

Design Tactics for Authentic Interactive Fiction: Insights from Alternate Reality Game Designers

Elizabeth Bonsignore¹, Vicki Moulder², Carman Neustaedter², Derek Hansen³, Kari Kraus¹, and Allison Druin¹

¹Human-Computer Interaction Lab, University of Maryland College Park, MD, USA
{ebonsign,kkraus, allisond@umiacs}@umd.edu

²School of Interactive Arts & Technology
Simon Fraser University, Surrey, BC, CA V3T 0A3
{vmoulder,carman_neustaedter}@sfu.ca

³School of Technology
Brigham Young University
Provo, UT, USA
dlhansen@byu.edu

ABSTRACT

This paper presents insights from designers of Alternate Reality Games (ARGs) regarding the design tactics they employ to integrate participatory storytelling and “authentic fiction” into the transmedia experiences they create. Our approach was motivated by recent efforts in HCI to more closely align the development of interaction design theory to the craft knowledge and experiences of designers themselves. The resulting insights enhance our understanding of design approaches that a diverse group of ARG producers follow to create interactive, participatory narratives. We outline narrative-specific themes to support designers who craft similar interactive experiences.

Author Keywords

Alternate reality games; transmedia; narrative design.

ACM Classification Keywords

J.5 Arts and Humanities; K.4.0 Computers and Society: General; K.8.0 Personal computing: Games.

INTRODUCTION

An ARG is a genre of transmedia storytelling [13], comprised of interactive elements that are scattered and hidden in websites, books, phone and text messages, movie trailers, and even billboards [14,16]. To engage with an ARG, players collaboratively solve puzzles and share clues to reassemble the fragments of a story that has spilled out into their everyday world. But the designers' initial storyline is not the only story told through ARG gameplay. Any overarching narrative sketched out by designers at a game's outset is subject to change, because players have a central role in assembling the story world as they collect, connect, and make sense of its distributed bits. As players weave their own hypotheses, interpretations, and extensions into gaps they perceive in the unfolding storyline, the ARG effectively becomes a collective narrative. ARG designers

monitor player response in real-time and often modify the storyline based on player speculations [8,14,16,17]. Ongoing summaries that players compile on “the story so far” act as a guide for new audiences and a ready reference for existing players and even designers [8,14]. Indeed, ARGs represent a participatory culture, where players “actively participate in the creation and circulation of new content” [13, p.207].

Players may traverse an ARG's narrative using everyday communications tools, but the interaction design challenges are not an everyday process. Designers must create and connect story bits across multiple media (video, audio, text) and multiple platforms (phones, computers, physical spaces). They must engage players to access and follow various story paths, as well as afford players opportunities to add their own voices. How do ARG designers and producers manage these interleaving storylines? How do they determine the essential elements of the story to start with? What design considerations guide their decisions about how, where, and when to distribute these nodes across their planned story network?

This paper explores these issues through the perspectives of designers themselves. Our approach is motivated by recent efforts in HCI to develop “theories of interaction design practice that resonate with practitioners themselves” [10], based on systematic compilation and synthesis of craft knowledge [3,10]. We adhere to the philosophy of gleaning design theories from designers' own experiences and “appreciation systems” [12,20]. From this grounding, we focused on the following questions: *How do ARG designers perceive transmedia narrative formats, and how does this inform their design approaches? How do they incorporate narrative hooks that invite potential audiences to play?*

We have synthesized insights from a diverse set of ARG designers. Some of them have been producing ARGs for over a decade; others have only created one ARG. Since 2001, when *The Beast* was first launched as a promotional vehicle for the movie, *A.I.*, ARGs have been developed by expansive production crews [16] and crafted by small teams of educators [6]. They have been commissioned as marketing campaigns, designed in educational contexts and

Permission to make digital or hard copies of all or part of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. To copy otherwise, or republish, to post on servers or to redistribute to lists, requires prior specific permission and/or a fee.

