Marina and no other spectator, no audience, is present. There

is, of course, the queue of the other participants, but there is no interaction among them. Moreover, if the live performance was investigating the possibility of focused interaction (Goffman, 1966, cited in Dalsgaard and Hansen, 2008) between two strangers sitting in front of each other and looking at each other, this is something that the game has not been able to replicate.

Similarly, the game 4 Minutes and 33 Seconds of Uniqueness, by Klooni Games (cited in Sergün, 2013), reproduces Cage's homonymous performance and mimics what in fact is its absence and the lack of any apparent form of interactivity. Sengun (2013) states that "the game consists of only a countdown bar" (Sergün, 2013) and that victory is possible if there is no other player playing it at the same moment (something that the game checks when someone begins to play, as this is an Internet game).

These examples demonstrate that even through the simple transposition of a staged performance into another medium, a digital performance in this case (games in both examples), the interactivity that is experienced as a result of this can fail to replicate the same audience engagement and the same performer-spectator dichotomy that was so much at the core of the original performance.



Figure 1: Screenshot from "The artist is present" by Pippin Barr (2011).

In 2012, Abramović's new performance, titled "The Abramović Method", investigated this relationship even more strongly. In that case, 21 spectators were invited to actively take part in her performance, by either lying, standing or sitting for two and a half hours while the rest of the audience was watching them. In order to be able to concentrate on their active participating role they were given headphones with which they could isolate themselves from the public and not be aware of their presence or their own "performing perception" (Dalsgaard and Hansen, 2008).

The point here is not to explore how one might be able to translate real-life settings

into online works (the re-enactment of the performance mentioned earlier). But to investigate how, the way in which an “event enacted by a specific group of performers” (Schechner, 1998) succeeds in engaging the audience, may be used in interaction design to design an engaging user experience, if, as the examples presented so far seek to demonstrate, many digital realisations of live performances fail to capture the affects of spectators. Re-enactment in fact shows the impossibility to translate performances into something else while maintaining their original qualities (authenticity, improvisation, no predefined closure, the predominance of the experience, unique and unrepeatable experiences (Quaranta, 2007). Re-enactment is in fact their “consummate nemesis” (Quaranta, 2007). So, what does this mean for interaction design? Can spectatorship be captured in digital settings?

In order to do this, we need to define first what the role of the spectators we intend to focus on is and what we understand with the term *engagement*.

The Role of the Spectator

The examples discussed above demonstrate the central role that spectators have on the resulting performance and on the experience associated with it for performers and spectators. However, how can we make sure that the same audience experience is possible even in performative interactions: that is, when experiencing interactivity with interfaces for use in public or semi-public spaces? How can we engage spectators?

We believe that any new media object (see in (Manovich, 2001) for a definition) can only exist when experienced by users through interaction and that therefore the relationship performer-audience always presupposes some form of involvement by the spectators. Already, in pre-digital media, and certainly with the advent of hypertext, a paradigmatic shift had taken place where, by decentering the subject of the narrative structure, author and reader were converging in their roles. In fact, the reader was also becoming the author of the hypertext to the extent that a shift from *readerly* to *writerly* text, as announced by Barthes, was made possible (Calvi, 2010).

Is it possible to have a similar shift in interfaces that use performance as their model? Is this something that is under the performer’s control or that the interface can trigger? Can we identify elements in the interface that can trigger this shift in role so that the spectator also becomes the performer, to some degree and that the resulting experience is engaging? This puts emphasis on the role of the spectator, not so much in terms of how they perceive the performer’s performance (Reeves, Benford, O’Malley and Fraser, 2005) but rather in how they can influence it through their interpretation and involvement with it. In relation to artistic production, for example, Cologni (2010) developed a model centred on the notion of fruition. Her model consists of 3 stages, that are conceptualization, perception and fruition, where the audience

occupies a symmetrical position to that occupied by the artwork (...). At this stage a meaning is produced because there is a (conceptual) space to be filled by the presence of the audience” (Cologni, 2010, p. 91).

We are interested in finding whether something similar can be also applied to performative interactions. That is, if staged performances can be used as a canvas to inform the design of interactive systems used in public (or semi-public) spaces.

Several models have already been developed to explain this. In Reeves’ model (2008; 2005), for instance, the spectator can play several roles and part of the performance intent is to support the spectator’s transition from one role into another, shifting from a more passive to a more active one.

Sheridan, Dix, Lock and Bayliss (2004) developed the Performance Triad model, where performer and spectator take an equivalent position within technology-based performances and are both involved in them (**Figure 2**).

