Inês Barbedo · Bárbara Barroso ·
Beatriz Legerén · Licínio Roque ·
João Paulo Sousa (Eds.)

Videogame Sciences and Arts

12th International Conference, VJ 2020
Mirandela, Portugal, November 26–28, 2020
Revised Selected Papers

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Editors
Inês Barbedo [ID]
Polytechnic Institute of Bragança
Mirandela, Portugal

Bárbara Barroso [ID]
Polytechnic Institute of Bragança
Mirandela, Portugal

Beatriz Legerén [ID]
Universidade de Vigo
Vigo, Spain

Licínio Roque [ID]
University of Coimbra
Coimbra, Portugal

João Paulo Sousa [ID]
Polytechnic Institute of Bragança
Mirandela, Portugal

Preface

The 12th Conference on Videogame Sciences and Arts – Videojogos 2020 – was virtually held from Mirandela, Portugal, during November 26–28, 2020. Due to the COVID-19 pandemic context, activities were mostly conducted online, with participants from several countries. The conference was jointly organized by the School of Public Management, Communication and Tourism – Polytechnic Institute of Bragança (EsACT – IPB) and the Portuguese Society of Videogames Sciences (SPCV).

The annual conferences of the SPCV promote the scientific gathering of researchers and professionals in the expanded interdisciplinary field of videogames, usually held in Portugal. This year, 11 years after the first event, SPCV and the co-organizers adopted a full international profile with English as the main working language.

Indeed, both videogame academia and industry have been challenged over the past decade with the need to generate a confluence of different knowledge bases – from gameplay experience to art and design, in diverse materials and forms, AI, graphics, and other forms of computation and engineering, sound design, psychology, social and media studies, communication, and marketing, among others. In addition, games have been increasingly adopted as cultural artifacts in a hobbyist and cottage market and, therefore, presenting digitally mediated innovations in this popular but somewhat saturated global market is an increasingly demanding challenge.

As in previous editions, this conference gathered researchers and other professionals in the extended area of videogames, teachers and students, in a common forum to discuss videogame related topics and their impact on various aspects such as society, health, heritage, economy, or education. The goal of Videojogos is to promote the exchange of ideas, and share experiences and results in the areas of interest, through presentations, workshops, interactive demos, and panels.

From game design to the study of games in society, from player-centric to game-centric approaches, from interpretative studies to generative techniques, several works addressed key aspects of games and play, to bring forth updates to the body of knowledge and fundamental concepts in gameplay, balance and fairness, narrative fantasies, and flow experiences, which may lead to innovations in the way game environments are received in the gamer community.

In these proceedings, we open with a series of studies on relationships between the industry and society. Bruno Freitas, Ruth Contreras-Espinosa, and Pedro Correia address e-sports sponsorships and industry relationships with audiences. Flávio Nunes, Pedro Santos, Patrícia Romeiro, and Camila Pinto map the evolving trends in the Portuguese industry (2016–2020). Maitane Junguitu Dronda brings an insider's view on video games specialized media in the Basque language. Joana Mendes and Cristina Queirós address the industry old topic of "Crunch Time" and its effects like burnout and related job challenges in game development.

In the second section Néstor Jaimen Lamas addresses the perspective of game-based learning in science fiction. Then, Pedro Beça, Cláudia Ortet, Mónica Aresta, Rita

Santos, Ana Veloso, and Sofia Ribeiro bring a design instrument for supporting the construction of game narratives using a toolkit to game design (work was distinguished as the Best Paper).

The third section focuses on development techniques. Samuel Gomes, Tomás Alves, João Dias, and Carlos Martinho bring an innovative study of reward-mediated individual and altruistic behavior. Leading work in audio interface games, Gonçalo Baptista, Diogo Rato, and Rui Prada exploit the narrative scenario of "Interviewing a Virtual Suspect" as a basis for developing conversational game characters using Alexa. Pedro M. A. Fernandes, Pedro M. A. Inácio, Hugo Feliciano, and Nuno Fachada's study of evolutionary heuristics in the ColorShapeLinks board game competition. Augusto Dias, Juliano Foleiss, and Rui Pedro Lopes present a study of applicability of reinforcement learning in the context of tower defense games.