CHI 2014, April 26 - May 01 2014, Toronto, ON, Canada
Copyright 2014 ACM 978-1-4503-2473-1/14/04/\$15.00.
<http://dx.doi.org/10.1145/2556288.2557245>

for social engagement in environmental topics such as climate change [5,6,11]. That ARGs and similar transmedia experiences are now being developed across a wide variety of domains underscores [3]’s prediction that “where experimental artists lead, the cultural mainstream often follows” [p.717]. This paper distills craft knowledge beyond that of professional artists to encompass a wide range of practitioners (e.g., educators, museum curators).

INTERACTIVE, PARTICIPATORY NARRATIVE DESIGN

Narrative is a fundamental element of human experience. Whether they were etched on cave walls 40 millennia ago or stained glass windows 500 years ago; inscribed in print or embedded in multiple media across multiple hyperlinks; encapsulated in 140 characters or in petabytes of data — we encounter stories everywhere, in every aspect of our lives [2,20]. Narrative can also be a highly interactive experience [1]. Over the past few decades, the growth of digital media and mobile technologies has enabled increasingly interactive narrative formats that not only invite, but also require reader/audience participation [4,23]. Researchers and designers across a wide range of disciplines, such as artificial intelligence, humanities, game studies, and performance art, are exploring design strategies for immersive stories that people can play [4]. In game design research and in the gaming industry, there persists a theoretical and practical interest in analyzing the relationship between game and narrative [19,23]. The core interaction mechanism in ARGs is a distributed, transmedia story. Thus, ARG designers must devise ways to: 1) lead players across media and platforms that contain interactive story fragments [16], and 2) support player efforts to add to the collective experience with their own interpretations and contributions to the evolving storyline [8,14,17].

METHODS

We interviewed a diverse set of 18 game designers and researchers who have experience producing ARGs and similar new media immersive artworks. Most of our participants (n=10) are established professionals in the entertainment industry (transmedia writers, producers, and designers). Three participants are games studies and new media scholars; two have produced ARGs specifically for undergraduate-level educational environments; and two have designed ARGs to support informal learning and cultural institutions (libraries and museums). An interactive art director/freelance illustrator who designed the artwork for an ARG rounds out the group. Of note, our inclusion of eight designers *outside* of the entertainment industry spotlights the potential value of their practices beyond highly professional contexts like [3,12]. In addition, all of the authors of this paper have designed at least one ARG. While we do not include ourselves in the interview sample, our own ARG experiences guided our analysis. We refer to our designers by number (e.g., D#3) to maintain anonymity.

Our interviews followed a semi-structured format [15]. As these interviews are part of a larger series of studies aimed

at developing a design framework for ARG praxis and production, we covered several topics regarding ARG design, such as: the overall design process; the challenge of recruiting a cadre of players to a genre that prides itself in being hidden; and challenges of preserving narratives that cross multiple platforms and timeframes. We used a qualitative approach inspired by [7] to analyze all interview transcripts. Given the range of production contexts of our interviewees, our goal was to glean commonalities among the ways in which they employed a variety of media and platforms "to enact a network...binding separate content into whole, coherent expressions" [18, p.283]. During open coding, we noted a consistent emphasis on the primacy of story, along with tactics for structuring narrative “through-lines” (D#18) across media and platforms. To glean common story-specific design strategies, codes were compared and refined iteratively by multiple authors, then constantly compared across designer transcripts [7].

FINDINGS

The story-specific themes we uncovered include 1) options for narrative structure and 2) tactics for active participation.

Narrative Structure/Form

All designers contrasted ARG narratives against “deeply-architecturally-sophisticated” content that designers “build in, like books or films” (D#7). Instead, ARG narratives are unique structures that “leave space for the player to feel that their choices make a difference” (D#7), or motivate the player community to “make sense between subplots, and make linkages...to the main story” (D#11). These views establish a narrative ecology with two main story types: the designer’s macro-story and the players’ collective micro-stories. From the perspective of ARG designers, the macro-stories they orchestrate can be situated along a continuum, with two distinct structures at each end: an open-ended, “thinly” plotted spine versus a close-ended, “thickly” plotted graph-like network.

