Serious Games and Edutainment Applications

Minhua Ma · Andreas Oikonomou · Lakhmi C. Jain
Editors

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Springer

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Preface

My interest in the serious games began in 2005 with work on virtual reality games for post-stroke rehabilitation but was rekindled in 2009 when experimenting Second Life as a learning and teaching environment for computer game design and working with Nottingham University Hospitals on computer games intervention with mucus clearing devices for Cystic Fibrosis. *Serious Games and Edutainment Applications* arose from the First International Workshop on Serious Games Development and Applications at University of Derby in 2010. The event has now becomes an annual conference and is supported by the Gala European Network of Excellence in Serious Games, the TARGET project which is partially funded by the European Community under the Seventh Framework Programme, and a number of partners such as the Glasgow School of Art, University of Derby, INESC ID, and Technical University of Lisbon. This year, the annual conference (SGDA 2011) is hosted by the Technical University of Lisbon (IST/UTL), and the conference proceedings will be published by Springer-Verlag as part of the LNCS series.

Serious Games and Edutainment Applications offers an insightful introduction to the development and applications of games technologies in educational settings, with cutting edge academic research and industry updates which will inform readers current and future advances in the area. The book is divided into five parts: introduction, theories and reviews, custom-made games and case studies, use of Commercial-off-the-shelf (COTS) games in education, and social aspects and gamification.

The book will benefit academics, researchers, graduates, and undergraduates in the fields of computer games and education, educators who wish to use games technologies in their teaching, game designers and developers, game publishers, and entrepreneurs in the games industry. For academics delivering taught modules in any fields, this book can serve as a good collection of related articles to facilitate a broad understanding of this subject and as such it can become one of the handbook to help educators to select, plan, and carry out teaching using commercial or custom-made games. Professional game designers and developers who adapt off-the-shelf virtual environment for teaching and learning purposes will find some interesting examples of using

COTS games in educational settings and guidelines on choosing a suitable game for the classroom in Part IV. The custom-made edutainment applications presented in Part III of the book may be of particular interest to those who create new edutainment applications using video games technologies and game design processes.

Glasgow, UK Minhua Ma

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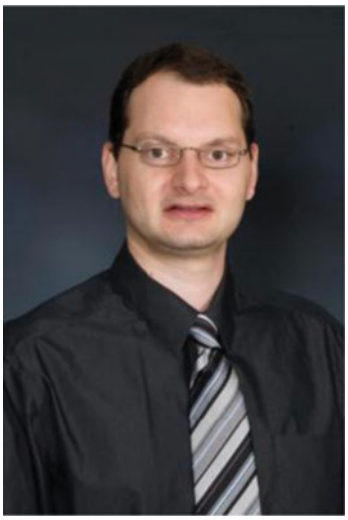
She has been supervising 4 Ph.D. students (one completed) in video games and e-learning. With her team she has been developing serious games for healthcare and natural language 3D visualisation systems with broad impact in intelligent multimedia, serious games, forensic visualisation and other areas. Dr. Ma is the Accepting Associate Editor responsible for the serious games section of the Elsevier journal *Entertainment Computing*. She has been editing two books on games technology with Springer, and special issues for a couple of journals. She also authored some book chapters and organised a number of conferences and workshops in serious games and 3D visualisation. Dr. Ma is serving on the Editorial Board for the *Journal of Intelligent Decision Technologies* and numerous conference programme committees.



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Prof. Lakhmi C. Jain is a Director/Founder of the Knowledge-Based Intelligent Engineering Systems (KES) Centre, located in the University of South Australia. He is a fellow of the Institution of Engineers Australia. His interests focus on the artificial intelligence paradigms and their applications in complex systems, art-science fusion, e-education, e-healthcare, unmanned air vehicles and intelligent agents.