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Interactive Distributed Multimedia Systems and Telecommunication Services

5th International Workshop, IDMS'98
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Proceedings

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Preface

The area of interest of the International Workshop on Interactive Distributed Multimedia Systems and Telecommunication Services (IDMS) ranges from basic system technologies such as networking and operating system support to all kinds of teleservices and distributed multimedia applications. Technical solutions for telecommunications and distributed multimedia systems are merging, for example, the Internet protocol, middleware solutions and standards, and Qualiy-of-Service (QoS) play a key role in both areas. However, the range from basic system technologies to distributed multimedia applications and teleservices is still a broad area. We believe that it is important to understand the implications of multimedia applications and their requirements for middleware and basic system technology and vice versa. We are challenged to develop new and better suited solutions for all layers of distributed multimedia systems and telecommunication systems to meet the requirements of the future information society.

In the call for papers we invited contributions in this area in form of full papers and position papers. We attracted 68 submissions from Asia, Australia, Europe, North America, and South America; despite the fact that September 1998 is a very busy conference month. In cooperation with ACM Multimedia'98, we turned the potential problem of overlapping and conflicting interests into an advantage, by placing both events back-to-back and coordinating parts of the organization process.

The IDMS'98 program committee (PC) members and additional referees worked hard to review all submissions such that each contribution received at least three reviews. Based on the comments and recommendations in these reviews, the PC performed in the course of one week an online meeting over the Internet that was structured into two discussion and ballot phases. For this purpose, our local organization team integrated two isolated applications (from Brandenburg University of Technology at Cottbus, Germany and Darmstadt University of Technology, Germany) and extended them to a full conference organization tool. The resulting system, called *ConfMan*, combines World Wide Web and e-mail with a database system and enforces security, privacy, and integrity control for all data acquired during workshop organization, including comments and votes during the PC online meeting.

The final result from the discussions and ballots of the PC online meeting was a very uniform suggestion for the final program and for the best paper of IDMS'98. The additional task for us as program co-chairs was only to group the selected papers and structure them into sessions.

We are proud to present at IDMS'98 a high quality program with 23 full papers and seven position papers that discuss topics like: user aspects and Quality-of-Service, distributed multimedia applications, multimedia documents and authoring, platforms for collaborative systems, MPEG, coding for wireless

and mobile environments, storage servers, flow control, and congestion control. The best paper of IDMS'98 is entitled *Single Pair of Buffers: Reducing Memory Requirements in VBR Media Servers* and is authored by A. Garcia-Martinez, J. Fernandez-Conde, and A. Vina. This selection is extended with two invited keynotes: D. Shepherd from Lancaster University (UK) will discuss *ATM, Reservations and IP – ATM, RIP?* and G. Parulkar from Washington University St. Louis (USA) will present *High Speed Packet Switching and QoS: (A) Guru's Perspective.*

We are confident that this technical program will enable IDMS'98 to follow the tradition of previously very successful IDMS workshops. We would like to express our deepest gratitude to R. Steinmetz and L. Wolf, who organized IDMS'97 in Darmstadt, Germany, and the organizers of the previous IDMS workshops for the honor and their confidence in us that allowed us to take over the responsibility for IDMS'98 in Oslo, Norway. The organization of IDMS'98 is an important milestone for us, because IDMS'98 takes place exactly four years after we started to create and build up a new research group in distributed multimedia systems at UniK – Center for Technology, University of Oslo.

Next years IDMS will be organized by M. Diaz, LAAS-CNRS, in Toulouse, France. We hope that we can pass at least part of all the help and support we received from the IDMS'97 organization team on to the organizers of IDMS'99.

We would like to acknowledge the cooperation with ACM and Gesellschaft für Informatik e.V. (GI), the technical co-sponsorship of IEEE, and the financial support from Den Norske Dataforening (DnD), Ericsson, the Norwegian Research Council, Telenor Research and Development, Thomson CF Norcom AS, and UniK – Center for Technology. Due to this support we are able to keep the fees of IDMS'98 affordable and to offer a very interesting technical and social program.

Finally, we would like to thank Hellfrid O. Newman as treasurer and Pål Halvorsen, Ketil Lund, and Nader Mirzadeh in local organization for their dedication and hard work that enabled us to make IDMS'98 a successful event.

June 1998 Thomas Plagemann and Vera Goebel

Welcome Address from the Royal Ministry of Education, Research and Church Affairs

To the Participants of the 5th International Workshop on Interactive Distributed Multimedia Systems and Telecommunication Services:

I am delighted to welcome the participants at the 5th International Workshop on Interactive Distributed Multimedia Systems and Telecommunication Services.

Throughout the world we see that plans are being developed and conferences are arranged to form and organize the information society. I am happy to see that the University of Oslo and the Center for Technology at Kjeller are hosting this international conference on multimedia technology and distributed multimedia applications.

I am very concerned about the new possibilities that we see in the use of digital media and global computer networks for creating new and flexible learning opportunities. We want to use these new opportunities actively in a lifelong learning perspective.

I send you my best wishes for a successful workshop and hope that this opportunity to present new interesting research results to a broad professional audience gives stimulus for collaboration and further progress in the field.

I wish all participants a pleasant stay in Oslo.

June 1998

Jon Lilletun
Minister of Education, Research and Church Affairs

Welcome by the Rector of the University of Oslo

On behalf of the University of Oslo, I heartly welcome all participants to IDMS'98. In a generation, computers have grown from curious devices to a ubiquitous technology of unprecedented power and influence. Information technology and multimedia content now link us across time and space in a manner that is revolutionizing the learning society and human organizations. The University of Oslo has over the last years initiated new research and education activities in areas of information technology. We experience new focus points with communication technology in natural sciences and broad new initiatives with interdisciplinary collaborations including natural sciences, humanity sciences, social sciences, educational sciences, and sciences of law. Distributed multimedia systems and telecommunication services have been one of the basic fields for this new collaboration effort.

I hope all participants will enjoy the workshop and the visit to our university.

June 1998

Lucy Smith
Rector of the University of Oslo

Welcome by the Faculty of Mathematics and Natural Sciences of the University of Oslo

We welcome all participants to IDMS'98. One of the most significant technology changes for the next decade is distributed computing and network technology that can handle and integrate all media data types into the global network. The title of the conference addresses distributed multimedia systems and telecommunication services as basic instruments for the implementation of information channels between the public information and knowledge providers, private companies and the customers. Our scientists work very hard to implement new and better technologies for multimedia applications. We experience rapid developments of new systems, services and applications, but the technology has clearly been limited by lack of functionality. In the future, we face a new technology push, and it is an expectation that the multimedia system area will give new perspectives to the global research, education and commercial activities.

We hope the workshop will be an inspiration for you all and provide opportunities for all and a pleasant time in Norway.

June 1998

Jan Trulsen, Dean
Rune Fløisbonn, Director of Faculty
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Storage Server

Best Paper