

Design for Engaging Experience and Social Interaction

Simulation & Gaming
42(5) 590–595
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DOI: 10.1177/1046878111426960
<http://sg.sagepub.com>



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Abstract

One of the goals of game designers is to design for an engaging experience and for social interaction. The question is how. We know that games can be engaging and allow for social interaction, but how do we achieve this or even improve on it? This article provides an overview of several scientific approaches that deal with this question. It highlights the idea that the articles in this symposium each have a specific contribution route for answering this question: By means of theory building, user experience, and design research, they aim to increase our understanding of this design question. This guest editorial also highlights the specific aims of each article and the insights we can retrieve from them. Although much more research is needed, taking our cue from these articles, we are able to provide some answers as to how and when engagement and social interaction are established, and to what extent.

Keywords

affective ludology, design research, engagement, game design, indexical simulation, Model of Learning Engagement, Presence-Involvement-Flow Framework, social interaction, symbolic simulation, theory building, user experience

Are games engaging? Today this seems a trivial question, with millions of gamers worldwide spending great amounts of their free time on their favorite games. Even games used for non-entertainment purposes seem to attract and retain the attention of

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many, as shown by WORLD WITHOUT OIL, a forecasting game in which players have to imagine what it would be like to live without oil (McGonigal, 2011). About 1,900 people participated, who together created more than a 100,000 online media artifacts about this possible future. Psychologist Csikszentmihalyi (1975) already observed the engaging nature of games and wrote, “Games are obvious flow activities, and play is the flow experience par excellence” (pp. 36-37).

Games thus seem engaging, but do they allow for social interaction? Anybody involved with games may find this question trivial. However, playing games—especially digital ones—still has a public image of being a lonesome activity. Players are often portrayed as being socially isolated. The actual truth is that, despite the fact that many players play individually, they and many others also play games collaboratively, tackling difficult problems and engaging with each other massively and cross-culturally inside and outside games in many different ways: from collaborative contributions on Internet forums and wikis to in-game and real-life meetings. One could, therefore, argue the reverse as well and say that play is also the “social experience par excellence.”

Although we know that games allow for an engaging experience and social interaction, today we are still left with many research questions on how to *design* for this. Early research, such as by Malone (1981), provided some answers and direction, yet more theoretical and empirical contributions are needed to expand the field and create a solid body of knowledge. To achieve this, in 2008, the first International Association for Development of the Information Society (IADIS) Conference on Game and Entertainment Technologies was held in Amsterdam, the Netherlands, bringing together research and best practices in creative media design. The conference theme concerned “design for engaging experience and social interaction” and had a special focus on innovative methods to design and evaluate games. This symposium in *Simulation & Gaming* is a result of substantial elaborations on some of the work presented at this conference. Table 1 provides an overview of the resulting articles in this symposium. One of these articles, by Harteveld and Bekebrede (2011), appeared in a previous issue of *Simulation & Gaming* (Volume 41, Issue 3).

A variety of routes exist to contribute to the design for engaging experience and social interaction, and the articles in this symposium reflect this. A first possible contribution route concerns *theory building*. To create better designs, it is valuable to have an understanding of how engagement and social interaction work. Nicola Whitton has shed some light on this in the context of higher education. Drawing on principles of engagement from entertainment games, existing literature, and a series of interviews, she presents the Model of Learning Engagement. This model consists of five learning engagement factors: challenge, control, immersion, interest, and purpose. Aside from providing a tool for analyzing adult game-based learning, this model provides a resource for designing and evaluating effective learning activities.

The same contribution route is followed by Joris Dormans, although his aim is completely different. Referring to semiotics and the works of many game scholars, he

Table 1. Overview of the Contribution Routes, Aim, and Insights of the Articles in This Symposium

Authors	Contribution route	Aim	Insights
Whitton	Theory building	Understanding engagement in higher education	Model of Learning Engagement, a tool for analyzing, designing, and evaluating game-based learning activities
Dormans	Theory building	Providing a language and understanding of representing source systems in games	Designers should move from iconic simulation to indexical and/or symbolic simulation
Nacke et al.	UX	Solidifying a scientific process for studying player-game interaction based on physiological measurements	Affective ludology and methods to apply this research approach for studying player-game interaction; level-design guidelines for immersion, flow, and boredom
Takatalo et al.	UX	Studying the psychological experiential differences between playing a game in a laboratory and at home	PIFF ² , a multidimensional framework for assessing UX in games; laboratory setting differs from one at home in terms of gamer's involvement, presence, and cognitive evaluation
Harteveld and Bekebrede ^a	Design research	Exploring the difference between implementing a single- and multiplayer option for designing educational games	Conception of a single- and multiplayer approach and the need for designers to use one or the other depending on whether they decide to implement a single- or multiplayer option

Note: PIFF² = Presence-Involvement-Flow Framework; UX = user experience.

