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Life Beyond the Grant

Creative Dissemination Strategies

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Abstract

Over the past decade, the authors have collaborated on the development of location-based augmented reality games for use in formal and informal contexts. As their current grant is winding down, they have sought innovative ways to support expansion to new sites. To work toward that goal, they jointly offered an eight-week webinar series which included a mix of conceptual discussions, annotated examples of successful game projects, and hands-on practice with the game development tools. In this presentation, the structure of the webinar series and samples of the ancillary support materials will be shared, along with program evaluation data reflecting critical factors which contributed to successful replication at some sites, and delineation of obstacles which made transfer of innovative game-based tools to other sites difficult.

Project Overview

For more than a decade, the Missouri Botanical Garden and the Massachusetts Institute of Technology have collaborated to develop mobile location-based augmented reality games (Coulter et al, 2012; Coulter & Stauder, 2015). When playing one of these games, players are led by the GPS functionality embedded in a smartphone or tablet to find specific locations. Clues in the real world then combine with clues that appear on the device screen, challenging players to resolve a problem in a game-like environment. For example, in a game developed by the Missouri Botanical Garden, the visitor takes on the role of Hibiscus Mallow, a character from a parallel universe who was exploring on the grounds of the botanical garden. Suddenly the transporter breaks down, and Hibiscus needs to identify plants that will enable survival until the rescue ship arrives. Poor choices have dire consequences. Each game is designed to foster high engagement by presenting a series of interesting choices and through promoting both social and bodily-kinesthetic activity (Isbister, 2016). Through these play-based activities, participating youth take on a projective stance in the world (Gee, 2007) as they develop and deploy agency toward achieving valued outcomes.

The partners' collaboration over the years has included the development of multiple iterations of a youth-friendly software platform for development of handheld augmented reality games, as well as a suite of prototype games. Beyond their own development efforts for local purposes, the partners have also worked toward providing support for implementation in a variety of other environments. These

have included formal school settings, semi-formal environments such as after-school and summer camp programs, and informal “free choice” settings including zoos and botanical gardens. Most recently, the partners have collaborated on a large-scale, National Science Foundation-funded effort to support informal science institutions located across the United States in developing games for use in camp programs and for free-choice visitors to play at the partner sites. As part of the camp programs, each partner embedded youth game development projects within their summer programs. Beyond the benefits of playing augmented reality games, these game development efforts are particularly fruitful, as they foster deeper understanding of relevant scientific and social issues (Li, 2014).

As the grant winds down, the lead partners have been working to establish a strong dissemination path that will enable other institutions to develop their own games and support youth game development efforts. In addition to the standard dissemination efforts (such as the development of a project web site and an array of conference presentations), the grant partners collaborated in 2015 to offer an eight-week webinar series for interested informal science institutions in the United States, Canada, and the United Kingdom. In all, we had 11 institutions and approximately 40 participants. Through working with the webinar participants, we gained a better understanding of the realities involved in bringing location-based augmented reality games to new programs in a cost-effective manner.

Dissemination Efforts

Our primary goal for dissemination was to stimulate engagement and awareness of handheld augmented reality gaming as a recreational and educational platform. Given the complexity of handheld game design (especially if it involves supporting youth as game designers), we felt that more was needed than simply offering a few online tutorials. After considering several options, we settled on an eight-week webinar series, which was offered in the fall of 2015. Each week had a specific theme, designed to build on what had come before:

Week 1: What is Taleblazer?

Week 2: Location

Week 3: Narrative

Week 4: Interesting and Meaningful Choices

Week 5: Outcomes and In-Game Feedback

Week 6: Ending the Game

Week 7: Testing and Revision

Week 8: Wrap-up

Building on our intention to equip participants to actually develop their own games, each week had assigned “homework” that would enable webinar participants to incrementally build toward a playable game on their institution grounds. Staff from each of the lead institutions held office hours to support this work. While some participants struggled to fit this extra work into their regular duties, we had a number of successful efforts, and the webinar series ended with a great deal of enthusiasm and

commitment to continuing game development efforts. Reflecting this, the lead partners have continued to provide support as participants move toward local game launches. Follow-up evaluation research currently being conducted is helping to identify what progress has been made, and what obstacles have impeded progress.

Product Development

Throughout the webinar series, we worked to refine our understanding of what material support new game designers would need. This led to the development of a series of staff-focused resources (such as game design templates and tutorials for use in developing games for public offerings). We also made template games and youth-focused tutorials that institutional staff could use to embed handheld game design projects in their summer camp or weekend program offerings. These have all been user-tested and revised as needed. While the initial testing of these materials showed that tween-age youth were able to develop credible, playable games in approximately four hours of focused effort, we will be including recommendations with the materials to help with specific areas of concern. These include challenges in (1) helping young designers better understand the affordances and limitations of the handheld gaming environment, (2) providing the baseline support needed to scaffold a successful initial game design effort, and (3) helping youth designers effectively test and revise games.

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