
Game User Experience Evaluation

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**Abstract**

In a nutshell: This course comprehensively covers important user experience (UX) evaluation methods as well as opportunities and challenges of UX evaluation in the area of entertainment and games. The course is an ideal forum for attendees to gain insight into state-of-the-art user experience evaluation methods going way-beyond standard usability and user experience evaluation approaches in the area of human-computer interaction. It surveys and assesses the efforts of user experience evaluation of the gaming and human computer interaction communities during the last 15 years.

Author Keywords

user experience; games; entertainment; evaluation method.

ACM Classification Keywords

H.5.2. Evaluation/Methodology; K.8.0 Games

Introduction

User experience evaluation in entertainment and games and more general in interactive entertainment system has become a focus of (research) attention in the areas of human-computer interaction (HCI) and games. During the last 15 years the scientific communities of HCI and game research were starting to learn from each other [1]: On the one hand UX evaluation methods from HCI are used during the game development, on the other side HCI was borrowing and investigating aspects of the gaming experience like

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CHI'16 Extended Abstracts, May 07-12, 2016, San Jose, CA, USA
ACM 978-1-4503-4082-3/16/05.
<http://dx.doi.org/10.1145/2851581.2856683>

Regina Bernhaupt



Regina Bernhaupt is head of research at ruwido, an Austrian company specialized in interaction technologies for the living room and cars. She is an invited professor at IRIT (Institute de Recherche en Informatique de Toulouse). Her research focus is on the development of user experience evaluation methods[1]. She is currently serving on the SIGCHI Executive Committee as VP of Communication and has organized a series of UX-oriented workshops and Game Jams at CHI and other SIGCHI conferences.

immersion, flow or fun, to better understand the concept of UX .

The course UX evaluation is highly relevant to CHI as it provides a substantial overview of state of the art research in the area of entertainment and games, it introduces students, practitioners and researchers alike to a new and emerging area and a set of innovative state-of-the art methods and it creates the opportunity to study new methods and techniques by conducting hands-on exercises during the course.

Why? What? How? Who?

Why take this course?

This course comprehensively covers important user experience (UX) evaluation methods, opportunities and challenges of UX evaluation in the area of entertainment and games [1]. It provides an overview on what user experience is about (in contrast to usability) [2], [3], it provides an understanding on when in the user- or player-centered design and development process to apply what kind of methods [4] and demonstrates how to evaluate entertainment applications that are played outdoors, on the move or during exertion [5].

What are the Objectives?

- to provide an overview on user experience evaluation in the games and entertainment area.
- to provide definitions of user experience, and discuss the factors that contribute to the overall user experience in a game (e.g. flow, immersion, playability)

- to explain how game development is different from software engineering development, especially the evaluation phase.

Based on these foundations the objective is to give an overview on existing methods to allow participants in the course a first hands-on experience on how to apply one of the methods to a real game.

Upon taking this course, participants will know how to undertake user experience evaluation during the development process of a game or entertainment application.

What to expect?: Content, Structure and Schedule

The course will run over a half day (2 units à 80 minutes).

Unit 1: (80 min):

Introduction to the course, presentation of the objectives and goals

UX and UX Evaluation Methods: What is UX, what factors contribute to UX in games and entertainment, how are games developed, when can we evaluate and how? Overview on user experience evaluation methods organized by early/late development and lab/field usage.

The following methods are presented: questionnaires specific to UX evaluation (e.g. PIFF), to emotion evaluation (e.g. EmoCards) and other games oriented questionnaires (e.g. GEQ); focus groups, play-testing (including variations of retrospective think aloud and bio-metrical measurements); expert analysis (following game UX guidelines).

Floyd Mueller



Florian 'Floyd' Mueller directs the Exertion Games Lab at RMIT University, Melbourne, Australia. The Exertion Games Lab researches the future of gaming, working on the intersection between play, the body and technology. He has previously co-organized user experience-focused events that involved evaluating UX such as workshops on Exertion Interfaces at CHI 07 and CHI 08, Evaluating User Experience in Games at CHI 08, and Game Jams at CHI 13 and 14.

To understand the scope of the methods, case examples are used.

Hands-on: what does really contribute to your gaming experience: identification of possible methods by "self-experience trials".

Unit 2: (80 min)

Advantages and Shortcomings of UX Evaluation Methods: What can be evaluated when and how. How to address games that are played outdoors [9], on the move [8], with several screens vs games that are played in a more traditional setting like PC-games?

Hands-on: how would you? Exercise of application of UX Evaluation Method by categorizing the applicability of the method.

Lessons learned? Playful evaluation of the lessons learned in this course ... by simply playing a game (depends on local network (WLAN) infrastructure, but there is a paper-based back-up version of the game).

How is the course run? (Presentation Format)

The course will use both presenter-led material and individual and group-based exercises throughout the sessions. Small exercises and hands-on examples will encourage attendees both to critically review existing approaches as well as posing their own view on the relative importance of the various factors that are contributing to user experience. The course will include demonstrations of UX evaluation methods and use video clips to show the variety of applications domains the methods can be applied to. Course materials will

include copies of the presentation material as well as extensive follow-up reading lists.

Who shall participate? (Audience)

This course offers an overview on UX evaluation methods in games. It will appeal to a broad audience: *Developers and designers*: the course will help to establish an understanding how to evaluate user experience in the area of games and entertainment and how outcomes of the evaluation can be integrated in the next iteration of the game and entertainment application development;

Industrial and academic researchers: the course will provide an overview on current methods in the area, and can help to understand the concept of user experience.

Students: the course provides a first introduction to user experience in games, but lessons can also be taken for the application in other domains.

This course does not require any prior knowledge. People who have a background in HCI and/or experience with evaluation (for example usability evaluation) will find it easy to understand how to apply the set of user experience evaluation methods. People who are new to user experience and games and entertainment will benefit from the hands-on exercises which help to understand limitations and challenges in UX evaluation.

What will participants learn and take-away?

The course is designed to enable participants:

- to understand the concept of user experience
- to be able to select particular factors that contribute to UX

- to understand how UX factor selection can influence the development
- to give an overview on currently applied UX methods
- to classify UX games evaluation methods according to (a) applicability in the development process, (b) lab or field usage (c) expert or user oriented (d) other factors like cost etc.
- to understand the importance of UX in games design and development (based on hands-on exercises)
- to be able to select a combination of UX evaluation methods for games, serious games or gameful design (gamification) projects

History

This course has been taught at CHI 2012 (User Experience Evaluation in Entertainment and Games) and at Interact 2011. The course material is used by the course instructors as a basis for courses on games design and development at the Technical University of Eindhoven (USI program), the University of Toulouse (Master Interaction Homme Machine), at the Fachhochschule Hagenberg (Master HCC) and at RMIT University.

Additional Material

To learn more about user experience and how time affects user experience visit www.allaboutUX.org. Next step would be to understand user-centered design and development processes and how games are different [4]. Starting point for more literature on investigating what method to apply when and how - ranging from simple questionnaires or interviews to physiological oriented methods are [6].

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