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Virtual Environments
and Scientific Visualization '96

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in Monte Carlo, Monaco,
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Preface

The third workshop on Virtual Environments took place on February 19–20 in conjunction with the annual IMAGINA conference in Monte Carlo. The workshop asked for contributions to cover coexistence, communication and collaboration in Virtual Environments. Nineteen contributions were selected by an international programme committee which additionally invited J. Nomura (MEC, Japan) and J. Kent (SGI, US) for talks on applications of virtual environments in Japan and to discuss the VRML relationship to virtual environments.

Revised versions of the workshop presentations are included in this book. The first group of four papers from Austria, the UK, Germany and Sweden discusses VE system design and architecture issues as well as experience with novel programming style for virtual worlds. Mixed reality in a teleconferencing and in a telepresence experiments are reported from Germany and from Sweden.

An algorithm session introduced to several techniques for virtual environments, such as the quick elimination of polytopes from Hongkong, camera based tracking and morphing from Germany. On the second workshop day, human actors and crowd simulation were presented by Swiss and French reseachers.

A further workshop session dealt with modeling aspects in virtual environments. Work based on B-spline modeling (UK) and the impact of concurrent multi-user modeling (France) were demonstrated.

The final paper session of the workshop included papers from various application areas, such as a surgery support system (Japan), the distributed virtual reality lab which is a UK research initiative, applications in geographic information systems (Netherlands), in engineering (Switzerland) and in virtual housing systems (Japan).

Around fourty workshop participants discussed the contributions very heavily during the two days.

As a conclusion, we can say that with its third workshop Eurographics has established the VE workshop as an annual event which serves as a forum for information exchange in VE research in Europe. In all of the 3 workshops, major European VE research labs were presenting and discussing their advance results.

The workshop itself and its preparation was sponsored by ONR – Office of Naval Resarch (US), EDF (France), INA-IMAGINA (France), CEA (France) and GMD (Germany).

The workshop secretary was provided by Tatjana Neiss from IGD Germany. At this place we would like to thank all – the sponsors, the secretary and the local organization. Without their contributions the workshop would not have taken place.

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The seventh workshop on Visualization in Scientific Computing took place on April 23–25 in Prague (Czech Republic). It was for the first time that an event like this was held in Central and Eastern Europe. One of the workshop's results was the impulse for the promotion of Scientific Visualization in this region. Papers submitted for this workshop were evaluated by an international programme committee.

Besides papers accepted for presentation also two invited lectures were given: G. Nielson (USA): Multiresolution Modelling in Scientific Visualization and V. Hlavac (CZ): Computer Vision and Scientific Visualization. In both lectures new views on some topics in Scientific Visualization were given.

For these proceedings twelve papers were selected. Revised versions of these papers are included in this book. The papers can be divided into four groups: Volume Rendering, User Interfaces in Scientific Visualization, Architecture of Scientific Visualization Systems, and Flow Visualization. The papers in the first group are papers from Italy, Germany, Slovakia, and the Netherlands. The main stress was put on the speeding up of volume rendering algorithms and on their better accuracy. The second group of papers contains papers from Germany dealing with proper use of elements and methods in the field of User Interfaces specific for Scientific Visualization applications. Innovative research from Fraunhofer Institute describes the use of VR techniques in the field of Scientific Visualization. Papers from the Netherlands, Czech Republic and the United Kingdom forms the third group of papers targeted to Architecture of Scientific Visualization Systems. The last group contains results from research in traditional area of Scientific Visualization – Flow Visualization. Improved techniques for this area were presented. All papers presented set up a very good base for discussions in which all 40 workshop participants took part.

Besides the authors we want to thank the Programme Committee that had to evaluate in a short time the papers submitted. The organization of the workshop could not have been manageable without the help of the Department of Computer Science and Engineering at Czech Technical University in Prague and the Czech ACM Chapter. Special thanks should be expressed to Petr Felkel, Jan Vorlicek, Bozena Mannova, Jiri Zara, and Bedrich Benes. Without their help both the Workshop and the book would not have come into life.

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Pavel Slavik, Jarke J. van Wijk*

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