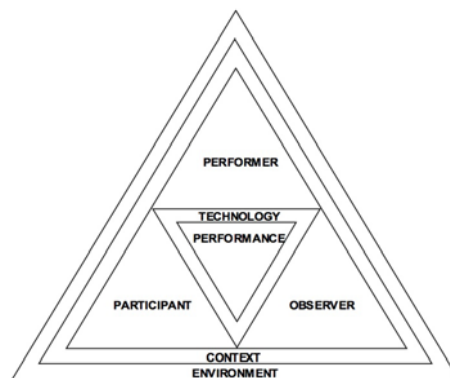


Figure 2: Sheridan’s Performance Triad (Sheridan, et al., 2004).

This model, foresees a setting where performer and spectator take an equivalent position within technology-based performances and are both similarly involved in them. Also in this model, the authors analyse the several specific roles a spectator may assume within their performance framework (e.g., observer, performer, participant).

Other authors have been studying not only these possible roles, but also the intrinsically possible transition between them. In Reeves (2008), for example, part of the purpose of a performance seems to be precisely to support the spectator in getting more and more involved in the performance. His framework indeed foresees several degrees of involvement as if engagement (in the performance) remains a prerogative of the performance itself. He calls such degrees *transitions* (Fig. 3), those what a role may undergo. Of particular importance are the transitions within the role of bystanders, whereby a bystander’s transition to the role of audience and from there, eventually, to that of spectator (Reeves, 2008).

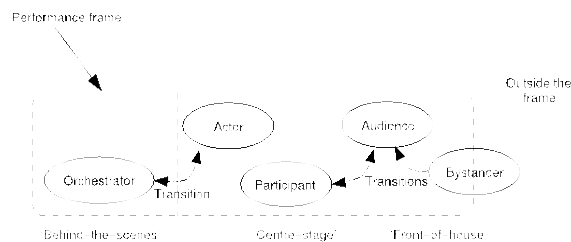


Figure 3: Reeves's framework (2008).

However, both models look at such performative interactions in order to identify and isolate *a posteriori* what makes such interactions engaging for spectators, mostly focusing on what is happening at interface level (as in Reeves, 2008; Reeves, Benford, O'Malley and Fraser, 2005) or at the roles played by spectators (e.g., observant, passer-by. etc. as in Sheridan et al., 2004).

Whereas these models are concerned with a specific context (playful arenas, exhibits in museums and galleries, etc.), Carrei Heeter (2000), in her claim for a participant-centred perspective on interactivity, describes all elements that have an impact on it, the context (environment) being just one of them. The others range from participants' motivation, to environmental factors, to interactivity granularity and the final experience as a whole. Her approach is more holistic than the ones mentioned earlier, because it recognizes that a satisfying user experience is a multifaceted event.

Participatory Engagement

Spectators, or "the audience as public" (Levin and Schweitzer, 2011) presuppose an understanding of what participation in performance is: to define the boundaries between the performer and the audience. Van Eikel (2011) quotes Gooley's example of a jamming session to outline this concept (n.d.). In a jamming session, they write, anybody can play in. Musicians do not perform for an audience. They are with the audience, they sit amongst them. They listen to what the others play and play back accordingly. So, everybody is a performer *de facto*. And participation is not predefined nor controlled by an individual who takes up the role of the artist, or of the performer indeed. But participation takes place when an individual is acting or having an experience "in a 'real' or 'virtual' proximity to that of others" (Van Eikel, 2011). However, to stress that this physical proximity is not enough to define participation in performances as we intend to see it transposed online, we want to make sure that the audience is more than just participating: they are also engaged in the creative process and practices. This is what we call *participatory engagement* that we will detail further into a specific design model (see further). For now, we need to review existing examples of engagement models (see next).

Engagement Models

Several models of engagement have already been proposed (Dindler, Iversen and Krogh, 2011; McCarthy and Wright, 2011; O'Brien and Toms, 2008). Here, we review two of them,

which we consider relevant for our discussion.

Dindler, Iversen and Krogh (2011) propose a model of engagement where transitions play also a central role as in (Reeves, 2008; Reeves et al., 2005), but they, rather than being concerned with the roles the possible participants may take, are addressing the possible modes through which such an engagement may unfold. Modes are still having a social character and denoting social interactions among participants, so implying that they still do change role. The authors however also speak about engagement means and motivations, thus taking into account specifically the environment, the tools and devices at the participants' disposal and their intrinsic motivation indeed.