The narrative structure of thickly plotted narratives resembles a dense graph of story elements. The term “close-ended” emphasizes that much of the macro-story is crafted *pre-game*, with ARG designers orchestrating players’ progression toward a preconceived endgame. Player interaction is driven by puzzle-solving and sense-making activities. In “closed/thick” ARGs, the narrative goal is collective re-construction of the macro-story, driven by individual player interpretations (micro-stories) of the distributed transmedia fragments. In contrast, a single “*What if?*” theme drives player interaction in open-ended ARGs. Designers for *World Without Oil* (WWO, <http://worldwithoutoil.org>) asked players to simulate 32 weeks of a global oil crisis, inviting them to share personal stories about how their lives would change in such a world. In these participatory storytelling systems, the motivating theme acts as a single (“thin”) central thread about which players weave their own meaningful micro-stories. The shared, emergent narrative is directly co-created by the

player community. At both ends of the spectrum, designers must devise ways to balance authorial intent and player contributions: “it’s a continuously important issue with ARGs. How do you make people feel they have an impact and voice without letting them say Hamlet would be way better if it had a happy ending?” (D#10).

Figure 1 depicts this ARG narrative design continuum. The horizontal axis reflects the close- to open-ended narrative design dimension. The vertical axis reflects narrative scope, or levels of player interaction (e.g., number and types of transmedia elements, puzzles/clues, etc.). For example, Fourth Wall Studio's *RIDES* (<http://rides.tv/about-rides/>) are highly orchestrated transmedia narratives. Player interaction is scripted and fairly passive (e.g., reading an incoming text). *RIDES* were conceived as the “album” solution to elaborate, live, “rock-concert” ARGs, and are intended as a “product that is not ephemeral...a replayable, single player cross-platform” experience (D#10). In contrast, *WVO* was very open-ended, allowing each player to contribute to the story in her own way; using whatever media she was comfortable with. *The Beast* and *I Love Bees* contained many transmedia story elements (high player interaction required) and played out toward a preconceived endgame with a balance of scripted and player-enacted plot points.

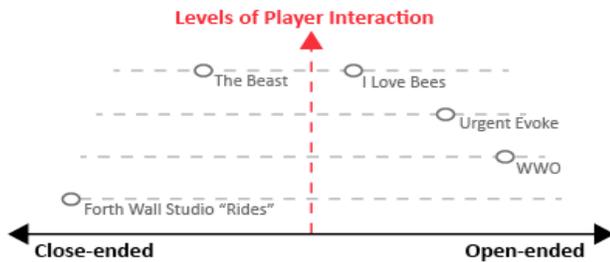


Figure 1: ARG Narrative Design Dimensions

Tactics for engagement: points of convergence and “gaps”
All the designers emphasized embedding actionable tasks into the macro-story to promote active player engagement. Many of their tactics can be described as *points of convergence* where distributed narrative elements and game mechanics intersect. Based on our interviews, the most important approaches to narrative design revolved around the following questions:

- *What action-oriented tropes can be embedded in the story to help players see themselves as active participants?* “Secret societies” were used to motivate players to “join” the game, and to reinforce required actions, such as decrypting codes. An in-game character asking players for help and providing expository information is another oft-used narrative convention (Designers #2,5-12,14).
- *How can we bring the real-world into the story in an authentic way?* Several designers highlighted the need to integrate real world constructs and social contracts, such as connecting players to the micro-stories in a museum repository through missions (Designers#4-6,14). They expressed a need for players to role-play for “real”, such as having an urban planner evaluate player plans or guild

members meeting up at a specific location to complete a mission (Designers#2,7,12,14). As D#14 noted: “We incorporated bits of our museum’s history. It made it so much more real to people... That’s where you really succeed in blurring that line.”