^aThis article is published in a previous issue of *Simulation & Gaming*.

argues that games can gain expressiveness when they move beyond the current focus on “iconic simulation.” According to Dormans, we place too much emphasis on making games realistic, on ensuring that the source system is resembled as closely and accurately as possible. If designers focused on other ways of representing the source system, by making use of “indexical” and/or “symbolic simulation,” they would create simpler, yet more efficient and effective, games. With this article, Dormans has provided us with a language and understanding of how games need to be designed.

Another contribution route comes from a vastly expanding and relatively new research area: *user experience* (UX). Generally, UX is concerned with measuring a person's perceptions and responses resulting from the use or anticipated use of a product, system, or service (see Takatalo et al.). Games can, of course, very well be the subject of such measurements and have been as Nacke et al. show. Extending their

prior work on affective ludology, which is concerned with the physiological measurement of affective responses to player-game interaction, they describe a methodology for affective ludology, by combining electroencephalography measurement with a Game Experience Questionnaire. They applied this methodology for exploring the impact of “level design guidelines” on immersion, flow, and boredom. Although the article’s results are based on a pilot study, Nacke et al. show that the level-design guidelines had a significant impact on player responses. However, the article shows above-all the potential for developing and improving scientific methodologies for studying players and games. Next to theory building, looking into UX will also help us understand games and design better ones.

A different methodology for measuring UX in playing games is presented by Takatalo et al. Using their Presence-Involvement-Flow Framework (PIFF²), which integrates a vast number of relevant UX subcomponents into one framework, they set out to study the difference between playing a game in a laboratory setting or at home. As they explain, games are studied in different situations with numerous methods, yet little is actually known about if and how the context of playing a game affects the UX. Their results show clearly that the play situation matters. They found differences in gamer’s involvement, presence, and cognitive evaluation of the play session. The strongest effect appeared in the level of arousal and attention. Gamers were more attentive and aroused in the laboratory setting compared with the one at home, where the gamers, however, considered the game to be more engaging, a real-life space, and socially interactive. Other than providing a valid way to assess a multidimensional measurement of UX in games, this article especially raises questions and concerns about how researchers should study games and how designers could harness the environment for creating a particular engaging experience and social interaction.

The last article is related to the third and final possible contribution route: *design research*. Much can be learned from rigorously reflecting on design experiences as well. In their article, Harteveld and Bekebrede (2011) made a contribution to this line of work by exploring the implementation of a particular game design attribute, that of deciding whether to make it a single- or multiplayer game, in the context of education. Based on observations of entertainment games and their own design experience, they hypothesized that both options may require a different design approach for creating an engaging as well as educational experience. After investigating two educational games they designed themselves, a theoretical investigation of designing games from a game and learning perspective, and an empirical investigation of 23 case studies to validate their initial findings, they come to the conclusion that a single-player option may indeed require an approach different from a multiplayer option. With design reflections and investigations such as those provided in this article, designers and researchers will become more aware of the role of design in providing a certain experience.

With what does this symposium leave us? As stressed by the authors, much more work is to be done on establishing a solid body of knowledge, but the articles in this symposium contribute important insights based on different contribution routes to

the topic of designing for engaging experience and social interaction. The readers will find theoretical insights, different methodological frameworks, and relevant findings that bring them closer to a deeper understanding. With this symposium we are able to provide some answers as to how and when engagement and social interaction are established, and to what extent. These findings go much beyond answering the trivial questions asked at the beginning of this guest editorial. They contribute to both the academic discussion and the understanding of the design community on how games may shape experiences.

Acknowledgments

For creating this symposium, we want to thank the authors for their patience and perseverance on elaborating on their initial work and making a quality contribution. We further would like to express our grateful thanks to the following referees for their critical evaluation of the articles:

- Daniel Burgos, *Open University*, the Netherlands.
- David Myers, *Loyola University New Orleans*, USA.
- Igor Mayer, *Delft University of Technology*, the Netherlands.
- Muhammed Demirelek, *University of Wisconsin-Madison*, USA; Suleyman Demirel University, Turkey.
- Timo Lainema, *Tampere University of Technology*, Finland.

To conclude, we wish to thank David Crookall for his advice and patience throughout, and for making this symposium on the International Association for Development of the Information Society Conference on Game and Entertainment Technologies 2008 possible.

Declaration of Conflicting Interests

The authors declared no conflicts of interest with respect to the authorship and/or publication of this article.

Funding

The authors received no financial support for the research and/or authorship of this article.

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Bios

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