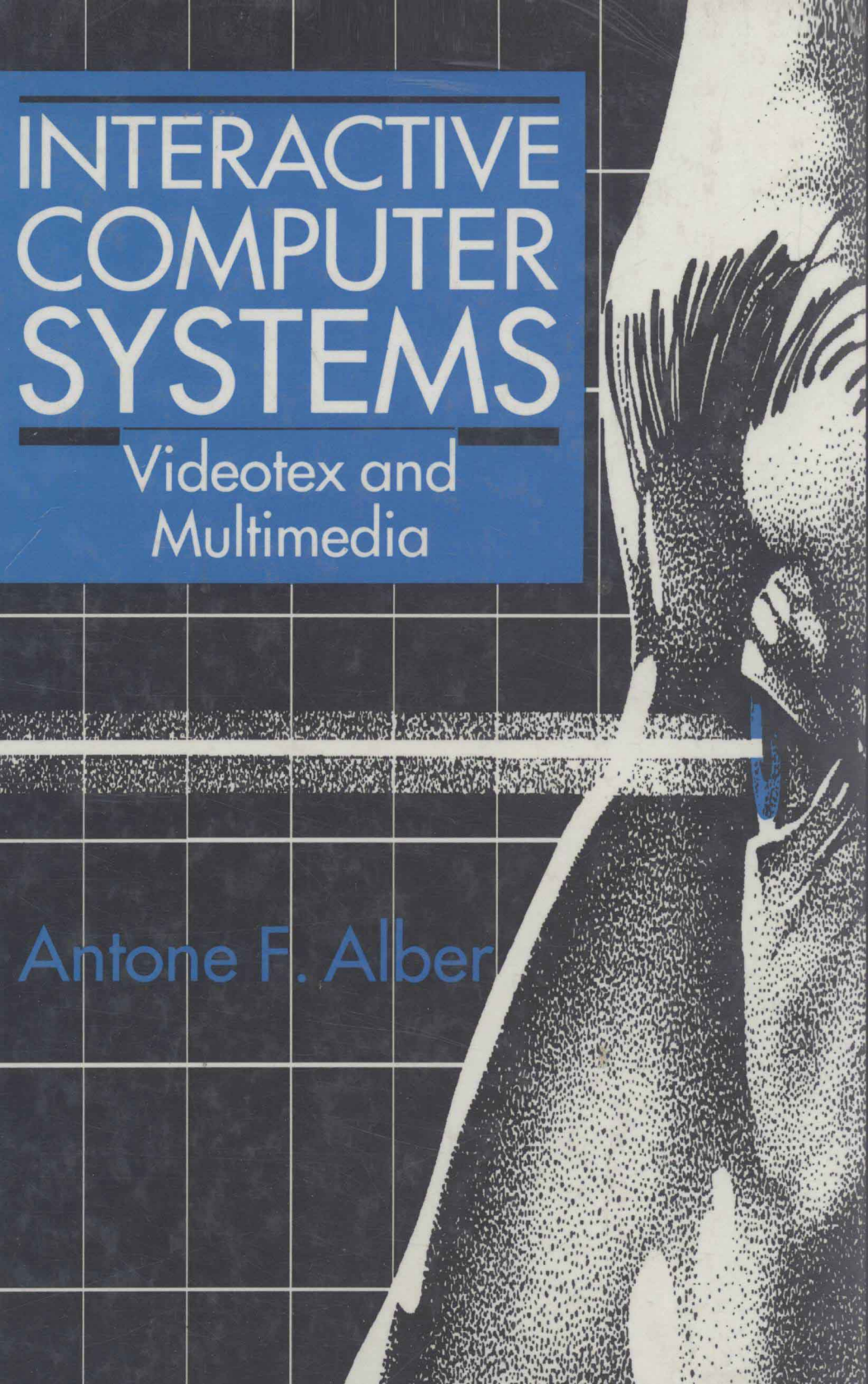
INTERACTIVE COMPUTER SYSTEMS

Videotex and Multimedia



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To Mary Beth,
my wife and friend

Preface

A generation ago, the raw material of a computer was data, the material from which information is derived—facts, concepts, and instructions. Today the raw material is information, data that have been transformed into a meaningful and useful form. A vast gulf separates the way data and information are handled and used.

Data are compact and often consist of numbers and individual elements that can be conveniently handled in printed reports or in columns on a display screen. Normally data must undergo a transformation to be useful. Previously that transformation occurred in the viewer's mind or on pads of paper. Today, the viewer works directly on the information by interacting with the computer. Unfortunately information is much more demanding of computer and network resources than data and therein lies the rub. Converting data into information by introducing text in the form of sentences and paragraphs, along with color, graphics, picture-quality images, audio, and even motion video consumes many more computer resources than just data alone. Compounding the problem is the unhappy prospect of individuals who work in a data-processing environment thrust into the roles of graphic illustrators, script writers, or electronic journalists—roles for which many individuals in data processing are ill suited.

This book explores the realm of interactive computer systems, the varied media forms that are possible, and access to this information, often at great distances. Treatment of the topic does not focus on technical details; concepts are fully explained, so that anyone with even a very limited knowledge of computer technology can understand them and recognize the possibilities that exist for intelligently using interactive computer systems based on videotex and multi-media applications.

Chapter 1 discusses the changing business environment and the rise of the computer culture. This sets the stage for examining how some organizations use computers to realize operational and strategic goals. Chapter 2 expands on several points raised in Chapter 1 and introduces a model for studying operational and strategic applications of systems that have been enhanced by varied media forms.

Chapters 3 and 4 present the host hardware and the user's equipment. Of particular interest are such new media forms as CD-ROMs and their derivatives, CD-I, CDTV, and so forth. A section about multimedia information storage and some of the inherent difficulties will interest the reader. Chapter 4 describes end-user equipment ranging from dumb terminals to computer telephones and videophones. Public access terminals, also known as kiosks, which are springing up in airports, shopping malls and hotel lobbies, are discussed.

Chapters 5–7 form a trilogy devoted to the links between where information resides and those who access it. Chapter 5 explains storage and transmission requirements of multimedia applications. Chapter 6 presents some of the communication services that an organization has at its disposal externally and internally. Chapter 7 outlines events leading to the breakup of AT&T and the development of Open Network Architecture (ONA) for business and residential applications.

Chapter 8, devoted to the ethereal subject of software, explains the special set of functions that differentiates a software program presenting information from one presenting data. Since many organizations will end up buying the software they need and thus be vulnerable to the supplier, a discussion of escrowing software and a software bill of rights are included.

Chapters 9–11 focus on producing the contents. A strategy for selling the system to users, managers, and the data-processing department is proposed along with ideas for nurturing expectations without ignoring the economic realities of implementing enhanced systems. A 10-step methodology shows how to plan and design the contents in the context of developing an electronic version of an organization's annual report. Incorporated within the methodology are tips and procedures ranging from designing menus to picking colors and writing a storyboard.

Chapters 12–15 describe how organizations have actually implemented the types of systems described in the book. Chapter 12 reports on the results of an extensive mail survey that shed light on why organizations are deploying enhanced systems, the approaches used, and the problems to avoid. Ten case studies of organizations that have implemented projects are presented in Chapters 13–15. In each case, technology, objectives, communication links, and how it was designed are explained in the context of the material presented in the preceding chapters. These cases reveal how organizations are using information technology in innovative ways to further their goals.

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Contents