# Contents

1. **A RECIPE for Meaningful Gamification** ............................................. 1  
   Scott Nicholson

2. **Studying Gamification: The Effect of Rewards and Incentives on Motivation** ................................................................. 21  
   Ganit Richter, Daphne R. Raban, and Sheizaf Rafaeli

3. **A Conceptual Framework for Gamification Measurement** ........... 47  
   Ronald Dyer

4. **Implementing Game Design in Gamification** ............................... 67  
   Federico Danelli

5. **Applied Behavioral Economics: A Game Designer’s Perspective** ................................................................. 81  
   Charles Butler

6. **Towards Leveraging Behavioral Economics in Mobile Application Design** ........................................................................... 105  
   Tobias Stockinger, Marion Koelle, Patrick Lindemann,  
   Matthias Kranz, Stefan Diewald, Andreas Möller, and Luis Roalter

7. **A Parallel Universe: Psychological Science in the Language of Game Design** .............................................................. 133  
   Thomas E. Heinzen, Michael S. Gordon, R. Eric Landrum,  
   Regan A.R. Gurung, Dana S. Dunn, and Sam Richman

8. **Context to Culture for Gamification HCI Requirements: Familiarity and Enculturation** ...................................................... 151  
   Robert Wellington
9 Psychological Theory and the Gamification of Learning................. 165
Richard N. Landers, Kristina N. Bauer, Rachel C. Callan, and Michael B. Armstrong

10 A History and Frameworks of Digital Badges in Education......... 187
Nathaniel Ostashewski and Doug Reid

11 Game-Based Assessment: The Mash-Up We’ve Been Waiting For.................................................................................. 201
Thomas E. Heinzen, R. Eric Landrum, Regan A.R. Gurung, and Dana S. Dunn

12 A Gamification-Based Framework for Developing Learning Activities of Computational Thinking................................. 219
Isabella Kotini and Sofia Tzelepi

13 Educational Gamified Science Simulations................................... 253
Johanna Pirker and Christian Gütl

14 From Market Place to Collusion Detection: Case Studies of Gamification in Education........................................... 277
Pinata Winoto and Tiffany Y. Tang

15 Physical Skills and Digital Gaming: The Relationship between Basketball and an Augmented Reality Adaption............... 291
Andreas Hebbel-Seeger

16 Storytelling to Immersive Learners in an Authentic Virtual Training Environment .................................................... 315
Lincoln C. Wood and Torsten Reiners

17 Shaping Behaviours Through Space and Place in Gamified Virtual Learning Environments........................................... 331
Da Zhang and Tony Clear

18 The Development and Assessment of a Team-Based Management Game................................................................. 355
John Denholm, Ian Dunwell, and Sara de Freitas

19 Gamification in Virtual Worlds for Learning: A Case Study of PIERSiM for Business Education........................................ 385
David Craven

20 Theoretical Considerations for Game-Based e-Learning Analytics............................................................................... 403
David Gibson and Peter Jakl

21 Critical Perspective on Gamification in Education......................... 417
Christopher J. Devers and Regan A.R. Gurung
22 Implementing Gamification: Requirements and Gamification Platforms ................................................................. 431
Philipp Herzig, Michael Ameling, Bernhard Wolf, and Alexander Schill

23 Workplace Psychology and Gamification: Theory and Application ........................................................................ 451
Philipp Herzig, Michael Ameling, and Alexander Schill

24 The Gamification as a Resourceful Tool to Improve Work Performance ............................................................... 473
Edward T. Chen

25 Gamification in the Enterprise: Differences from Consumer Market, Implications, and a Method to Manage Them ................. 489
Basant Kumar Neeli

26 Designing Gamification to Guide Competitive and Cooperative Behavior in Teamwork ........................................ 513
Niko Vegt, Valentijn Visch, Huib de Ridder, and Arnold Vermeeren

27 Gamification and Law ........................................................................................................................................ 535
Kai Erenli

28 How to Avoid the Dark Side of Gamification: Ten Business Scenarios and Their Unintended Consequences ......................... 553
Rachel C. Callan, Kristina N. Bauer, and Richard N. Landers

29 Gamification of Survey Research: Empirical Results from Gamifying a Conjoint Experiment ....................................... 569
Briana Brownell, Jared Cechanowicz, and Carl Gutwin

30 Project Knowledge Management While Simply Playing! Gaming Mechanics in Project Knowledge Management Systems..... 593
Silvia Schacht and Alexander Maedche

31 How Gamification Can Help Companies to Become More Sustainable: A Case Study on Ride Sharing .......................... 615
Stefanie Huber and Konrad Röpke

32 Gamification-supported Exploration and Practicing for Automotive User Interfaces and Vehicle Functions .................. 637
Stefan Diewald, Andreas Möller, Tobias Stockinger, Luis Roalter, Marion Koelle, Patrick Lindemann, and Matthias Kranz

33 Application of Game Thinking and Game Elements in New Joiner Induction and On-Boarding Process ......................... 663
Anantkumar Malikaveetil
34 Gamification: The Measurement of Benefits ........................................ 673
Keith Conley and Caitlin Donaldson

Index ................................................................................................................. 689
Gamification in Education and Business
Reiners, T.; Wood, L. (Eds.)
2015, LIV, 710 p. 189 illus., 106 illus. in color., Hardcover
ISBN: 978-3-319-10207-8