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Data Base Design Techniques I:

Requirements and Logical Structures
NYU Symposium, New York, May 1978

Edited by S.B. Yao, S.B. Navathe,
J.L. Weldon, and T.L. Kunii



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PREFACE

The design of data base organizations is one of the most important steps in the development of a computerized information system. Size and complexity combine to make this task disproportionately time consuming and expensive. In the past, database design activities consisted of trial and error approaches using ad hoc techniques: systematic method was lacking. In the past several years, practitioners have been working on database design methodologies. Independently, researchers have begun to develop theories and models for data base design. It is our objective to bring together these different approaches into a book to facilitate the exchange of ideas.

Two symposia were held to compare and summarize various newly developed approaches to data base design.

The NYU Symposium on Data Base Design, organized by S. B. Yao (Chairman), S. Navathe, and J.L. Weldon; New York, May 1978.

The Symposium on Data Base Engineering, organized by T.L. Kunii; Tokyo, November, 1979.

The organizers of both symposia have edited proceedings that contained many excellent papers covering a wide range of data base design models and methods. In order to further disseminate these, the present book (which contains certain revised papers from the proceedings and several new papers) was compiled. The book is divided into two volumes. Volume 1 contains two parts. The first presents a general framework for considering the problem of data base design and classifies data base design techniques into two major categories: logical design and physical design. Logical design techniques are introduced in the second part. Volume 2 contains the third and fourth parts of the book. Physical design techniques are introduced in the third part. The last part gives examples of data base applications in several important fields. Both practitioners and researchers in the field of data base design should find this book useful. Although not a textbook, it might also be used in an advanced seminar on data base systems.

The symposia and this book were made possible through the efforts of many people. We would like to acknowledge NYU and IBM Japan for sponsoring the symposia.

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April 3, 1981

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[†] Presented in NYU Symposium on Data Base Design,
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^{††} Presented in IBM Symposium on Database Engineering,
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