GUEST EDITORIAL PREFACE

Special Issue on Ludic Simulations:
Part 1

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This special issue focuses on the notion of ludic simulations. Ludic refers here to Latin definitions of the term *ludus*, referring to fun, play or playfulness. It might also be widened to include notions like entertaining forms of facilitation, and ease or pleasure of use. Simulations are computer- (or otherwise) mediated environments that provide opportunities for users to explore and interact with a possible world, a theoretical model, an occupation, a task, etc. Here, we are making a broad assumption that all electronic games are in some sense simulations, while not all simulations are necessarily games.

We generally expect electronic and other games to be fun. Games that are not fun are not played, while understanding that the experience of "fun" is also unique to each individual player. However, we generally do not expect simulations to be fun. If a pilot or anesthesiologist is learning vital aspects of their vocation through virtual experiences, we seem to care more about their learning gains than whether they are actually enjoying the experience of doing so. First and foremost we want to train better, more highly qualified doctors and pilots.

What does it mean, therefore, to have a simulation that could be described as ludic? Does making a simulation that is more playful, fun, and pleasing to use impact learning, retention, or practice? Does a ludic simulation receive more critical reviews than a non-ludic one, for not being "serious" enough? What does it mean to make a simulation ludic, without actually turning it into a game?

The purpose of this special issue is to address a selection of relevant issues related to potential and actual ludic aspects of simulations. Authors were invited to submit manuscripts that:

- Present empirical findings on the use of ludic simulations;
- Push the theoretical knowledge of ludic simulations;

- Conduct meta-analyses of existing research on ludic simulations;
- Present innovative interfaces for ludic simulations, including testing/evaluation data.

It is worth noting that this special issue is a transnational collaboration between friends and colleagues at the Department of Communication and Economics[1] Game Philosophy Initiative[2], at the University of Modena & Reggio Emilia in Italy, and the Research Center for Educational Technology[3] at Kent State University in the USA. As such, we received numerous papers from literally all around the globe. A challenge for such collaborations across cultural boundaries is, of course, trying to make knowledge sharing global while understanding that natural language barriers exist that may prevent those who typically write in Italian (or Swahili for that matter) from sharing their important work. This is something that needs to be addressed by all journals with international ambitions. In spite of such transcultural concerns, we are proud to be able to present nine papers that help us broaden and shape our future understandings of what ludic simulations may, or may not, be. In this special issue, 5(1), we present a first selection of five papers.

This special issue begins with an important piece by educational experience and advergaming design experts, Jim (J.R.) Parker and Katrin Becker of Mink Hollow Media[4], Canada, who interrogate different ways of understanding the notion of ludic simulations. Rather than merely providing a series of isolated definitions, the authors propose a computer simulation hierarchy which situates ludic simulations within a broader hierarchical relationship together with software, simulations, games and the even more specialized category of genre games. In their conclusion, the authors point to the importance of uniting the conceptual organization of simulations into one single broader object class, allowing for the inclusion of as wide as possible range of design elements (graphics, interaction, ludicity, videogame technologies,

etc.) in order to enrich different kinds of simulation design and implementation environments. Doing so also reminds us of the importance of the potentially positive role of fun as an integral part of any kind of learning experience, while providing evidence in support of the utility of an effective use of design elements deriving both from games and from simulations to enrich a wider range of learning environments.

Ivan Mosca[5] of the Laboratory for Ontology (LabOnt)[6] at the Department of Philosophy, University of Turin, Italy, continues the discussion of the relationship between games and simulations in a philosophically oriented piece entitled: "From fiction to reality and back: ontology of ludic simulations." The unique feature of this piece is the author's use of both ontological tools and research findings from neurology to build his argument. Mosca argues that simulations are connected to fiction or reality by processes of suspension of belief or of disbelief. In addition to introducing a number of new terms for consideration (within this discussion) by designers, such as *embodied simulation*, *depth and surface simulations*, *ontological and epistemological barriers*, *simulation stories* and *the K-Rule*, the author provides two pieces of operational advice for (ludic) simulation designers. The first is to draw creatively on references to already existing games. The second is to induce players into making use of serious simulations *as if* they were games. The author also includes an stimulating – some might say even provocative – argument regarding the importance of simulation designers keeping up to date with the increasingly rapid changes in contemporary research fields and markets associated not only with simulations, but also with games, ludic interfaces, mobile devices, and other emergent technologies in order to further our understandings of how simulations may potentially become ludic.

Italian semiotician and freelance game designer Gabriele Ferri examines two games that have demonstrated how apparently relatively simple games can effectively integrate components of simulations, games, and rhe-

torical persuasion forms, producing what the author characterizes as emergent *ludic and procedural satires*. The two games in question are *Oligarchy* (a game designed to raise awareness of the dangers of oil dependency and the need for enhanced environmental and ethical awareness in future global energy markets), and *Phone Story* (a satirical play on a Mad Men style advertising *identity correction* genre adopted by political activists, applied to marketing of the Apple iPhone). What is unique about these two games is not just their use of ludic simulations (based loosely on real world simulation models, such as Hubbert's peak theory for modeling petroleum production in relation to resource discovery and subsequent depletion in the case of *Oligarchy*) as key game components, but also their communicative potential as powerful rhetorical persuasion devices. The question becomes how to have fun while, in some sense, also trying to make fun of, or even shame, well-defined or ill-defined but nonetheless identifiable sociocultural antagonists. What is most important in this work is that it actively questions the reader's own definitions and assumptions of how fun and ludicity may actually be functioning in both games and simulations.

