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Preface

CDVE 2012 was hosted in Osaka, Japan, and was the ninth annual conference in the series. The research and development of cooperative design, visualization, engineering and other cooperative applications has grown to be much stronger than ever. The application of CDVE technology has helped many industrial sectors in their product life-cycle management and operations.

Among this year's papers, we could identify a particular active industrial sector, the architecture, engineering, and construction (AEC) sector presenting exciting results in applying the CDVE technology. The researchers and developers addressed a wide range of themes such as cooperative information sharing and management, cooperative integration of virtual and physical models etc. Cooperative sensors are applied to relate virtual models with real objects. Cooperative technology is also helping in the protection of the environment, for example, in the design and construction of green buildings and green cities. To cope with the needs in life cycle management, four-dimensional visualization, three-dimensional plus the time dimension is addressed.

Results from the study of cooperative entities as a whole are reported in this volume. Fuzzy theory has been applied to study the enterprise clusters. We believe that modeling and simulating the behavior of large-scale entities of cooperative organizations at a higher abstract level can be a guide for the global management of cooperative entities. It can also serve as a theoretical guideline in maximizing the benefit of cooperative work. Results of more careful and finer research on issues from multi-touch devices are dealt with in this volume. The papers show that mobile devices provide new possibilities of cooperative learning. A number of papers report on the use of mobile smartphones for cooperative learning, using mobile devices for augmented reality in urban landscape simulation etc.

The papers convincingly show us again that CDVE technology provides more possibilities for learning, solving complicated problems, and better life-cycle management of industrial products.

I would like to thank all of our authors for sharing their research results. I would like to thank all the reviewers for their generous help in reviewing the papers; they helped to assure the quality of this conference. I would like to thank all of our Program Committee members and Organizing Committee members for their continuous support of the conference. My particular thanks go to our Organizing Committee Chair, Nobuyoshi Yabuki, for his wonderful work in making our conference an enjoyable one.

September 2012 Yuhua Luo

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