

## GUEST EDITORIAL PREFACE

# Special Issue on Human Computer Interactions in Digital Games

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## INTRODUCTION

Digital games have a unique interactivity that distinguishes them from other media such as television, radio, newspapers, and the Internet. This interactivity requires players to concentrate and actively participate in the storytelling, rules, commands, and responses from the programmed algorithms or artificial intelligence in digital games. Players actively take the role of a character, experience narratives, interact with other characters or players, and decide what to do and how to navigate the environment in the game world. Given the continual growth in this industry in recent decades, digital games have been considered a type of interactive movie, with realistic and highly detailed graphics. Other technological affordances including a three-dimensional view, virtual reality, and the augmented reality features in digital games have created numerous approaches for humans

to interact with the computer and other human players through the games.

Because society and past academic literature largely focuses on the negative effects that digital games have on players, recent studies have been dedicated to exploring the positive side of digital game play such as player enjoyment and mood management processes. In addition, governments have called upon educators and scholars to employ digital games as positive persuasion tools for several campaigns, including health messages, exercise persuasion, rehabilitation for elderly or injured patients, and social and environmental concerns requiring international attention.

Because governments and society are mostly concerned with how digital games result in positive or negative effects on player behavior, scholars are currently devoting themselves to further investigating how the unique characteristics and technological affordances

influence players to behave in the game and in their in-game communication. Further effort has been devoted to investigating how the innate personalities and motivations of users affect their in-game decisions and behavior. These are thus critical to understanding how humans and technology interact in digital games.

In this special issue, scholars examine how such technological affordances influence player behavior. In addition, social and personal player contexts have been examined to elucidate complex human–computer interactions in digital games. Design implications from gamification have also been explored, with suggestions being offered to designers to provide clearer guidance for developing future applications.

## INSIDE THIS ISSUE

The first article, entitled “The Contributions of Graphic and Enactive Realism to Enjoyment and Effort in Active Video Games,” two types of realism are theoretically defined and empirically tested to determine how these two factors contribute to player enjoyment in active video games requiring body movements to execute in-game commands. This article explores the affordances of technology in video games and investigates how such features could be employed to promote healthy exercise through game play. The results provide clear guidance for the future design of “stealthy” exercise promotion in video games. A conceptual framework of perceived realism is also provided for future research.

The second article, “Social Contributors and Consequences of Habitual and Compulsive Game Play,” examines the popular phenomenon of social gaming. This paper identifies an association between social motivations and compulsive game play, suggesting that the social desire to interact with others is a crucial motivation for players to engage in uncontrollable game behavior. The results distinguish compulsive from habitual game behavior and provide a different perspective on “addictive” behavior and how it is related to potentially

positive social outcomes. The identified factors are particularly important to society for further examining the motivations for such “addictive” gameplay.

Whereas most literature examines how in-game behavior influences player behavior in reality, the third article, “Grand Theft Auto(mation): Travel Mode Habits and Video Games,” illustrates how behavior external to the game influences in-game behavior. The authors investigated underexplored habitual behavior and how it is associated with in-game behavior. The results show that players take on an active role in games, and their external habits are naturally enacted in the games. This finding is crucial because it shows that video games effectively act as a venue for mediated enactive experiences, where players resume their real-life habits in-game, and their in-game behavior also affect their behavior in reality. Games as a place for shaping and reflecting behavior pose an intriguing research question for scholars and society to explore.

## CONCLUSION

In this issue, the articles examine the technological affordances of games and personal motivations and behavior influencing the human–computer interactions in video games. Given the tremendous attention video games have received from both academic researchers and governments, it is crucial to discern what factors shape, influence, and cultivate player behavior in games. The results presented in this issue provide a balanced view for investigating how technology, personal habitual traits, and the influences from social relationships interact and create in-game interactions between players and computers, between players inside the game, and between players and friends in real life. This issue provides a detailed explanation and close look at how these elements from both the games’ design features and players’ innate scripts and external motivations influence human behavior, instead of the commonly used perspective of technological determinism.

Game play behavior is complex, and its impact is intertwined with various levels of factors and influences. Greater attention should be given to investigating how games contribute to positive and social outcomes as well as how thoughts can be translated into in-game behavior, including creativity and more free-willed in-game interactions compared with those that previous games have offered players. Gamification is also a process that numerous designers are striving for in delivering a fun and engaging application for campaigns or persuasion. Governments and society should devote more resources to exploring how games and players co-create this persuasive process and how it can be applied to different messages. With the unique characteristic of interactivity that digital games exert, further effort is called upon to explain how human interact with computers, the self, and other humans inside, through, and outside of video games. Such effort could yield practicable findings for understanding the complex phenomena and powerful persuasive processes that occur among game players.

## REGULAR ISSUE

The fourth article included in the same issue as a regular submission, “M-Government Adoption in Saudi Arabia: Challenges and Opportunities,” focuses on understanding the mobile government services in Saudi Arabia. The results show the desire to implement customized m-government services as a complement, rather than a substitute, to the original e-services provided by the government. Although there is a strong desire for the provision to include the mobile services, certain limitations, including lack of access to the mobile technologies and lack of customization of the features in these mobile government services, exist to challenge the implementation and technology adoption. This paper offers insights of the current status of m-government adoption in Saudi Arabia.

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