- *What are essential nodes that must be traversed?* Regardless of whether they produced close-ended or open-ended ARGs, all designers highlighted a need to help players find a consistent “through-line” (Designer#18), or “ways to define [stable] islands of stuff that you’re sure of – and other assets that you can create and destroy very, very fast” (Designer#10).

In addition to these points of convergence, designers noted that *gaps*, or *absence of narrative information* were important, and especially critical in open-ended ARGs, whose emergent storylines rely on inciting player contributions. Such gaps can be described as counterfactual design, a mechanism that motivates players to imagine “what if” scenarios to fill in gaps in close-ended narratives or add nodes to open-ended ones [5]. For example, D#13 noted, “What is the vacuum I create that allows the story to be told?” For D#12, the vacuum that could compel players to contribute to an ARG narrative was embodied in counterfactual gaps in history [5]: “every time historians say, we don’t know how this happened or we really can’t explain this, I would mark it” as an inflection point ripe for player intervention. Such tactics reflect the evocative power of ambiguity for interactive designs [13].

Several designers also noted that the points at which they left gaps in their narrative proved to be an incentive for players to document the macro-story for others, or to enrich it with their own micro-stories: “If you have a sufficiently large audience, they will filter and do quality control. The players do it for you; they do it better; and they are infinitely more painstaking and careful assembling and documenting how well the pieces go together” (D#10). Indeed, [10] showed that player productions are often more popular to broader audiences than designer macro-stories. This suggests a potential touch-point for future designs that can enable players to participate in the production and preservation of their own participant trajectories, thereby increasing the community archival power for an interactive art form that has been heretofore largely ephemeral.

CONCLUSIONS AND CONTRIBUTIONS

ARG design and production involves the dynamic coordination of multiple narrative and ludic components that play out across space and time. Over the past decade, designers from a variety of contexts have tackled these ARG design challenges. In this paper, we drew from their experiences to tease out key themes that can support the development of theories for interactive narrative design. We have proposed an ARG narrative design framework that is a continuum from close-ended, designer-orchestrated transmedia structures to open-ended, emergent stories co-created by players/designers. Our analysis extends [3]’s

trajectories framework, which describes user experiences of performance artworks as designer-orchestrated journeys. While [3] acknowledges that a player's journey is "shaped by narratives that are embedded into spatial, temporal, and performative structures by authors" [p.712], it does not explicitly unpack how designers can embed and distribute narrative elements to invite active story input from players in authentic ways. Many existing game designs offer players optional paths to change their gameplay experience [19]; however, our ARG designers sought ways for players to incorporate *new* content into the macro-narrative frame. These approaches complement [3]'s examples that explicitly had players add their own micro-stories to the orchestrated narrative (e.g., Thrill Lab). Our emphasis on participatory storytelling also acts as a foil to [3]'s framework. ARG designer tactics underscore the allure of gaps and ambiguity to inspire players to contribute to a collective story, not just interact with it. This insight may be unique to ARGs in that it overtly allows for players to subvert the hierarchy of authority that [3] suggests with its language of "canonical" vs. "participant" trajectories.

We also identified three key questions that should be addressed by designers of interactive narratives like ARGs to engage players. These questions go beyond existing tropes because they demonstrate ways to 1) map physical artifacts and places scattered across multiple, everyday media and platforms into a macro-story (e.g., stories about objects in a museum repository, gaps in historical records); and then 2) incite players to share their interpretations in the same way: "The little narratives of our lives may not seem like much—but the cautionary tale my friend tells me is much more likely to persuade me of something than anything James Cameron will produce. I try to create a space that encourages people to make these stories they find meaningful – that's what authentic fiction is about" (D#13).

ACKNOWLEDGMENTS

We thank our interviewees, and research funding from NSF IIS-0952567, GRAND NCE Canada, and SSHRC Canada.