Vincent F. Mancuso, of Oak Ridge Institute for Science and Education; Katherine Hamilton of Information Sciences and Technology, Pennsylvania State University; Rachel Tesler and Susan Mohammed, both of the Department of Psychology, Pennsylvania State University; and Michael McNeese also of Information Sciences and Technology, Pennsylvania State University, co-authored the fourth paper in this issue, which empirically evaluates the employment of *endogenous* and *exogenous* fantasy in computer-based simulation training. The authors used a human-in-the-loop, scaled world simulation called *NeoCITIES*, set in the context of an emergency management dispatch center, to gather data from teams of undergraduate students, focused on a small number of key variables. They hypothesized that students would have a higher level of perceived enjoyment and utility with use of exogenous fantasy;

and also predicted that use of both exogenous and endogenous fantasy would result in higher performance levels than with control groups. The authors found no difference between use of endogenous and exogenous fantasy with regard to user perceptions of enjoyment and utility, but they did find a significant difference in perceptions of enjoyment and utility between use of fantasy and no use of fantasy. No support was found for any of the predictions directly related to learning outcomes. The authors conclude that 'fun simulations' might increase participant perceptions of enjoyment and utility, but might not directly lead to enhanced learning outcomes, in terms of task performance, at least in the shorter term. They recommend designers to focus more on creating models that ensure users meet appropriate performance goals, and somewhat less on contextualizing the delivery of learning materials to users.

The final piece in this first special issue number is co-authored by Min Liu, Lucas Horton, Jina Kang, Royce Kimmons, and Jaejin Lee, all of The University of Texas at Austin. The authors explore through empirical classroom study involving 383 sixth graders and 447 seventh grade students, a ludic simulation aimed at making space science fun for middle school students. Much like the work by Mancuso et al, the authors of this carefully designed and carried out study found that ludic simulations that facilitate learning through playful interactions that involve students through imitation, symbolic interaction and cognitive representation are important in helping to involve and motivate this particular age group; they tend overall to increase the perceived enjoyment and educational value of the subject matter in hand on the part of students. Finally, they provide evidence that well-planned classroom use of ludic simulations can improve student attitudes towards STEM more generally speaking. The authors rightfully argue for the importance of such outcomes, particularly in the light of school goals and the still potentially negative attitudes towards 'fun' games and simulations on the part of teachers and the general public, point-

ing to the need for further research to examine more in detail ludic characteristics of student learning, and, first and foremost to develop new pedagogies and strategies for guiding the effective application of such simulations in the classroom.

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ENDNOTES

1 http://www.dce.unimore.it
2 http://game.unimore.it
3 http://www.rcet.org
4 http://minkhollowmedia.ca
5 http://labont.it/people/ivan-mosca
6 http://labont.it

Patrick J. Coppock is Adjunct Professor in Philosophy and Theory of Languages at the Department of Communication and Economics at the University of Modena and Reggio Emilia, and co-founder of the game philosophy research network [http://gamephilosophy.org], organizing since 2005 annual international conferences on philosophical aspects of computer games and gameplay in contemporary culture. He has a BSc (Hons) Degree in Psychology from Queen's University Belfast (1973), and an advanced MA in Applied Linguistics from the Department of Applied Linguistics at the Norwegian University of Science and Technology (1994), where he was Research Assistant at the Humanities Multimedia Lab, working on hypermedia and scientific writing norms in the humanities. Organizing Committee member for the first Norwegian conference on Virtual Reality (1993) and Visiting Researcher at the Department of Communication Disciplines at the University of Bologna (1996-1998). Since then he has taught courses in mass media, new media and semiotics of cinema at the University of Modena and Reggio Emilia. Since 2008, he has coordinated an English language MA research seminar on the Philosophy and Theory of Social and Ludic Media. He has served as peer reviewer for numerous international conferences and research journals, and is currently Scientific Committee member for the Italian Game Studies online journal G|A|M|E.

Richard E. Ferdig is the Summit Professor of Learning Technologies and Professor of Instructional Technology at Kent State University. He works within the Research Center for Educational Technology and also the School of Lifespan Development and Educational Sciences. He earned his Ph.D. in Educational Psychology from Michigan State University. He has served as researcher and instructor at Michigan State University, the University of Florida, the Wyzsza Szkola Pedagogiczna (Krakow, Poland), and the Università degli studi di Modena e Reggio Emilia (Italy). At Kent State University, his research, teaching, and service focus on combining cutting-edge technologies with current pedagogic theory to create innovative learning environments. His research interests include online education, educational games and simulations, and what he labels a deeper psychology of technology. In addition to publishing and presenting nationally and internationally, Ferdig has also been funded to study the impact of emerging technologies such as K-12 Virtual Schools. Rick is the Editor-in-Chief of the International Journal of Gaming and Computer Mediated Simulations, the Associate Editor-in-Chief of the Journal of Technology and Teacher Education, and currently serves as a Consulting Editor for the Development Editorial Board of Educational Technology Research and Development and on the Review Panel of the British Journal of Educational Technology.