Preface

The constantly changing landscape of Gamification makes it challenging for experts and practitioners to stay informed of the field’s most up-to-date research. That is why Information Science Reference is pleased to offer this three-volume reference collection that will empower students, researchers, and academicians with a strong understanding of critical issues within Gamification by providing both broad and detailed perspectives on cutting-edge theories and developments. This reference is designed to act as a single reference source on conceptual, methodological, technical, and managerial issues, as well as provide insight into emerging trends and future opportunities within the discipline.

Gamification: Concepts, Methodologies, Tools and Applications is organized into eight distinct sections that provide comprehensive coverage of important topics. The sections are: (1) Fundamental Concepts and Theories, (2) Development and Design Methodologies, (3) Tools and Technologies, (4) Utilization and Application, (5) Organizational and Social Implications, (6) Managerial Impact, (7) Critical Issues, and (8) Emerging Trends. The following paragraphs provide a summary of what to expect from this invaluable reference tool.

Section 1, “Fundamental Concepts and Theories,” serves as a foundation for this extensive reference tool by addressing crucial theories essential to the understanding of Gamification. Introducing the book is “The Gamification Experience: UXD with a Gamification Background” by Marache-Francisco and Eric Brangier, a great foundation laying the groundwork for the basic concepts and theories that will be discussed throughout the rest of the book. Another chapter of note in Section 1 is titled “Lessons from the STEM Sector” by Vachon M. C. Pugh. Section 1 concludes, and leads into the following portion of the book with a nice segue chapter, “GBL as PBL: Guidelines for Game-Based Learning in the Classroom and Informal Science Centers,” by Brad Hoge. Where Section 1 leaves off with fundamental concepts, Section 2 discusses architectures and frameworks in place for Gamification.

Section 2, “Development and Design Methodologies,” presents in-depth coverage of the conceptual design and architecture of Gamification. Opening the section is “Cognitive Load and Empathy in Serious Games: A Conceptual Framework” by Wen-Hao David Huang and Sharon Y. Tettegah. Through case studies, this section lays excellent groundwork for later sections that will get into present and future applications for Gamification, including, of note: “Non-Player Characters and Artificial Intelligence” and “Assessment Integration in Serious Games.” The section concludes with an excellent work by David Farrell and David C. Moffat, titled “Adapting Cognitive Walkthrough to Support Game-Based Learning Design.”

Section 3, “Tools and Technologies,” presents extensive coverage of the various tools and technologies used in the implementation of Gamification. Section 3 begins where Section 2 left off, though this section describes more concrete tools at place in the modeling, planning, and applications of Gamification. The first chapter, “A Rating Tool for Sharing Experiences with Serious Games,” by Maurice Hendrix,
Per Backlund, and Boris Vampula, lays a framework for the types of works that can be found in this section. Section 3 is full of excellent chapters like this one, including such titles as “Video Game Consoles: Evolution of Leader and Followers’ Positions;” “Gamification and Smart Feedback: Experiences with a Primary School Level Math App,” and “Rewards and Penalties: A Gamification Approach for Increasing Attendance and Engagement in an Undergraduate Computing Module” to name a few. Where Section 3 described specific tools and technologies at the disposal of practitioners, Section 4 describes successes, failures, best practices, and different applications of the tools and frameworks discussed in previous sections.

Section 4, “Utilization and Application,” describes how the broad range of Gamification efforts has been utilized and offers insight on and important lessons for their applications and impact. Section 4 includes the widest range of topics because it describes case studies, research, methodologies, frameworks, architectures, theory, analysis, and guides for implementation. The first chapter in the section is titled “Video Games as a Form of Therapeutic Intervention for Children with Autism Spectrum Disorders,” which was written by Toby Mehl-Schneider and Shimon Steinmetz. The breadth of topics covered in the chapter is also reflected in the diversity of its authors, from countries all over the globe. Section 4 concludes with an excellent view of a case study in technology implementation and use, “Rhetoric of Game: Utilizing the Game of Tavistock Method on Organizational Politics Training” by Ben Tran.

Section 5, “Organizational and Social Implications,” includes chapters discussing the organizational and social impact of Gamification. The section opens with “Psychological Aspects of Serious Games” by Elizabeth Boyle. Where Section 4 focused on the broad, many applications of Gamification technology, Section 5 focuses exclusively on how these technologies affect human lives, either through the way they interact with each other, or through how they affect behavioral/workplace situations. Other interesting sections of note in Section 5 include “Critical Transport: A Serious Game to Teach the Recommendations for the Transport of Critically Ill Patients” and “Consumer Attitudes toward Online Video Game Purchases” by Wilson Ozuem and Michael Borrelli. Section 5 concludes with a fascinating study of a new development in Gamification, in “A Case for Integration: Assessment and Games.”

Section 6, “Managerial Impact,” presents focused coverage of Gamification. This section serves as a vital resource for developers who want to utilize the latest research to bolster the capabilities and functionalities of their processes. The section begins with “Students as Customers: Participatory Design for Adaptive Web 3.0.” The six chapters in this section offer unmistakable value to managers looking to implement new strategies that work at larger bureaucratic levels. The section concludes with “Providing Career Guidance to Adolescents through Digital Games: A Case Study” by Ian Dunwell, Petros Lameras, Sara de Freitas, Panos Petridis, Maurice Hendrix, Sylvester Arnab, and Kam Star. Where Section 6 leaves off, section seven picks up with a focus on some of the more content-theoretical material of this compendium.

Section 7, “Critical Issues,” presents coverage of academic and research perspectives on Gamification tools and applications. The section begins with “Does Game Quality Reflect Heuristic Evaluation? Heuristic Evaluation of Games in Different Quality Strata.” The section concludes with “To Play or to Learn?: A Review of Game-Based Math Learning for Motivation and Cognition” a great transitional chapter between Sections 7 and 8 because it examines an important question going into the future of the field. The last chapter manages to show a theoretical look into future and potential technologies, a topic covered in more detail in Section 8.
Section 8, “Emerging Trends,” highlights areas for future research within the field of Gamification, opening with “Learning by Playing: Is Gamification a Keyword in the New Education Paradigm?” Section 8 contains chapters that look at what might happen in the coming years that can extend the already staggering amount of applications for Gamification. Other chapters of note include “Mobile Cloud Media: State of the Art and Outlook” and “Towards a Mobile Learning Pedagogy” The final chapter of the book looks at an emerging field within Gamification, in the excellent contribution, “‘I Want Them to Feel the Fear...’: Critical Computational Literacy as the New Multimodal Composition” by Clifford H. Lee and Antero D. Garcia.

Although the primary organization of the contents in this multi-volume work is based on its eight sections, offering a progression of coverage of the important concepts, methodologies, technologies, applications, social issues, and emerging trends, the reader can also identify specific contents by utilizing the extensive indexing system listed at the end of each volume.

As a comprehensive collection of research on the latest findings related to using technology to providing various services, Gamification: Concepts, Methodologies, Tools and Applications, provides researchers, administrators and all audiences with a complete understanding of the development of applications and concepts in Gamification. Given the vast number of issues concerning usage, failure, success, policies, strategies, and applications of Gamification in countries around the world, Gamification: Concepts, Methodologies, Tools and Applications addresses the demand for a resource that encompasses the most pertinent research in technologies being employed to globally bolster the knowledge and applications of Gamification.