
Teaching Games User Research

José P. Zagal

DePaul University
243 S. Wabash Avenue
Chicago IL, 60604, USA
jzagal@cdm.depaul.edu

Dr. José P. Zagal serves on the faculty at DePaul University's College of Computing and Digital Media where he teaches a variety of courses on game design and analysis, online communities, and ethics. In his research he explores the analysis and design of videogames as well as supporting games literacy through the use of collaborative learning environments.

Cynthia Putnam

DePaul University
243 S. Wabash Avenue
Chicago IL, 60604, USA
cputnam@cdm.depaul.edu

Dr. Cynthia Putnam has over ten years industry experience as a designer creating 2D/3D art, interfaces and interactive systems. As an assistant professor at DePaul, she teaches in the HCI and Games programs. Prior to joining DePaul, she worked as a games user researcher at Microsoft. Her research is focused on how motion-games can support therapists in their rehabilitation work with people who have had a brain injury.

Abstract

While Games User Research (GUR) is relatively new, it is rapidly growing in importance within the game industry. As educators of students focused on game design and development, we have asked, how can we better support students in learning and developing the skills necessary to conduct games user research? In this article, we describe the design of an undergraduate GUR course. This 11-week course is designed to help students understand different methods for evaluating games, when in the development cycle they should be used, and how to perform common GUR methods. We discuss some of the challenges in organizing and setting up this course and some of the pedagogical reasons for our choices.

Author Keywords

game user research; games education; playtesting

ACM Classification Keywords

Human-centered Computing: HCI Design and evaluation methods

Introduction

Broadly speaking, game user research (GUR) is concerned with the systematic measurement and observation of player behavior in order to evaluate and gain insights that can be used to improve the design of games [2]. Although games user research is relatively

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CHI '13, April 27 – May 2, 2013, Paris, France.

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Week	Topics Covered
1	Overview of GUR Methods Player differences Competitive Reviews
2	Heuristic/expert Evaluations Common Metrics
3	Basic Statistics Usability vs Playtest Introduction to usability
4	Usability Think Aloud Recruiting/screeners Developing a usability test plan and moderator guide
5	Pilot testing usability plan
6	How to report usability findings Introduction to playtests
7	Playtests Developing a playtest plan and moderator guide Writing survey for playtest
8	Pilot testing playtests plans
9	Reporting and Analyzing Playtest Results Other topics in game user research (e.g., biometrics, cultural Differences in Gaming)
10	Open lab time for playtesting
11	Presentations

Table 1. Summary of Course Topics

new, its' importance within the game industry is rapidly increasing. For example, the 2012 game industry's flagship event, Game Developers Conference (GDC), featured several talks on game user research [e.g. 1; 4; 7; 10]. As educators, we are concerned with how we can better support students so they may be prepared to work in and contribute to the game industry. Therefore, it is important to start having conversations regarding the knowledge and skills students should have regarding game user research, how best to teach them, and the kinds of support and resources that can be critical to their success. Further, because the audience for videogames is rapidly broadening and there are increasingly more types of games, it is no longer the case that students will be expected to design and develop games that should appeal to people like themselves.

As a contribution to this discussion we will describe the design of an undergraduate course on game user research. This 11-week course is designed to help students understand how to evaluate games, when in the development cycle particular methods should be used, and how to perform GUR methods. We discuss some of the challenges in organizing and setting up this course, as well as some of the pedagogical reasons for our choices.

Overview of the Course

Game Usability and Playtesting is a required course in the Game Design concentration of DePaul University's Computer Game Development program. The course combines traditional lecture and discussion sessions with lab sessions (see Table 1). Students are expected to read selections from Isbister and Schaffer's book *Game Usability* [5] and other academic and

industry/trade articles [e.g. 3; 6; 8; 11]. In terms of assessment, in addition to statistics homework, students work in teams on a term-long project that includes the design, deployment, and reporting of lab-conducted playtest and usability test sessions for a commercially released videogame (see Table 2). The project accounts for approximately 80% of their final grade. We've articulated our learning goals such that by the end of the course students should be able to:

- Understand multiple methods for evaluating games
- Understand method strengths and weaknesses and where in the development cycle methods are typically (and ideally) applied
- Know how to perform common GUR evaluations
 - Competitive Review
 - Heuristic / expert evaluations
 - Usability
 - Playtest
- Know effective ways to present evaluation findings

