
User Experience and Player Experience: Summary and Discussion of Current Evaluation Methods

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Abstract

This position paper gives an overview on existing user experience evaluation methods. It critically discusses the question if user experience is measurable. Giving an overview on existing user experience evaluation methods advantages and shortcomings for each of the classes of UX evaluation are discussed. To enable fruitful discussion on the various aspects on how to better understand player experience and how UX evaluation methods can help in uncovering game design issues a set of open (research) questions is presented.

Author Keywords

user experience, evaluation, expert, play test, HCI

ACM Classification Keywords

H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

Introduction

Focus of this workshop is how we can better understand player experience and what can be done to uncover game design issues. The term player experience has been a focus of research especially in the games community and has been associated with a

variety of dimensions and concepts to describe that experience including challenge, immersion, social interaction, playfulness/playability, fun, flow, presence, involvement, enjoyment etc [2]. On the other hand, the area of human-computer interaction has come up with the term user experience, that is focusing on all possible usages of interactive systems and which is consisting of a multitude of evaluation methods [1].

User experience is still only loosely defined, but what is agreed on is that (1) user experience is beyond the instrumental, focusing on the hedonic [6], holistic or aesthetic experiences [7], [4] of the user, (2) user experience is related to emotions and affect, which is subjective, but in general the focus is on positive experiences including the antecedents and the consequences of interacting with a product [6], (3) user experience is experiential: it is dynamic, unique, complex, temporally bound and situated [9]. There is a variety of dimensions and concepts that have been associated with user experience including emotion, affect, visual aesthetic, meaning and value, stimulation, identification, social relatedness or co-experience and many others. While both the terms user experience and player experience have been used to describe the player/user's experience when interacting with a game, it is unclear if all user experience evaluation methods do apply to the area of games. A discussion about the feasibility of general user experience evaluation methods for games is beyond the scope of this position paper. What should be stated is that the question of the applicability of general usability evaluation methods to the various domains has been already answered negatively[5].

Goal of this position paper is to give an overview on user experience evaluation methods that can be applied to the specific domain of games to evaluate dimensions that are today typically associated to player experience.

UX Evaluation Methods for Games

To classify UX evaluation methods the following dimensions are used:

- (1) applicability of the method in terms of game development cycle
- (2) Conducting of the method in the lab vs in the field
- (3) Expert or user-oriented method.

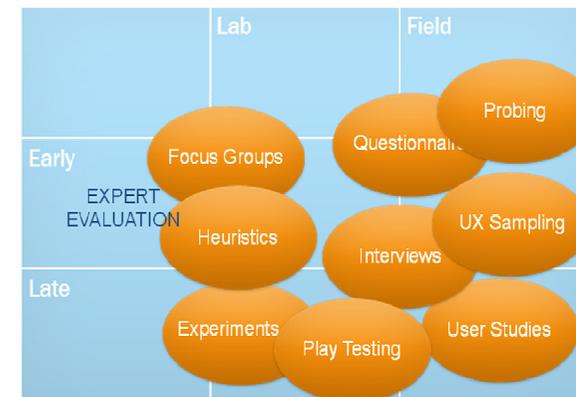


Figure 1: Overview on user experience evaluation method

In the early stages of the development of a game, especially in the concept, pre-production and prototyping phases, focus groups are helpful to understand user experiences [11]. To inform the early stages of game development a detailed understanding on how people currently experience games can be investigated using probing. *Probing approaches* allow

the researcher to investigate how people incorporate games in their daily lives. Questionnaires help to understand the various UX dimensions for example for example the Game Experience Questionnaire (GEQ)[3] measures the dimensions of Sensory and Imaginative Immersion, Tension, Competence, Flow, Negative Affect, Positive Affect, and Challenge.

Once a first prototype is available *expert oriented methods* can be applied. There is a broad variety of guidelines and heuristics available that can be applied to conduct a heuristic evaluation. Guidelines have been presented to focus on serious games, social games, tabletop games, physical exertion games and so on [2]. Unfortunately the majority of these methods lacks a clear description on how to conduct the evaluation and how to describe the games design problems in a way so that they are meaningful for the game development team.

User experience sampling is an evaluation approach that allows to gather experiences during gamers daily life, enabling to prompt them during special occasions to describe their current experiences. This approach is especially helpful when evaluating mobile games. Play testing and user studies are the most frequent user experience evaluation methods in the area of games. They help to evaluate all aspects of the play experience. One special form of play testing in the field are beta-tests that enable to get feedback from a broad variety of gamers and that is especially helpful for discovering problems in game balancing. In the lab based version retrospective think aloud including video playback has proven to be helpful in industrial settings, to understand players experience as during game play it is difficult to ask players question. Experiments start

to be widely used in the (research) games community to understand the various influences of game design on the overall user experience, but they are rarely used in industry and experimental results from industry are rarely published.

There is a broad range of additional evaluation methods including bio-physiological evaluation, and a variety of informal evaluation strategies that are currently applied in game companies including approaches such as self-evaluation in the teams.

Advantages and Shortcomings

The currently available user experience evaluation methods allow the game designer and developer to understand some aspects of the user experience. Using a questionnaire it is easy to understand that the game does not provide enough challenge, that the player is not feel immersed in the game or that there was no learning take up after playing a serious game.

The currently available methods have a variety of shortcomings: the majority of them lacks thorough validation, methods are not described to an extend where a practitioner can perform the method, and it is often unclear how to protocol the overall findings/problems found. Especially expert methods including heuristics do only help to find the problems, but there are no means to support designers and developers to solve the problems found in the game.

Methodological Challenges

The current state in user experience evaluation research leaves us with the multitude of open (research) questions:

(1) how can we define player experience, and what

dimensions/factors really contribute to the player experience

(2) can we even measure these dimensions/factors

(3) what (set of) method(s) does allow to evaluate all these dimensions

(4) what is the standard to describe a method for UX evaluation so the method can be applied by industry and research alike

(5) how can the outcome of UX evaluation be described

(6) is there a possibility to inform game design on how to improve the (overall) player experience?

In my view player experience can in general be addressed by a well defined set of dimensions. This set of dimensions/factors depends on the characteristics of the game, but can be determined for the majority of games available today. Personally I perceive user experience as a construct that cannot be measured, but the most prominent dimensions of user experience can be measured (e.g. challenge, immersion, fun, surprise, identification, ...). User experience evaluation will only be successful if methods are following classic triangulation approaches of methods (measuring the same variable with different methods to improve reliability and validity).

The description of user experience evaluation methods is still a challenge. There is a wonderful assembly of general UX methods that can serve as a starting point in terms of method classification, but would need a thorough adaptation for games. How to describe problems in a way that they can really improve the development of the system is a remaining problem in the area of usability/HCI. Hopefully we will be more successful in the area of UX evaluation for games and entertainment.

Regina Bernhaupt's main research focus is the development of methods that support design and development of entertainment applications. She published a book on user experience evaluation methods for games [2] and contributes to the broader field of entertainment, especially interactive TV and Internet Protocol Television (IPTV). She is currently invited professor at IRIT, Toulouse. She has been an active member of the CHI community, serving as courses co-chair for 2010/2011, games and entertainment community chair 2011/2012 and she is member of the SIGCHI Conference Management Committee (CMC). She is a retro gamer and loves to play settlers.

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