This book contains a selection of 10 papers from authors at reputed institutions in Portugal, Spain, and Brazil, which resulted from a selection of papers based on a double-blind peer review process, with a minimum of three reviews from an international panel, leading to a 40% acceptance rate. All these contributions address novel research and contribute developments or outcomes internationally relevant in the videogame research context, in a confluence of diverse scientific areas, such as multimedia, communication, computation and information technology, education, psychology, sociology, geography, media arts, marketing, etc.

This selection, obtained under very difficult conditions (conference submission, review, and organization at the height of the COVID-19 pandemic) confirms the decision to move the Videojogos conference out of the national domain, and towards an international platform reflecting global interests and relevance across diverse societies and geographies. This organizational change contributed to stabilize and further invest in the internationalization challenge assumed by the Portuguese Society of Videogames Sciences: to open up critically, and reflect and integrate views and ideas across international boundaries, towards a wider audience, whilst always striving for a holistic perspective, identifying trends and future directions. In this effort the bridge across Iberian and Latin-American countries is still notorious, although the evolution of the Program Committee leans towards an even more inclusive future profile of the conference organization.

To bridge the gap between industry and academia, representatives from industry were present and developed key roles in the organization of Videojogo 2020. Moreover, the conference included invited keynotes that addressed key aspects of game development and experience research.

Rui Craveirinha, from Player Research, addressed the theme "The Art of Play" with the following abstract: "What are video games? Why do we play them? What makes them feel so special to play? Is it - as everyone so fervently believes - that they're art? What even is art, anyway? Legend has it that I was born with a famicom controller… father tells me the cable served as the umbilical cord. It's thus no surprise that I spent most of my waking life feverishly musing on these deep questions, whether I was criticizing games for IGN or teaching Game Design at university. In this talk I will take you on a journey of the personal and the universal, retelling three distinct histories: the history of (video) games, from Chess to The Last of Us Part II; the history of aesthetics, from Plato to Dickie; and my own personal history, from playing famicom to analyzing

player experience at Player Research. Together, these stories will intertwine in a way that might just answer all those questions. My answers can surprise, provoke, and, on the rarest of occasions, may even provide true insight. By the end, I hope to have at least convinced you of why video games are a wondrous medium which state-of-the-art theories and tools often downplay in terms of their sheer complexity, novelty… and beauty."

Oscar García Pañella, from ENTI-UB and a senior consultant at Cookie Box, addressed the theme "Seeking presence through virtuality – applying gamification to support the memorable experiences we deserve" with the following abstract: "We are still confined. Both physically and mentally, one or another or both depending on our specific context. And we are human beings and thus in need of social interaction, fantasy experimentation, true storytelling, and memorable challenges. We people love to explore, socialize, communicate, share, help, achieve ... and we need to feel engaged while doing so. Even more if using virtual devices for the majority of our communications. And because we are the users, we should be at the center of any design. Therefore, is there a science that can help us all to achieve the correct creation of valuable remote and/or hybrid experiences? Can we learn to design in a way that extracts the best opportunities from our current situation by allowing us to keep our networking alive while maintaining rigor and guaranteeing fun (and seriousness)? How can we expect to adapt ourselves to the "new" transmedia means available if not designing from both the experiential and memorable views? Welcome to the playing realms of motivational design and gamification!"

We would like to thank all the members of the scientific board for their contributions to guarantee and deliver the highest scientific quality, allowing the outstanding relevance of this book. We would also like to thank the program chairs (interactive, poster, and workshops) and the organization team for all their dedication and efforts in the organization, an extremely important contribution for the overall success of the Videojogos 2020 conference.

Finally, we would like to thank the Polytechnic Institute of Bragança (EsACT Mirandela) for hosting the event, and the Portuguese Society of Videogames Sciences for the organizational support and the publication of an additional volume of interactive works and works in progress, with a selection that did not meet the criteria for the full paper selection.

November 2020

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Inês Barbedo
Bárbara Barroso
Beatriz Legerén
Licínio Roque
João Paulo Sousa

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