



Games User Research

A CASE STUDY APPROACH

Edited by **Miguel Angel Garcia-Ruiz**

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"Fundamentally, making games is designing with others, everyone contributing from different angles toward the best possible product. Conclusively, Garcia-Ruiz has chosen a collection of chapters that demonstrates several different aspects of working in gaming and working with others that stands to raise the level of expertise in the field."

—**Veronica Zammitto**, Senior Lead Games User Research, Electronic Arts, Inc., from the Foreword

Usability is about making a product easy to use while meeting the requirements of target users. Applied to video games, this means making the game accessible and enjoyable to the player. Video games with high usability are generally played efficiently and frequently while enjoying higher sales volumes.

The case studies in this book present the latest interdisciplinary research and applications of games user research in determining and developing usability to improve the video game user experience at the human-computer interface level. Some of the areas examined include practical and ethical concerns in conducting usability tests, usability issues in games, tangible and graphical game interfaces, and usability issues in mobile gaming.

Games User Research: A Case Study Approach is a practical guide for researchers, practitioners, lecturers, and students in developing and applying methods for testing player usability as well as for conducting games user research. It gives the necessary theoretical and practical background for designing and conducting a test for usability with an eye toward modifying software interfaces to improve human-computer interaction between the player and the game.



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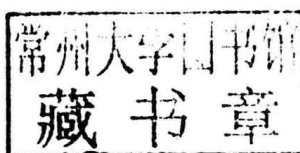
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*This book is dedicated to my wife Selene and our son Miguel,
who are the spice of my life. I love them both.*

Foreword

GUR is a field that emerged from a practical stance: making games better to ultimately improve players' experience. With such a goal, GUR has been actively fostered by professionals in the game industry and academics since the early stages of this discipline. Practitioners had to demonstrate and evangelize how UX contributes toward a better product, which helped to shift many companies' design philosophies toward user-centered design. Academics push methodological boundaries and have developed the university courses that shape the newest cohorts of GURs.

This book brings together the roots of this field combining practical components with academic relevancy. Even though GUR is a young discipline, a substantial amount of work has been done on adapting a collection of research techniques to this interactive entertainment industry. This effort has created a foundation of knowledge and paved the road for best practices. Understanding strengths and limitations of methods is important. However, I always emphasize that there is no wrong or right method; the ultimate method is the one that answers the research question.

Being able to scope the research issue at hand and choose the suitable methodology for execution is actually a skill that distinguishes a junior researcher from a seasoned one. There is no best way to showcase this skill than a case study. Thus, this book serves as a compilation of exemplifying critical thinking within GUR.

At Electronic Arts (EA), we design games as an iterative process in which GUR is an integral part. We execute multiple players user experience (UX) research studies to improve the game and the players' experience. Each study is a case study in itself, even when looking at the same title on different occasions because the game has changed, evolved, and research questions might have also shifted. The day to day of a practitioner is a collection of case studies.

Among the utmost qualities that I seek in all research studies at EA are scientific rigor and actionable results. I believe this conveys the common ground of academics and practitioners, and it also helps to demystify that academics are in ivory towers and practitioners just need to make it quick. For me, each GUR study needs to be solid in terms of defining research goals and the suitable method applied. We wear "scientists' hats" when it comes to designing and executing the study. The other side of the coin is that we also have a clear connection to the product and how findings are going to help shape the design. What happens in the "lab" has a clear connection to design elements.

Games are designed in collaborative, multidisciplinary environments. As UX researchers, we interact on a daily basis with producers, designers, executives, artists, quality

analysts (QAs), and marketers, just to name a few. This highlights the importance of being able to work in a setting that brings together multiple perspectives and touching on themes that are in the fringe areas of our expertise. Fundamentally, making games is designing with others, everyone contributing from different angles toward the best-possible product. Conclusively, Garcia-Ruiz has chosen a collection of articles that demonstrates several different aspects of working in gaming and working with others that stands to raise the level of expertise in the field.

Veronica Zammitto

Sr. Lead Games User Researcher

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Preface

I was motivated to edit this book by the desire I share with other colleagues to further the evolution of games user research (GUR), in particular to improve the teaching of inquiry, inspection, and user-testing methods applied in the video game development process, as well as to convey the importance of improving the human–computer interfaces of video games, including UX. I was also motivated to compile academic yet practical case studies on GUR that could serve as effective study materials for usability and video game design students, as well as valuable references for researchers and practitioners interested in these topics. Computer science students, lecturers, instructors, and researchers from video game design, programming, and related areas, as well as people from the gaming industry will find the book illuminating. All those engaged in fields such as information technologies, software engineering, human–computer interaction, usability, UX, and human factors will find ideas of value in the chapters.

