How Does an Interactive Story Feel Like?

Theory and Measurement of the User Experience

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Abstract. This workshop is dedicated to discussing the user experience of an emerging new type of entertainment computing: Interactive stories. Technology development in Interactive Storytelling (IS) has made substantial progress recently, but theory and empirical studies on the user perspective have not received much attention in the entertainment computing community so far. The workshop introduces a measurement toolkit for testing user experiences in IS prototypes and stimulates discussion on conceptual as well as methodological issues in user-focused research on IS.

Keywords: Interactive storytelling, user experience, methods, measurement.

1 Workshop Background and Objectives

Research and development on Interactive Storytelling (IS) is about to bring out systems and media that provide novel modes of entertainment, learning, and other experiences [1]. Departing from existing media, such as adventure video games, and synthesizing diverse streams of technology, including as artificial intelligence, 3D real-time imaging and/or speech recognition, the vision of Interactive Storytelling is to facilitate user experiences that combine immersion in fictional stories with perceptions of agency and the situation dynamics of improvisation theatre. Conceptually, IS emerges as one pathway towards next generation entertainment computing [2]. So far, various demonstrators have been developed that illustrate how this vision of new entertainment media could be implemented technically in the future (e.g., the “Façade” system [3] or the “Madam Bovary” system [1]).

While technology development in IS has made substantial progress, the audience perspective has received less attention in the entertainment computing community. System creators certainly have implicit or explicit assumptions about how users will experience their interactive story; however, not much theoretical or empirical knowledge has been developed in this regard [4]. The workshop is intended to stimulate a focused discussion on the user perspective: How will using such media

will ‘feel like’? Which modes of enjoyment does or can Interactive Storytelling facilitate? These questions need to be addressed with more rigor, because the user perspective can offer important inputs to make reasonable design decisions and to strategies for bringing IS systems to mass entertainment markets.

More specifically, the workshop splits the user perspective issue into two key elements. One is theoretical reflection. We want to debate with colleagues interested in Interactive Storytelling on how to describe, model, and theorize the enjoyable and potentially less enjoyable dimensions of IS experiences. Related questions are:

- Which concepts from research on conventional entertainment media can or should be applied to Interactive Storytelling? Are, for instance, the flow concept or the notion of suspense viable tools to model IS-based entertainment?
- Which kind of stories or narrative building blocks promise to ‘work well’ in Interactive media? Can user-centered models of fun help to define strategies of generating appealing content for Interactive Stories?
- How does the user experience in IS (probably) differ from existing entertainment experiences? What makes the conceptual difference between IS and, for example, an adventure video game or a “World of Warcraft” © experience?

The second key element of the workshop is the empirical measurement of the user experience in IS. We introduce a standardized measurement toolkit, which has been developed by the IRIS network of excellence (<http://iris.scm.tees.ac.uk/>). This toolkit is based on theoretical foundations, expert interviews, and benchmarking studies conducted with different media and prototypes of Interactive Storytelling. Its purpose is to provide an easy-to-handle application for system creators that allows conducting rapid user studies with new prototypes and comparing a system’s performance with data obtained from other systems [5] [6]. The toolkit comes as a set of self-report measures to be applied immediately after users finish exposure to an Interactive Story. It includes scales on various dimensions of the user experience, including fundamental issues such as perceived usability and character believability, affective-motivational processes such as efficacy, suspense and curiosity, and evaluative dimensions such as user satisfaction and enjoyment. Moreover, flexible components are included that can be customized for specific study purposes. Benchmarking data are available, for example, for the “Façade” system [3] and allow comparing results from new studies with data obtained from published reference systems. The measurement toolkit is available as a software application that enables mostly automatized data collection and analysis.

The workshop serves to make interested IS researchers familiar with the measurement toolkit, to demonstrate its application in prototyping studies and to illustrate how findings from testing one’s own IS prototype can be compared to data from reference systems. In addition, methodological issues related to the user experience will be discussed with participants. Key questions are

- Which cognitive, affective, and motivational processes need to be addressed in empirical studies on IS system users? Does the current IRIS measurement toolkit cover all relevant facets?
- In addition to self-report measures, which other methods of user research are promising for future studies in IS?
- How can data from user tracking – such as user decisions’ on story progress or users’ individual style of handling the system’s interface – be exploited for understanding the enjoyment of IS?

2 Workshop Activity Plan

The workshop is planned as a half-day event (4 hours). It mostly relies on impulse presentations and discussion rounds that involve participants as experts in entertainment computing and Interactive Storytelling. The workshop agenda is envisioned as follows:

- (1) Introduction of workshop objectives and participants (20 min)
- (2) Theoretical issues: Impulse presentation by workshop organizers on conceptual issues in IS user experiences (see above), statements by workshop participants (60 min)
- (3) Short break (10 min)
- (4) Introduction of the IRIS measurement toolkit: Presentation and demonstration by workshop organizers, questions and answers (60 min)
- (5) Discussion: Methodological issues in IS user research (see above) (45 min)
- (6) Short break (15 min)
- (7) Conclusion: Summary by Workshop Organizers, discussion of next steps (incl. collaboration perspectives among participants, new project ideas with focus on user studies) (30 min)

3 Workshop Organizers

The workshop is organized by a research team of the IRIS network of excellence. They are responsible for user research within the network and lead a thematic work package in IRIS. The conceptual and methodological issues addressed in the workshop have been elaborated by the organizers both within the past 2+ years of IRIS project work and in preceding projects on media psychology and entertainment computing.

Christian Roth is junior project manager for the IRIS user studies work package at the Center for Advanced Media Research Amsterdam (CAMErA). He has been involved as key personnel in research and development of the of the IRIS measurement toolkit that is foundational for the workshop. Thematic key publications are [5] [6] [7].

Peter Vorderer is professor of communication science at Mannheim university and responsible senior researcher for user studies in the IRIS network. He has

published extensively on numerous topics in media entertainment, particularly related to new media technologies. Thematic key publications are [8] [9].

Christoph Klimmt is professor of communication science at Hanover University of Music, Drama, and Media, and managing researcher for user studies at the IRIS network. He specializes in research on user responses to video games and empirical methods of media effects studies. Thematic key publications are [7] [10].

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