

# Contents

<b>1 A RECIPE for Meaningful Gamification .....</b>	<b>1</b>
Scott Nicholson	
<b>2 Studying Gamification: The Effect of Rewards and Incentives on Motivation .....</b>	<b>21</b>
Ganit Richter, Daphne R. Raban, and Sheizaf Rafaeli	
<b>3 A Conceptual Framework for Gamification Measurement .....</b>	<b>47</b>
Ronald Dyer	
<b>4 Implementing Game Design in Gamification .....</b>	<b>67</b>
Federico Danelli	
<b>5 Applied Behavioral Economics: A Game Designer's Perspective .....</b>	<b>81</b>
Charles Butler	
<b>6 Towards Leveraging Behavioral Economics in Mobile Application Design .....</b>	<b>105</b>
Tobias Stockinger, Marion Koelle, Patrick Lindemann, Matthias Kranz, Stefan Diewald, Andreas Möller, and Luis Roalter	
<b>7 A Parallel Universe: Psychological Science in the Language of Game Design .....</b>	<b>133</b>
Thomas E. Heinzen, Michael S. Gordon, R. Eric Landrum, Regan A.R. Gurung, Dana S. Dunn, and Sam Richman	
<b>8 Context to Culture for Gamification HCI Requirements: Familiarity and Enculturement .....</b>	<b>151</b>
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

<b>22</b>	<b>Implementing Gamification: Requirements and Gamification Platforms</b> .....	431
	Philipp Herzig, Michael Ameling, Bernhard Wolf, and Alexander Schill	
<b>23</b>	<b>Workplace Psychology and Gamification: Theory and Application</b> .....	451
	Philipp Herzig, Michael Ameling, and Alexander Schill	
<b>24</b>	<b>The Gamification as a Resourceful Tool to Improve Work Performance</b> .....	473
	Edward T. Chen	
<b>25</b>	<b>Gamification in the Enterprise: Differences from Consumer Market, Implications, and a Method to Manage Them</b> .....	489
	Basanth Kumar Neeli	
<b>26</b>	<b>Designing Gamification to Guide Competitive and Cooperative Behavior in Teamwork</b> .....	513
	Niko Vegt, Valentijn Visch, Huib de Ridder, and Arnold Vermeeren	
<b>27</b>	<b>Gamification and Law</b> .....	535
	Kai Erenli	
<b>28</b>	<b>How to Avoid the Dark Side of Gamification: Ten Business Scenarios and Their Unintended Consequences</b> .....	553
	Rachel C. Callan, Kristina N. Bauer, and Richard N. Landers	
<b>29</b>	<b>Gamification of Survey Research: Empirical Results from Gamifying a Conjoint Experiment</b> .....	569
	Briana Brownell, Jared Cechanowicz, and Carl Gutwin	
<b>30</b>	<b>Project Knowledge Management While Simply Playing! Gaming Mechanics in Project Knowledge Management Systems</b> .....	593
	Silvia Schacht and Alexander Maedche	
<b>31</b>	<b>How Gamification Can Help Companies to Become More Sustainable: A Case Study on Ride Sharing</b> .....	615
	Stefanie Huber and Konrad Röpke	
<b>32</b>	<b>Gamification-supported Exploration and Practicing for Automotive User Interfaces and Vehicle Functions</b> .....	637
	Stefan Diewald, Andreas Möller, Tobias Stockinger, Luis Roalter, Marion Koelle, Patrick Lindemann, and Matthias Kranz	
<b>33</b>	<b>Application of Game Thinking and Game Elements in New Joiner Induction and On-Boarding Process</b> .....	663
	Anantkumar Malikaveetil	

<b>34 Gamification: The Measurement of Benefits.....</b>	<b>673</b>
Keith Conley and Caitlin Donaldson	
<b>Index.....</b>	<b>689</b>