Youngkyun Baek Ryan Ko Tim Marsh *Editors*

Trends and Applications of Serious Gaming and Social Media



Gaming Media and Social Effects

Editor-in-Chief
Henry Been-Lim Duh, Hobart, Australia

Series editor

Anton Nijholt, Enschede, The Netherlands

For further volumes: http://www.springer.com/series/11864

Youngkyun Baek · Ryan Ko Tim Marsh Editors

Trends and Applications of Serious Gaming and Social Media



Editors
Youngkyun Baek
Educational Technology
Boise State University
Boise, ID
USA

Ryan Ko
Computer Science
University of Waikato
Hamilton
New Zealand

Tim Marsh Information Technology James Cook University Townsville, QLD Australia

ISSN 2197-9685 ISSN 2197-9693 (electronic)
ISBN 978-981-4560-25-2 ISBN 978-981-4560-26-9 (eBook)
DOI 10.1007/978-981-4560-26-9
Springer Singapore Heidelberg New York Dordrecht London

Library of Congress Control Number: 2014932823

© Springer Science+Business Media Singapore 2014

This work is subject to copyright. All rights are reserved by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed. Exempted from this legal reservation are brief excerpts in connection with reviews or scholarly analysis or material supplied specifically for the purpose of being entered and executed on a computer system, for exclusive use by the purchaser of the work. Duplication of this publication or parts thereof is permitted only under the provisions of the Copyright Law of the Publisher's location, in its current version, and permission for use must always be obtained from Springer. Permissions for use may be obtained through RightsLink at the Copyright Clearance Center. Violations are liable to prosecution under the respective Copyright Law. The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

While the advice and information in this book are believed to be true and accurate at the date of publication, neither the authors nor the editors nor the publisher can accept any legal responsibility for any errors or omissions that may be made. The publisher makes no warranty, express or implied, with respect to the material contained herein.

Printed on acid-free paper

Springer is part of Springer Science+Business Media (www.springer.com)

Preface

As the popularity of entertainment and mobile gaming continues to grow, so too does interest in research around how games could be used to improve our daily lives. Serious games are games that have been designed with a primary purpose other than just entertainment. However, there has been no single definition of serious games, though most have agreed that serious games are games or gamelike interactive systems developed with game technology and design principles for a primary purpose other than pure entertainment. Serious games have demonstrated their effectiveness in providing, engaging, learning solutions, not just for kids but also for working adults and professionals.

In Asia, businesses and education-related organisations are beginning to recognise that the framework and experience of games can be harnessed to address specific problems in the real world. The Asian Federation for Serious Games (AFSG) is a grouping of Asian organisations and associations involved in serious game development. Unlike in the United States and Europe, the understanding of serious games and its adoption is still at its infancy here. The Serious Games Association (Singapore) thus initiated the formation of this federation, with the aim of bringing together like-minded groups, combining expertise and resources to influence the adoption of serious games in Asia. Formed in June 2012, the Serious Games Association is a focused community of Serious Games industry professionals, researchers, practitioners and developers who are involved in serious games development and passionate about furthering their professional know-how and moving the industry ahead. Dedicated to educating end-users on the benefits of Serious Games in Education, Training and Healthcare, the association aims to be the champion in promoting Serious Games adoption in Asia.

The Serious Games Association's (Singapore) inaugural conference: "Serious Gaming and Social Connect—Games for Good (SGSC 2012)", officiated by Mr. Winston Toh, Deputy Chief Executive, Singapore Workforce Development Agency (WDA) Singapore, had over 150 participants from 20 countries sharing knowledge, experience and exchanging ideas on how games can offer learning solutions that are both engaging and meaningful; games that can raise the quality of life and well-being of children, adults and even the elderly.

The chapters in this monograph are from the SGSC 2012 conference. The editors believe that these chapters will give the readers insights into some of the serious games research done in Asia. There are also actual games developed

vi Preface

and applied in the Asian classrooms. Through this monograph, we understand the challenges and the potential of serious games in Asia. The authors in this monograph performed research around how games could be used to improve our education, as well as the actual games developed and applied in the classrooms.

This volume represents the sum of the efforts invested by the authors, members of the scientific committee and members of the organizing committee. The editors are also grateful for the dedicated assistance of the reviewers who worked tirelessly behind the scenes to ensure the quality of the papers. We hope this book will serve as a reference source on hydroinformatics for researchers, scientists, engineers and managers alike, hoping this volume will inspire readers' thoughts on game-based learning.

Boise, USA Hamilton, New Zealand Townsville, Australia Youngkyun Baek Ryan Ko Tim Marsh

Contents

and Their Impact on Society	1
The Road to E-Services: Online and Mobile Games as Enablers Giuditta De Prato, Claudio Feijoo and Jean Paul Simon	15
Achievement Systems Explained	25
Identifying Triggers Within Persuasive Technology and Games for Saving and Money Management	51
Malware Analytics for Social Networking	71
Serious Games and the Gamification of Mental Health Interventions	89
Educational Implications of Social Network Games	111
An Analysis of a Social Network Game in View of Consumption Education Class	129
Learning Subject Knowledge and Acquiring Twenty-First Century Skills Through Game Development in the Classroom	143

V111	Content
V 1 1 1	OHIGHE

viii	ontents
Learning with World of Warcraft: A Study with MMORPG Brazilian Players	157
Learning Through Playing in Hong Kong Classrooms	171
Index	185