Applied Theater for Developing Participatory Design Fictions in Virtual Reality

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Abstract

Augusto Boal's Applied Theater inspires processes for developing participatory design fictions in Virtual Reality (VR). Applied theater's practice of embodied and future-action oriented storytelling encourages participants to envision potential futures and work toward them. This parallels the work of design futuring, which explores and critiques futures to potentially change the present. Augusto Boal used his theater games, Image and Forum Theater, to create fictions that identify contemporary issues to participatorily explore diverse futures. These games are rehearsals for future actions and consequences. VR enables a community of participants to envision and be embodied within these potential futures as they co-create them.

Author Keywords

Virtual reality, design fiction, applied theater

CSS Concepts

•Human-centered computing~Interaction design~Interaction design process and methods

Introduction

Researchers have argued for the use of performance and performativity for developing design fictions about

the future[4,9,24].While theater groups have not used the language or methods of design fictions or other closely related future-oriented design methods (e.g. speculative design, critical design, and others), they nevertheless have been engaged in equivalent processes and techniques. For example, the genre of Applied Theater, "helps communities process issues which directly impact them […] can also raise awareness of issues, pose alternatives, heal, challenge contemporary discourses, and voice the views of the silent or marginal." [30] This work parallels the efforts of future-oriented methods such as design fiction, "to produce knowledge through debate, contestation, reflection [on] future alternatives that differ, often radically so, from today." [17] Further, that these methods can promote "active engagement with and questioning of what the future could be (implicitly or explicitly), and how it provides an alternative to the present." [17]

Virtual Reality (VR) enables participants to co-create, experience and critique these representations of futures as embodied actors in an immersive environment [12,18]. This use of the medium has been shown to motivate action outside of VR [13,15,31]. Applied theater methods, implemented through VR, encourage the creation of compelling design fictions that can provide actionable alternatives to the present.

Future-oriented design has been done through performance methodologies, with a focus on the technology itself [17]. For example one proposed approach calls for speculative enactments[9,22] as a way to engage the audience about a potential techno-scientific vision of the future. In contrast to this work, we suggest a dramaturgical approach, that of applied theater, that focuses on the generation of potential and preferable futures for a community through VR.

Applied Theater and Design Fictions

Dramaturg and activist Augusto Boal said, "Theatre is a form of knowledge; it should and can also be a means of transforming society. Theatre can help us build our future, rather than just waiting for it." [2]. His, Theater of the Oppressed [1] is an applied theater practice that activates participants to critique and transform the reality in which they are living through participatory performance. He proposed a number of techniques, games, and styles to achieve what he has referred to as a "rehearsal for future action" [6].

Scholars and practitioners of game design [14,27], HCI[16,28], and future-oriented design [11] have productively engaged with Boal's work and practices. The goals of these projects are twofold: (1) to encourage critical reflection on an existing situation; and (2) develop and motivate potential future actions or experiences. These goals are achieved through interaction metaphors and interfaces that utilize processes inspired by Boal's dialogic dramaturgy.

In any form, Boal's dramaturgic dialectic encourages participants to co-create scenes that clarify what is happening, who it is happening to, why it is happening, and how it is happening. From these prompts, futures are discussed and co-constructed through participants' bodies and audience interactions. Each potential future action is akin to a design fiction produced through more traditional, non-dramaturgical methods. Such methods include the use fictional artifacts[8], the use of science fiction[29], and world building [7].

Unlike these traditional methods of producing design fictions, Boal's applied practice is performative—the co-creation of the fiction highlights problems for the participants and elucidates potential future actions and consequences. Some of these fictions are preferable to others. Boal's most utilized methods to achieve this effect are Image Theater and Forum Theater.

Image Theater and Forum Theater as Design Fiction Processes

Image Theater was first developed by Boal in 1971[6]. Members of the audiences are activated as *spect-actors* [2], and are considered active participants in the construction of a scene (hence Boal's insistence that they are not merely spectators). This is led by the Joker, a facilitator, that leads with neutrality [1].

An initial group of participants creates an "image" of a scene using only their bodies. They do not speak; they are still [1]. Participants reshape the fiction by moving each other's bodies into a new clarification of the scene. Each movement seeks to clarify the answers to the who, what, why, where, when, and how questions. The Joker intercedes only to help direct the group back to imagining alternative solutions, developing design fictions for exploration.