O'Brien and Toms (2008), on the contrary, consider engagement from a more technological perspective. They analysed the behaviours of users interacting with a number of technological settings or devices (e.g., searching on the Web, online shopping, Webcasting and gaming) and highlighted what makes users engage with those applications. They identified a series of attributes of engagement (i.e., "challenge, aesthetic and sensory appeal, feedback, novelty, interactivity, perceived control and time, awareness, motivation, interest and affect" (O'Brien and Toms, 2008, p. 949). But what makes the model they propose innovative is the identification of four stages of engagement, that is the definition of engagement as a process with a beginning (i.e., point of engagement), a middle (i.e., the actual engagement), an end (i.e., disengagement), and a possible restart (i.e., re-engagement) each with specific attributes, and of experience threads (McCarthy and Wright, 2004).

In line with their approach, we also claim that, rather than looking at specific settings and infer the spectators' experience from them, we should rather look at something more basic and generic enough to help us identify what makes such experiences engaging for spectators. In this sense, what we propose is to look at the meta-character in this experience, that is, precisely at *engagement*. We intend to do so by inferring the characteristics of engagement from staged performances, as, from Dada to Fluxus, artistic practice has been experimenting with participatory artworks, by involving more or less explicitly the audience in the unfolding of the final piece of art (as was the case with for instance of John Cage and the Happenings, mentioned in the Introduction). So, if we look at interactions in a top-down way, we would start by defining what engagement is and how it is achieved in staged performances like the ones mentioned above, and then we would infer how this, by analogy, can be provoked, supported, enhanced in performative interactions. In this way, we believe we can come to a better analysis of the roles of spectators (bystanders, passers-by, observers, etc.) and of the ways they enact the potential interactivity with the performer. In (Buchanan and Calvi, 2011), we started this analysis by studying a non-digital performance in a public space. There, the focus was on spectators as performers. Here, we would need to see whether those modalities (e.g., anticipation, adaptation, etc.) could be applied as well, depending on the kind of engagement that the performance intends to reproduce and with what effect on the overall performance as a result.

A Performance-based Model of Engagement

The model that we propose focuses on engagement itself as it could be drawn from staged performances. In this model, we identify possible engagement types (Fig. 4). Engagement can be, for instance: attracting, sustaining, instrumental, threatening or functional. These are just a few initial types that were identified when looking at some staged performances (such as those mentioned earlier). Depending on such types, several engagement modalities, that is, behaviors portrayed by the spectators, can be recognised in a sort of dialogue among spectators, between spectators and the performer or between spectators and a possible interface. This dialogue is actually so open that it can take any shape: attract or repel, invite or threaten, inhibit or exhibit, adapt or explore, discover or create.

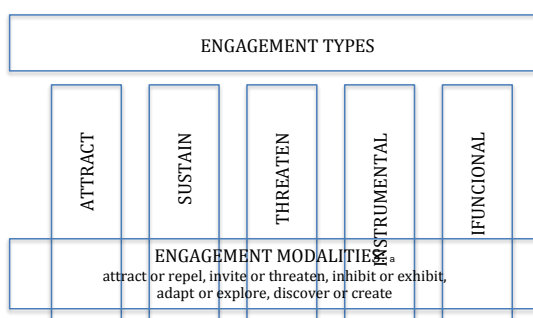


Figure 4: A preliminary performance-based model to design performative interactions.

These word pairs are in fact opposite ends of a dimension and somehow relate to Dindler's modes (2011) in that they imply a certain social behavior enacted by the participants. Such modalities can all be instantiated in the engagement types in which they are contained. In this sense, they are related to O'Brien and Toms' experience threads (2008), the main difference being that these types are determined by the performative settings and not by the participants' characteristics.

Conclusion

We are interested in improving audience engagement in performative interactions in public or semi-public spaces. We are intrigued by the cultural turn taken by HCI and by the resort to artistic practice and participatory artworks that is already in place. This essay discussed the issue of the multiple roles played by spectators in such performances and suggested that only a model focusing on a meta-character like engagement could help find a way to evaluate the audience experience.

For this reason, we have developed a model to inform and improve audience engagement in performative interactions based on staged performances. This model is focusing on the type of engagement that can be identified and of the possible behaviors enacted by the spectators depending on such engagement types.

We realize there are more issues to investigate. We do not have an answer for all the questions mentioned in the essay but, rather, a number of challenges that we would like to investigate further in order to gain better insight into the performer-spectator relationship. This will help us find theoretical frameworks and develop better models to inform the design of performative interactions in public or semi-public spaces.

Biographical note:

Licia Calvi is senior lecturer and researcher in the Academy for Digital Entertainment at NHTV Breda University of Applied Sciences, where she teaches Interactivity and also in the Media Theory module within the Master of Media Innovation. Her research interests include interactivity and interaction design, interactive art and digital libraries, biometric evaluation of video games. She is now coordinating the RAAK International project on “Biometric Design for Casual Games” (BD4CG). **Contact:** Calvi.L@nhtv.nl.

