

EDITORIAL PREFACE

The Disappearing Act

*Brock R. Dubbels, G-ScalE Game Development and Testing Lab, McMaster University,
Rochester, MN, USA*

Digital games and simulations have undergone major changes since this journal was first issued in 2010. In the course of five years video games and simulations have changed, as has computing in general. Devices have become smaller, while screens have become bigger, and voice and touch sensitive; Internet access is everywhere, and sensor networks are common in most places, and most objects; and unknownst to us, large parts of our lives are now enhanced by computing. Much of this comes from knowledge and technology transfer from games and game development.

One could look back to the studies by Nass and Reeves (1996) in their work *“The Media Equation: How People Treat Computers, Television, and New Media Like Real People and Places”* showed a preference for interaction with machines, objects, and services that exhibit some form of intelligence, feelings, and personality. Video games have provided a model for software interaction and feedback.

Not only are the lives of humans enhanced by computers, but devices have emerged that allow house plants to use twitter with then they need watering, and even tablet games for

animals. More and more the design of every-day things includes the capacity for computer processing, storage, and communication.

Sensor networks are built into devices that can do anything from managing food in a refrigerator, to informing your house that you have guests, and perhaps that someone is feeling cold. We have begun our entry into an age where computers and devices will provide services without disturbing you. Objects and software have become more “people-centric”, where the technology has receded into the background (VanHemert, 2014):

What does this mean for games and simulations?

This movement is important to consider when it comes to games. New technologies have begun to surround us as the Internet of Things (Mattern & Floerkemeier, 2010). Games and on-demand entertainment seem to be on the rise with greater access. Even driving is becoming different. With the recent policies mandating vehicle-to-vehicle communication, the automobile is going to potentially become a software-

driven transportation experience, rather than a driving experience. Additionally, feedback from activities like driving may provide data analysis feedback, such as rewards for safety, economy, and courtesy.

These are definitely exciting times. As artificial intelligence becomes more prevalent, activities that required specialized knowledge, training, and tools are now available to novices to perform with ease, games and simulation will continue to filter into our daily lives, perhaps offering new methods of collecting data, communicating data, organizing data, and telling stories with data. Games have provided greater accessibility through user interface, insight into human engagement and motivation, as well as methods for artificial intelligence as machine learning.

With all of these areas of growth, it is our intention at IJGMS to continue to publish research on video games and computer simulations, but also to examine the ways video games and computer simulations cross into new areas. Emerging areas of special emphasis for the journal will include the growing field of User Experience Research, the use of games in non-gaming contexts, and how games and simulations evolve in terms of entertainment, human learning and behavioral change, and data collection.

I hope you will enjoy reading the articles in this issue as much as I have. Our first article comes from Dr.s Turkey and Kinzer on the effects of avatar-based customization. This article explores the ways that the avatar, or representation of a game player in a game, influences behavior. In this article they examine how games allow players to explore themselves in alternate ways in imagined worlds. They explain that player identification with an avatar—how the player is represented—is an important part of gameplay experience, and has been shown to affect enjoyment.

In an invited article, “Quantifying Magic”, Dr.s Fisher, Nichols, Ibister, and Fuller from the Microsoft Studios User Research Team (SUR) share insights from the growing field of user experience research. The article shares

outcomes from research conducted at Microsoft Studios on the development of the Kinect. The Kinect is seem familiar at this time, and this may be because of the success of the SUR on making the Kinect easy and fun to use. According to the authors, the Kinect was designed to expand the technical capabilities of motion gaming. In many ways, this is an evolution of gaming where the user is not dependent upon a peripheral device like a controller. With the Kinect games and media are controlled through vocalization and gesture.

With this article, we are given insight into the work of the Microsoft Studios User Research (SUR) team, and their role in creating the first full-body gaming experiences for the Kinect system. They describe outcomes of internal research for the development of Kinect. They present the work that took place more than 3 years prior to its initial launch and describe the method and practice SUR has created for working with game designers, programmers, and hardware developers on games and other applications that use Kinect. In this article the authors leverage data SUR has collected over the development cycles of many different games created for many different audiences to summarize the unique user experience challenges that the Kinect sensor brings to game development, and present those challenges as insight for future design and development.

Another area of growth has been the rise of the Gamiceutical (Dubbels, 2014). The use of games as medical interventions is a growing field; and with the validation of plasticity, we have begun to see the value of low intensity, high duration training presented as games. As an intervention, games can become the prescription. A new industry has come about as Gamiceuticals. This application of game technology begins to integrate the rigor demanded of medical trials to provide evidence that games can change not only the way engage with the world, but that they can change us physically.