Image Theater proceeds in stages of interaction. With each round, the joker directs the participants to create happy futures and oppressive ones[1]. In the language of design fiction, utopian and dystopian alternatives[17]. From here, the Joker encourages participants to choose and move toward the most preferable future. Boal refers to this as an *Image of Transition* [2].

Forum Theater, a variation of Image Theater, utilizes the same tactics with a few additions. Instead of the image constructed on the stage being still, it moves and can be modified at any time by any member of the audience. This theater game is a form of simultaneous dialectic dramaturgy to identify all alternative futures that might prevent or liberate one from oppression.

Additionally, whereas Image Theater can be developed on the spot, Forum Theater begins with a core script that has been practiced by members of a community experiencing an oppressive present. The initial script and performance results in a dystopian fiction in which the oppressor is not eliminated. The actors then perform again, but now any audience member can stop the performance and take the position of an actor on stage. If, not when, the actors overthrow their oppressor, a third round of performance occurs wherein audience members play the oppressor character.

This iterative process of performance creates a dialectic that highlights a diverse range of alternative futures that can be explored by participants. A singular design fiction does not emerge. Instead, a polysemy of performative design fictions is illuminated. Each fiction representing a potential argument for change to a preferable future. Furthermore, it highlights opportunities and limitations for the participants' agency in real life as they deal with potential consequences of future actions.

Image and Forum Theater in Virtual Reality

Image and Forum Theater have been practiced with augmented and mixed reality [12,23]. They have not yet been practiced in VR. This absence presents an opportunity to utilize the affordances of VR to elevate

the dialectic processes of Image and Forum Theater to co-create and co-design and experience fictions about the future.

VR's affordances for immersion, agency, interactivity[19], and a sense of presence [26] provide a more compelling space than textual, filmic, aural, non-digital theater, and gaming fictions. The medium's experiences are more compelling because they afford participants with an embodied, social presence that enforces their immersion in the scene, but also that of each other participant's presence[25]. Further, the capacity to change the scene, and to have that change shared among participants, rewards their agency and participation in the experience [20].

These manifold affordances, when used to support Image and Forum Theater, produce alternative futures that appear to have a greater fidelity with the reality of the situation[10] and encourage the active creation of belief in those constructed futures [21]. VR does not accomplish this by allowing participants to develop perfect representations of reality. Rather, participants only produce media actualities, situated perspectives on reality, that become both reflections and vessels for the active creation of belief. VR experiences reflect this belief by realizing a new standard for visual, spatial, and interactive fidelity with reality; and VR experiences become a vessel for the active creation of belief through a participant's active engagement.

This oscillation between the transparent immediacy of the alternative future being created and the hypermediacy of the practice keeps the participant at a critical distance while still encouraging their engagement and active belief in the scene they are co-

constructing[3]. Through the process, participants are immersed in the future being created—utilizing their agency and presence to impact the scene—but cannot ignore the cumbersome aspects of VR and the awkwardness of the interface. This distance, caused by hypermediation, is not necessarily a negative characteristic. Being aware of the interface can ground users in the material present and inform their fictions.

Platforms for Performing Design Fictions in VR through Image and Forum Theater

Existing development engines for multi-user VR provide a foundation for creating design fictions. In the instance of Image Theater, the use of Unity or Unreal is tempting. They offer a robust set of tools for developing VR experiences. However, since VR is an emerging media and access is not equitable, opting for a more inclusive option such as Mozilla Hubs is better. Hubs can be used on any device, from a dedicated VR machine to a mobile phone. Achieving forum theater in VR may require the use of more robust platforms. This is because it requires a greater degree of preparation and interactivity than Image Theater. *Jack: Part One* by Baobob Studios provides insight into how performers might engage with one another in VR to modify a script through audience engagement[5].

Conclusion

This paper has sought to justify the use of applied theater methodologies in VR to create performative design fictions. VR affords a new level of representative fidelity with reality that elevates the dialectic processes of Image and Forum Theater. Designers can begin exploring and using these processes as part of their future oriented design research and practice.

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