INTRODUCTION

The Ludica Medica Special Issue is the first of a continuing series at IJGCMS, presenting research, reviews, and theoretical papers in the use of agents, avatars, and interactive software for medical training as well as therapeutic and medical interventions.

The collection was inspired by the 2011 Ludica Medica track at the Games for Health Conference. Ludica Medica explored the application of games for medical modeling, training, and visualization. This special issue of the International Journal of Games and Computer-Mediated Simulations will cover the Ludica Medica theme, extending the discussion on videogames, simulations, modeling, and role-play as they are used in medical training for medical professionals and care recipients. The Ludica Medica track is an important part of the Games for Health conference, and provides discussion on the comparative advantages that video games provide for training and learning, and what differentiates video from simulations, models, branching narratives, and table games.

We begin this issue of IJGCMS, with three reviews. In the article “Sorting out the Virtual Patient: How to Exploit Artificial Intelligence, Game Technology and Sound Educational Practices to Create Engaging Role-Playing Simulations,” Talbot, Sagae, John, and Rizzo provide an in-depth review of virtual patients and their interaction structure or ‘game-play’. This review leads to consideration of possible “best use” scenarios for that design strategy and lays groundwork in the history of virtual patients for healthcare simulation and modeling medical avatars.

The second article, penned by Ferdig, Schottke, Rivera-Gutierrez, and Lok continues the theme of virtual patients. Drawing on seven years of research into the integration of virtual humans into medical settings, the authors provide insight into learnings and the related implications for teaching, research, and practice. The authors end the article with empirical analysis of an existing adaptation of the virtual patient work into a public setting (a museum). They find early evidence for the use of virtual humans in public spaces to change the knowledge and personal behaviors of museum attendees.

In article three, “Literature Synthesis on Evaluative Measures in Healthcare Simulation,” Timothy W. Meyers purposes to build a repository of metrics used to evaluate nursing and healthcare provider simulation. This literature synthesis explores potentially suitable metrics, which might be used to evaluate nursing and healthcare related simulations in a more general sense, as well as to inform instrument development related to nursing and or health care simulation. Additionally, the article seeks to provide levels of fidelity and desired learning domains that the matrices purport to evaluate.
This article represents a starting point for the researcher/developer for the use of metrics and instruments for measurement of learning in medical simulation, and projects suggestions for a standardized objective evaluation tool.

In our fourth article, “Serious Assessments in Serious Games,” Hubal and Pina describe a variety of assessment techniques for virtual training related to performance assessment. This introduction includes assessment scenarios such as performance criteria, ill structured domains, game design templating, and other adaptive tasks for robust performance assessment. The inclusion of adaptive assessment into virtual training may improve the likelihood of acquisition new skills and transfer of learning. This article offers the developer and researcher assessment techniques for incorporating adaptive assessment for in-game skill acquisition.

In article five, “Use of Virtual World for Soft/Communication Skills Training: Feasibility Assessment,” Patricia Abshier reports on the outcomes of a feasibility assessment examining the use of virtual worlds as a tool for soft skills training in health care service provision staff for acquisition of general counseling and communications skills. The article examines the barriers and potential affordances for the use of virtual worlds and synchronous simulations for providing training and interaction for healthcare related services. This article provides insight into the challenges of delivering communication skills, through the Second Life Virtual Worlds platform. This article provides insight for those considering avatar-based trainings in communication and soft skills, and suggests we may be a ways off from training where expression and non-verbal cues are important.

Our sixth article, explores the potential use of virtual worlds as restorative environments for stress reduction, imparting feelings of well being and recovery from fatigue through restorative and rehabilitative therapies presented as a Virtual Restorative Environment (VRE) with two usability studies. Study one compared two VEs (an urban city scene and a rural coastal scene) and showed the effect of ambient sounds on ratings of anxiety and relaxation. Study two explored the inclusion or olfaction into the virtual world experience, using a novel olfactory display system and evaluation of its effect on the user. Virtual worlds may provide unique potential for therapeutic interventions. For many people access and experience of real natural environments may not be possible. For example, non-ambulatory people, such as those who have been hospitalized, or who are residents in hospices, rehabilitation centres, care homes or otherwise housebound may not have access to natural environments, but may benefit from exposure to virtual natural environments as an alternative.

We also present a book review from William Bart. Professor Bart offers Moves in Mind: The Psychology of Board Games, by Fernand Gobet, Alex de Vooit, and Jean Retschitzki. This is a scholarly work in the psychology of learning associated with board games. This book is an important read for game scholars, and the review provides an exposition of many topics that would be of concern and interest to scholars of games, as well as gamers interested in the cognitive skills and processes the games elicit. The review provides an introduction to those interested in the psychology of learning as it relates to playing chess.

So what is the importance of this area? Why Ludica Medica? We may soon find ourselves interacting with computers not just for entertainment, but also for therapeutic gaming, operating complex tools and equipment, as well as cognitive training. Will games become a prescription for better living? Will games and virtual worlds provide greater access to mental and physical health? Imagine leaving your doctor’s office with a prescription for a game. Currently digital software devices are undergoing experimentation for use as medical and therapeutic interventions, which might require a prescription. Instead of a pill from the drug store, you may be downloading your prescription to play your way to better health.

Please enjoy this collection of articles. This issue represents a beginning in a rapidly
expanding field, where games are being studied for education and training, assessment tools, as well as devices for delivering medical interventions and therapeutic treatment. Ludica Medica will be a continuing special issue in IJGCMS and I would like to encourage potential authors to consider proposing an article for next year’s issue.

Brock R. Dubbels
Guest Editor
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