Resources

The course includes lab sessions in which students conduct usability and playtest sessions in two locations. The first (primary lab) consists of ten playtest/usability stations separated by movable dividers (see Figure 1). Each station consists of an Xbox360 Console and a Mac Mini running Bootcamp; all computers have Morae Recorder installed. The second room (observation and motion gaming lab, see Figure 2) includes a living room set-up (large screen TV, couch, coffee table, etc.), adjustable cameras on tripods, and two workstations. The workstations and large TV are configured for remote viewing (through Morae Observer) of any of the

Deliverables and % of Project Grade	
11%	Competitive review report and presentation
11%	Heuristic review report and presentation
2.5%	Rough usability test plan and moderator guide (for piloting in class)
6%	Usability test plan and moderator guide (as appendix to report)
24%	Usability report
2.5%	Rough test plan and moderator guide (for piloting in class)
6%	Playtest test plan and moderator guide (as appendix to report)
37%	Final report and presentation (including final test plan as appendix)

Table 2. Team Project Deliverables

Authentic Learning...	
1	Is personally meaningful to the learner
2	Relates to the real-world outside school
3	Provides an opportunity to think in the modes of a particular discipline
4	Is such that the means of assessment reflect the learning process

Table 3. Types of Authentic Learning

stations in the primary lab. Both workstations in the second lab have Morae Manager installed.

Pedagogical Considerations

In education, authentic learning has several meanings (see Table 3, [9]) and we wanted to address them all in this course. Specifically, we wanted to ensure students tested professionally produced games and used software and equipment common in industry. We also wanted to provide students with the opportunity to practice and develop skills in GUR as it is done in industry. As such, we designed the course to be very hands-on; i.e., focused more on performing evaluations than on reporting findings; this posed challenges.

Challenges

Student Bias

Prior work in games education has shown that students often have problems stepping back from their identity as “gamers” and have trouble assuming different viewpoints on games [12]. Helping students begin to understand how to evaluate games for others and to realize their personal preferences and intuitions on games may be “incorrect” for certain audiences is an important challenge. We address this by encouraging students to reflect on their identity and preferences as gamers and compare them to those of their peers. To help with this, we require that students complete a temperament questionnaire and discuss differences between players. Throughout the course, we also remind students of the human-computer interaction (HCI) mantra: “You are not the user.”

Selecting Games for Usability Testing

Since we could not assume access to games currently under development, we realized that we would have to

use commercially available games. However, we needed to select titles that were “big” enough to provide rich opportunities for formulating research questions, but were also somewhat obscure so as to minimize the chance that students would have significant prior experience with the games used in class. We wanted to minimize the chance that students would be biased by their prior knowledge and experience. As a rule of thumb we decided to use relatively recent (2-3 years old) mainstream commercial games that were not high-profile releases and whose review scores were average (6-7 on a 10-point scale). For practical (time and scheduling) reasons, we also tried to select games that were quickly playable upon startup – providing plenty of gameplay in the first 30 minutes. This tended to rule out story and cut-scene heavy games (e.g. many RPGs). We note that an ideal game for learning about GUR is probably not the same as a poorly-rated buggy game. Our rationale for choosing average games is that students need to have the opportunity to tease out subtle problems or issues. Our ideal game, therefore, was one with several issues (targetable by different teams of students), but not so many as to be overwhelming. We considered having students test games developed by their peers in other courses, but had concerns about scheduling and personal bias that might interfere with our pedagogical goals.

Lab Flexibility

While we cannot hope to address all possible types of games and hardware configurations, it was obvious that the lab spaces needed to be flexible. We identified three broad “types” of games based on the scale of the space used when playing: sitting (e.g. console, PC), standing/moving (e.g. Kinect), and close/intimate (e.g. mobile, touch). The primary playtest space works well



Figure 1. Primary Lab



Figure 2. Observation and Motion Gaming Lab

for sitting, the living room space in the observation lab also doubles as a motion gaming lab (for Kinect, Wii and Move), and we have a sled (Mr. Tappy) for testing mobile devices. The lab configurations are adaptable so that students will be able to also evaluate games created by their peers in future classes.

Conclusions

Games user research has become an important part of designing and developing games. As educators, we are concerned with how to teach GUR and encourage our students to consider an audience beyond themselves. We have presented our 11-week hands-on course that introduces students to GUR methods and hope to encourage more discussion regarding what students should learn and how best to teach it.

Acknowledgements

Thanks to DePaul's University Research Council and Dean Miller who funded the usability and playtest labs.

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