References:

- Abramović, M. (2011). The Artist is Present. <http://www.moma.org/visit/calendar/exhibitions/965>. Accessed Sept., 2011.
- Barr, P. (2011). <http://www.pippinbarr.com/games/>;
<http://www.pippinbarr.com/inininoutoutout/?tag=the-artist-is-present>. Accessed Sept., 2011.
- Buchanan, P. and Calvi, L. (2011). Essay planes: reflection on interpassive exchange in public space. Workshop “Being there, doing it: The challenge of embodied cognition for design”, *Creativity & Cognition Conference*, 3 Nov. 2011.
- Calvi, L. (2010). Disjoint Montage in Blow up: The Role of Readers and Spectators in Pre-Digital Media. C. E. Ball and J. Kalmbach (eds.), *Reading and Writing New Media*, 53-66. Hampton Press.
- Cogni, E. (2010). That Spot in the ‘Moving Picture’ is You: perception in Time-based Art. J. Freeman (ed.), *Blood, Sweat and Theory*, 83-107, Libri Publishing.
- Dalsgaard, P. and Hansen, L. K. (2008). Performing Perception—Staging Aesthetics of Interaction. *ACM Transactions on Computer-Human Interaction*, 15(3), November 2008, 1-33.
- Dindler C, Iversen O.S. and Krogh P.G. (2011). Engagement Through Mixed Modalities. *ACM Interactions*, July/August 2011. DOI 10.1145/1978822.1978830.
- Goffman, E. (1966). *Behavior in Public Places; Notes on the Social Organization of Gatherings*. Free Press of Glencoe, New York.
- Gooley, D. (n.d.). The Outside of ‘Sitting In’: Jazz sessions and the politics of participation. *Performance Research: A Journal of the Performing Arts*, 16(3), p. 43–48.
- Heeter, C. (2000). Interactivity in the Context of Designed Experiences. *Journal of Interactive Advertising*, 1(1).
- Levin, L. and Schweitzer, M. Editorial Performing Publics. *Performance Research: A Journal of the Performing Arts*. Published online: 23 May 2011.
<http://dx.doi.org/10.1080/13528165.2011.578712>.
- Manovich, L. (2001). *The language of new media*. MIT Press, Boston.
- McCarthy, J. and Wright, P. (2004). *Technology as Experience*. Cambridge Massachusetts, MIT Press.

- Michelis, D. and Müller, J. (2011). The Audience Funnel: Observations of Gesture Based Interaction With Multiple Large Displays in a City Center. *International Journal of Human-Computer Interaction*, 27(6).
- O'Brien, L. and Toms, E. (2008). What is user engagement? A conceptual framework for defining user engagement with technology. *Journal of the American Society for Information Science and Technology* archive, 59(6).
- Quaranta, D. (2007). Eva and Franco Mattes aka 0100101110101101.ORG. Reenactment of Marina Abramovic and Ulay's Imponderabilia. Synthetic Performance in Second Life. <http://www.reakt.org/imponderabilia/>. Accessed 12 May 2013.
- Reeves, S., (2008). Designing Interfaces in Public Settings. Thesis submitted to The University of Nottingham, April 2008.
- Reeves, R., Benford, S., O'Malley, C., and Fraser, M. (2005). *Designing the Spectator Experience*. In *Proceedings of the Conference on Human Factors in Computing Systems (CHI'05)*, ACM, New York, 741–750.
- Schechner, R. (1998). *Performance theory*. Routledge, London.
- Sergün, S. (2012). Engagement Model as the basis for Video Game Design. Essay presented at the ECREA 2012, Pre-Conference on Experiencing Digital Games: Use, Effects & Culture of Gaming, 23-24 October 2012.
- Sheridan, J., Dix, A., Lock, S. and Bayliss, A. (2004). Understanding Interaction in Ubiquitous Guerrilla Performances in Playful Arenas. In *Proc. British HCI Conference*.
- Spence, J. Frohlich, D. and Andrews, S. (2013). Performative Experience Design. *CHI Extended Abstracts* 2013, p. 2049–2058.
- Van Eikels, K. What Parts of Other (and When): Some parts of this text. *Performance Research: A Journal of the Performing Arts*. Published online: 15 Sep 2011. <http://dx.doi.org/10.1080/13528165.2011.606020>
- 4 Minutes and 33 Seconds of Uniqueness* <http://archive.globalgamejam.org/games/4-minutes-and-33-seconds-uniqueness>. Accessed 24 November 2012.