The objective of this book is to present the latest interdisciplinary research and applications on GUR in the form of case studies to provide students, researchers, lecturers, and practitioners the necessary background in theory and practice to pursue this endeavor. Case studies can be beneficial in GUR because they present an analysis and an intensive description of practical and special situations where users are involved in analyzing and testing video game user interfaces. In addition, case studies provide a good source of ideas, innovative technical insights, “war stories,” and proven techniques that students, researchers, and practitioners can understand, adapt, and use in further academic and professional activities related to video game development.

Games User Research: A Case Study Approach is a comprehensive—yet specialized—compendium of case studies using state-of-the-art GUR methods and investigations. Writing case studies on GUR should require the “coming together” of science, technology, and social knowledge in an interdisciplinary manner, since GUR is supported by a number of knowledge areas. This book includes new perspectives from academics and practitioners from around the world on how and why GUR can support the design and development of video games. The book presents comprehensive case studies to be used as learning and teaching materials in video game design and development, usability, human–computer interaction, software engineering, and related undergraduate and graduate courses.

Practitioners will benefit from this book by developing and applying usability and player-testing methods and techniques for improving software interfaces and the human–computer interaction of video games. Practitioners will also benefit from the pragmatic

techniques, implementation guidelines, and case discussions that this book contains. Undergraduate-level and graduate-level students will find the case studies useful in their course work and research. Also, this book will be a welcome addition to academic libraries' research collections for further consultation in this particular topic. There are many technical books about the theory, principles, and the general impact of usability and books that include case studies on video games research, but this is not particularly the case with this book. For example, many of the books or websites I found with case studies on usability of video games are somewhat outdated; most of them do not include important and recent topics, such as video games in mobile computing. Thus, this book will be distinguished from existing titles on usability testing of video games.

Games User Research: A Case Study Approach is a valuable supporting book for video game development courses because the case studies cover important aspects on the game interface design, for example, the usability of sounds from a video game. Usability is a very important topic that should be part of all game design courses. The potential audience for this book is very large. There are hundreds of colleges and universities around the world that offer video game design and development courses that can benefit from this book. A Google search found more than 3500 links related to video game design courses from universities and colleges worldwide. The website <http://www.gamecareerguide.com/schools/> shows more than 140 featured universities and colleges from around the world with game design courses. A website on gaming careers (<http://www.gamecareerguide.com/schools/>) shows a list with almost 280 colleges and universities from the United States and Canada that offer video game development courses (25 universities and colleges in Ontario, Canada alone that offer video game design courses). The website http://education-portal.com/game_design_universities.html shows a list of the 21 largest schools by student enrollment that offer video game design courses in the United States. I teach video game design courses at Algoma University, Canada, with group sizes of 40+ (our university is small), and the number of students who are taking a minor in Computer Games Technology is growing each year. A typical video game minor may contain over five specialized game design and development courses and generally belong to Computer Science Departments/Colleges. A number of video game development instructors have used case studies in their classes. The video game industry is growing every year and has high demand for competent game designers and usability/UX specialists.

I am deeply indebted to a number of colleagues and peer reviewers who have read this book and given me and the chapter coauthors many valuable suggestions for improving the contents. I owe a special debt of gratitude to Silvia Gabrielli, Genaro Rebolledo-Mendez, Pedro Santana, Zeno Menestrina, Karyn Moffat, Bill Kapralos, Jaime Munoz, Cynthia Putnam, Claudia Hernandez Luna, David Golightly, Stuart Cunningham, Hakan Tuzun, Gavin Sim, David Murphy, Victor Gonzalez, and Michael DiSanto.

Miguel A. Garcia-Ruiz
Sault Ste. Marie, Canada
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Editor

Miguel A. Garcia-Ruiz graduated in computer systems engineering and earned his MSc in computer science from the University of Colima, Mexico. He earned his PhD in computer science and artificial intelligence at the University of Sussex, UK. Dr. Garcia-Ruiz took a virtual reality course at Salford University, UK, and a graphics techniques internship at the Madrid Polytechnic University, Spain. Dr. Garcia-Ruiz is an assistant professor with the Department of Computer Science and Mathematics, Algoma University, Canada. He has published scientific papers on usability and UX in major journals, book chapters, and a number of books, and directed an introductory video on virtual reality. His research interests include educational virtual environments, usability of video games, and multimodal human–computer interaction.

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