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The logo consists of the text "DEXA 93" in a bold, sans-serif font, enclosed within a horizontal oval border.

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Foreword

The Database and Expert Systems Applications (DEXA) Conferences are traditionally thought as a wide platform for the exchange of ideas, experience and opinions among theoreticians and practitioners active in the areas of database and artificial intelligence technologies and coming from all over the world.

Despite the applications aspect occurring in the name of the conference, the Program Committee arranged – as it has become tradition – the necessary balance between theoretical and practical points of view.

This volume contains the best 78 contributed papers which have been carefully selected during a tight reviewing process involving comments of many international experts by the Program Committee from a total of 269 submissions. The scope of the papers in this proceedings covers the real hot topics in both the areas of database and AI systems. The database sessions are primarily devoted to *object-oriented data modeling, distributed databases, active database aspects, database optimization, and performance evaluation*; among the specialized systems *spatial and geographic databases* have been stressed. Artificial Intelligence is represented in particular by papers on *expert systems applications, knowledge engineering and distributed AI systems*. While some of the topics, as for example *hypertext/hypermedia* and *user interfaces*, are important for both database and AI systems, some fields, in particular *software engineering and legal systems*, are even aimed at integrating the results achieved in both fields.

DEXA'93 is the 4th conference in the line and has some new features. After Vienna (1990), Berlin (1991), and Valencia (1992), this conference takes place in the capital of an East-European country, thus providing an ideal forum for the advancement of the East-West scientific cooperation.

This conference is the first organized in cooperation with the IEEE Computer Society; this is an important feature confirming that the DEXA Conferences have gained a certain recognition among many international database and AI events. All the individuals involved in the preparation of this conference consider this fact as a great honour.

We would like to express our thanks to all institutions actively supporting this event, namely to

Research Institute for Applied Knowledge Processing (FAW), Linz
Czech Technical University, Prague
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We also would express our thanks to all members of the Program Committee and the Organizing Committee as well as to all referees supporting the selection of the contributions with valuable evaluations often given on short notice.

Vienna, Prague, Linz
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