

Towards Computational Support for Experimental Theater

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ABSTRACT

Experimental theater productions include mechanisms like audience participation, branching storylines, and multiple focal points for the audience to choose between, which create uncertainty and complexity that must be managed by playwrights and producers. Meanwhile, interactive digital storytelling (IDS) researchers have created tools for managing similar complexity, opening a wide design space for generative and responsive experiences. We discuss techniques in computational story authoring that could support playwrights and producers of experimental theater.

Keywords

experimental theater, authoring tools, interactive storytelling

THEATRICAL MECHANICS

Traditional theater assumes that there is a clear barrier between audience and performers, that a story unfolds the same way in every performance, that the production presented to each audience member is identical, and that audiences do not interfere with performers' actions. Some productions break these rules, dating historically at least to techniques found in the Theater of the Oppressed (Boal 2000). The term "immersive theater" focuses on audience members sharing physical space with the performers, but audience interaction can occur even when the standard proscenium is maintained. Instead, we use the terms *multifocal* and *participatory* theater to describe two live performance phenomena that may be addressed with digital tools. **Multifocal** theater has multiple scenes, tracks, or perspectives for a given point in time of the performance. For instance, in John Krizanc's *Tamara* (Krizanc 1989), the performance is set in several rooms within an estate. Scenes happen concurrently in different rooms, and audience members may choose to follow a character into a new room, or stay behind, selecting their own path through the performance. While these choices change the experience for each audience member individually, they do not affect one another's stories. Henry Darger's *As Told by The Vivian Girls*¹ operates similarly with concurrent scenes. In **participatory** theater, audience actions have an effect on performer actions. At the limit, participation refers to live-action role playing games and purely improvised performances. More conservatively, it includes investigative works such as *Her Things: An Interactive Estate Sale*,² in which the audience may question live performers to try to learn more about the story, as well as *Then She Fell*³ and *Strata*⁴, in which performers lead audience members on individual trajectories, assign them tasks, and converse with them.

1. <http://tinyurl.com/as-told-by-vivian-girls>

2. <http://www.uncumbertheatrics.com/#!/herthings/c139r>

3. <http://www.thenshefell.com/>

4. <http://www.bricolagepgh.org/events/strata>

AUTHORING TECHNOLOGIES

Scripts for these plays can have bugs: for example, a playwright might introduce narrative constraints that cannot be satisfied. Digital tools can help manage the complexity that leads to these bugs for playwrights at authoring time and for producers, directors, and actors at performance time.

In multifocal theater, we must ensure properties such as characters and props not being assigned to simultaneous scenes. Parallel performance tracks that eventually synchronize must be analyzed for their timing: in an interview⁵ with producer Devon de Mayo of *Vivian Girls*, they mention needing to write an extra scene to facilitate timing. The Ceptre game design tool (Martens 2015) has been used to model the entrances and exits from each scene in *Tamara*, as they are given in the script, for which the tool produces a graphical depiction of the dependencies between each scene, revealing structural information related to de Mayo's synchronization problem. Participatory theater brings another set of logistical concerns, familiar to IDS researchers: there is tension between control yielded to the audience and narrative coherence. One actress describes a scene in *Then She Fell* in which her character tells an attendee to take dictation for a letter, but he pours the inkwell out onto his paper rather than complying with the narrative.⁵ While one source of narrative disruption is malice, another is cluelessness: audiences may not understand which actions they could take will contribute appropriately to the narrative. Game design thinking could lead to offering *interfaces* to diagetetic interaction, prescribing a kind of etiquette for the audience to follow. Dietrich Squinkifer's *Coffee: A Misunderstanding*⁶ does just that, augmenting participation with a digital interface. And, while skilled human actors can bring narratives back on track perhaps better than computational agents, work on drama management and narrative mediation (Riedl et al. 2003) provides a comprehensive algorithmic basis for *accommodation* (changing a story to suit an unexpected interaction) and *intervention* (coercing an audience member into making a more narratively appropriate choice). Such technologies might see fruitful use at performance time for algorithmically managing a performance and keeping all performers synchronized on a shifting narrative plan. In conclusion, computational support for multifocalism and participation could make authoring these works more accessible and lead to novel experiments in hybrid human-digital performances.

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5. <http://www.tcg.org/publications/at/issue/featuredstory.cfm?story=2&indexID=15>

6. <http://squinky.me/my-games/coffee-a-misunderstanding/>