In the article by Dr.s Patel, Lin, and Khaderi, we are introduced to the use of games as a component of rehabilitative therapy for improving vision. The authors identify one of

the main issues to be addressed in gamiceuticals, namely that there has been limited game development that integrates the explanatory mechanisms described in psychophysical research for repetitive gaming as rehabilitative therapy. Without an explanatory mechanism, there is no method for conducting a training effect, linking the game to outcomes.

In this study, the authors created a game to look at the potential to improve vision with a game to improve hitting a ball in baseball. They grounded their study in vision research, building their variables around the psychophysics of vision. Specifically they target research that has shown that repetitive stimulation of the parvocellular system shows promising preliminary results in improving vision related to batting performance. To examine this, they embedded a homerun derby style baseball game with a contrast threshold test, to stimulate parvocellular retinal ganglion cells.

In article five, the author examined the use of the driving game as a means for examination of distracted driving. Results from the first pre-test, post-test experiment indicated that those who were driving distracted (texting or talking) in a video game driving simulator had significantly more crashes, speed violations, and fog-line crossings than those in a non-distracted driving control group. These findings are consistent with predictions from the ACT-R cognitive architecture and threaded cognition theory. A second experiment manipulated the original protocol by establishing a non-distracted baseline for participants' driving abilities as a comparison. Results demonstrated that this manipulation resulted in a significantly stronger change against intent to drive distracted than in the original procedure. Implications from both experiments can help to inform driving safety programs on proper protocol for the use of game consoles to change attitudes toward distracted driving.

Along with our theme of user experience research, article six explores methods from user experience as applied to board games. As user experience becomes more of a mindset and the methods extend beyond marketing,

Dr. Barbara assesses the suitability of using a questionnaire, developed for digital games, for use on board games - thus providing a common measure of user experience between board and digital games. The study involved play testing a themed board game with undergraduate computing students and alumni, measuring user experience via the Games Experience Questionnaire whilst testing for reliability and validity. Findings obtained high scores in both criteria, suggesting that the GEQ is a suitable tool to measure user experience in board games and thus a valid candidate for comparing game design across varied game media such as digital and board games.

To close our issue, we offer a review of Dr. Kurt Squire's *Video Games and Learning*. According to the book reviewers Dr.s Pleasant & Ritzhaupt the book is composed of Squire's extensive studies and experiences in the planning, development, assessment, participation and integration of games for learning purposes.

The central focus of the book asks, "why study video games?" Squire takes the position that studying games can contribute enormously in the educational pursuit of reaching the digital age student. Squire agrees that games have a unique potential of teaching and learning unlike any other medium. Squire believes that play enables the intellectual and social growth of the participant over the long term and permeates into his or her learning repertoire. He believes that content, overlapping goals, continuous problem solving, social interactions and gaming cultures are critical aspects of learning through games. Squire proclaims that "any time that we turn a child off to learning rather than awakening their intellectual curiosity, we've failed" (Squire, 2011, pg. 15).

According to the reviewers, Squire states that the ability to identify and develop a good educational game is vital if a student is to remain engaged, excited, interact, problem solve and learn simultaneously. Squire articulates several criteria to support the development of good educational games. These criteria include: games must be a collaborative work of both designers and educators; they should be entertaining and

academically accurate; they should be both fun and insightful; they should be sophisticated, proven design techniques; the games should provide social networks, group interactions, pique interests and inspire creativity.

In close, I want to announce that Dr. Rick Ferdig for blazing the trail for this journal. Rick created this journal, and provided a new direction for game studies. At the founding of this journal, there was very little peer-reviewed research on games and learning. The creation of this journal offered a venue for scholars publish peer-reviewed studies.

When the journal was founded in 2008, our Editor in Chief Dr. Richard Ferdig presented five guiding principles for the journal: quality and rigor, an interdisciplinary focus, an international perspective, innovation, and

implications. These five principles serve as a locus for expanding the study and research of games across disciplinary boundaries—you will find these five principles at work in the authorship and the work of our reviewers in this and future issues. Rick will continue on with us as Editor in Chief Emeritus, and will continue to influence our direction into the future. It is my intention to carry forward these principles, even as the landscape for games and simulations is shifting both virtually and otherwise.

I hope you will enjoy the reading the articles.

Brock R. Dubbels
Editor-in-Chief
IJGCMS