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Advances in Computer Entertainment Technology

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Proceedings

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Preface

This book consists of the proceedings of the 14th International Conference on Advances in Computer Entertainment Technology (ACE 2017), held in the vibrant city of London, UK, during December 14–16, 2017. There were a total of 59 paper presentations, including 14 short presentations, and over 100 participants from 21 countries at this annual academic event.

For many years, ACE followed a somewhat traditional conference format in terms of presentation styles, with separate tracks for submissions such as full/short papers, posters, and creative showcases etc. During ACE 2016 in Osaka, keynote speaker Prof. Hirokazu Kato initiated many discussions about the future directions of ACE in computer entertainment research, especially with the emergence of more and more academic conferences in this field over the years. ACE has always aimed to stand out as the leader and one of the best conferences in computer entertainment, and that means we need to fundamentally challenge and change the ways “entertainment” is assessed and presented to our community. The Steering Committee decided that it was time to break the boundaries of the traditional 20th century conference format and truly embrace the value of entertainment by transforming the conference into an inspirational, interactive, and creative playground for researchers.

At ACE 2017, a radical new format was tested out from the paper submissions, to the selection process, to the presentation requirements. First, we eliminated different tracks for submissions and carefully reviewed every paper as a full paper. We also removed previous restrictions and requirements for the presentation of each accepted work. Instead of allocating different sessions for oral presentations and demonstrations, we simply assigned a time slot to each paper during which authors could use any technique or style to present their work. Authors could also display and demonstrate their work during the coffee breaks and lunch breaks to stimulate more discussions. We encouraged presenters “as leaders in computer entertainment to make their presentation as entertaining as possible and not a normal PowerPoint presentation.” Besides showing demonstrations, videos, or posters, they could also “recite a poem, do a dance or sing a song etc.” Many presenters surprised us with their creativity and effort put into making their presentations fun and innovative. Most notably, one presenter delivered his entire presentation in a poem, another presenter turned his presentation into a realtime quiz in which the audience competed with each other by answering questions related to the paper.

To complement the goal of making radical changes, we invited Dr. David Levy to give a thought-provoking keynote speech “Can Robots and Humans Make Babies Together?” Through our choice of the keynote speech, we hope to have conveyed to our participants that not only does ACE look into the conventional research topics, but

we also accept and invite discussions of the somewhat controversial topics of computer science.

Lastly, we hope all delegates enjoyed the new experiences at ACE 2017 in one of the world's most exciting cities. We also hope you enjoy reading these proceedings and find the papers helpful in your research.

December 2017

Adrian David Cheok

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Can Robots and Humans Make Babies Together? (Keynote Speech)

David Levy

15 December 2017

This talk gives a guided tour of the advances achieved by researchers in cell biology and biorobotics, which prompted the question whether it is possible for humans and robots to make babies together. Until the birth of the first test tube baby, it was believed that a human baby could only be conceived by the means of sexual intercourse between a man and a woman. A series of breakthroughs in stem cell research, such as the frog experiments done by John Gurdon, the ability to reprogram cells, the creation of embryos from skin cells, as well as the TNT technology, has proven once and again that life can be created by the genetic engineering of human cells. This talk also looks into the genetic robot, created from a set of computerized DNA codes that determine its personality. It is possible for such genetic codes from a robot to be combined with human cells to create a baby that has genetic information from both a human and a robot. The talk concludes by discussing the ethical implications related to the genetic engineering of human embryos.

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