REFERENCES

1. Aarseth, E. J. *Cybertext*. Balto., MD: JHU Press, 1997.
2. Barthes, R., & Duisit, L. An Introduction to the Structural Analysis of Narrative. *New Literary History*, 6(2), (1975), 237–272.
3. Benford, S., Giannachi, G., Koleva, B., & Rodden, T. From interaction to trajectories: designing coherent journeys through user experiences. *In Proc. CHI 2009*, ACM Press (2009) 709–718.
4. Bizzocchi, J., Lin, M. A. B., & Tanenbaum, J. Games, narrative and the design of interface. *Int'l Journal of Arts and Technology*, 4(4), (2011), 460–479.
5. Bonsignore, E., Kraus, K., Visconti, A., Hansen, D., Fraistat, A., & Druin, A. Game design for promoting counterfactual thinking. *In Proc CHI2012*, ACM Press (2012), 2079–2082.
6. Bonsignore, E., Hansen, D., Kraus, K., & Ruppel, M. ARGs as Platforms for Practicing 21st-Century Literacies. *IJLM*, 4(1), (2012), 25–54.
7. Charmaz, K. (2006). *Constructing grounded theory*. Thousand Oaks, CA: Sage Publications.
8. Dena, C. Emerging Participatory Culture Practices: Player-Created Tiers in Alternate Reality Games. *Convergence*, 14(1), (2008), 41–57.
9. Gaver, W. W., Beaver, J., & Benford, S. Ambiguity as a resource for design. *In Proc CHI 2003*, ACM Press, (2003), 233–240.
10. Goodman, E., Stolterman, E., & Wakkary, R. Understanding interaction design practices. *In Proc. CHI 2011*, ACM Press, 2011, 1061–1070.
11. Hansen, D., Bonsignore, E., Ruppel, M., Visconti, A., & Kraus, K. Designing reusable alternate reality games. *In Proc. CHI2013*, ACM Press, (2013), 1529–1538.
12. Isbister, K., Flanagan, M., & Hash, C. Designing games for learning: insights from conversations with designers. *In Proc. CHI 2010*, ACM Press (2010), 2041–2044.
13. Jenkins, H. *Convergence culture: where old and new media collide*. NY: New York Univ. Press, 2006.
14. Kim, J. Y., Allen, J. P., & Lee, E. Alternate reality gaming. *Commun. ACM*, 51(2), (2008), 36–42.
15. Lazar, J., Feng, J. H., & Hochheiser, H. *Research methods in HCI*. West Sussex, UK: Wiley, 2010.
16. Martin, A., Thompson, B., & Chatfield, T. ARG White Paper: IGDA ARG SIG. 2006. <http://bit.ly/18rxSWX>.
17. McGonigal, J. Why I Love Bees: A Case Study in Collective Intelligence Gaming. In K. Salen (Ed.), *The Ecology of Games*. Cambridge, MA: MIT Press, 2008.
18. Ruppel, M. Narrative Convergence, Cross-Sited Productions and the Archival Dilemma. *Convergence*, 15(3), (2009), 281–298.
19. Salen, K., & Zimmerman, E. *Rules of play: game design fundamentals*. Cambridge, MA: MIT Press, 2003.
20. Schön, D. *The Reflective Practitioner*. New York, NY: Basic Books, 1984.
21. Seely-Brown, J., Denning, S., Prusak, L., & Groh, K. *Storytelling in organizations*. Boston: Elsevier, 2004.
22. Van Dam, A., Balsamo, A., Brinkman, D., & Watrall, E. Big Heritage, Big Quilts & Big Canvases. *SXSW Interactive Panel*, 2013. <http://bit.ly/16aBpIj>
23. Wardrip-Fruin, N., & Harrigan, P. (Eds.). *First person: new media as story, performance, and game*. Cambridge, MA: MIT Press.