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# **On-line Text Management**

HyperText and Other Techniques

P. C. McGrew  
W. D. McDaniel

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# Preface

We created this book as an answer to all of those people who claim that the world of text access, retrieval, and manipulation for the mainframe computer user can never be as good or as user-friendly as the world of the personal computer or workstation user. With some thought to design and some thought to implementation, most of the intelligent user interfaces found in the smaller environments can be migrated to the mainframe, or can coexist across the mainframe and PC/workstation environments. This includes applications from on-line help facilities to simple access to reference text, from simple access to a text database to context-sensitive entry into a text database. You can have it all.

## The Audience

We think this book is important for *anyone* involved in creating, managing, or using mainframe application environments. In some way, shape, or form all mainframe applications have text associated with them. They may manipulate text, produce text, or passively require that the user have access to off-line documents, such as user manuals, reference manuals, or implementation guides.

To make this book most helpful to the broadest number of people, we have tried to provide a fair amount of detail about the IBM/370 mainframe environment, especially in *Caveats*. This detail will be superfluous to very technical mainframe users, but should help non-technical managers and users to understand the complexities involved in developing and implementing an on-line text application.

## Our Idea

Our idea is that mainframe users *can* have the speed and storage range of the large systems and yet work through a friendly and appealing user interface. We believe that this is a pioneering concept. Many computer users who

begin to investigate ways to improve their environment are told that the applications and interfaces they would like cannot be handled effectively or efficiently in an IBM/370 mainframe architecture environment. By picking up this book you have begun the process of breaking through these myths. In this book we guide you through the step-by-step development of an on-line text display and management system.

We begin by defining the minimum environments and the basic jargon associated with text access, and then move into the nuts and bolts of building the best system for your environment. We provide guidelines for evaluating your environment to help you determine what type of on-line text retrieval and management environment you would like to create. And then we tell you how to do it.

We cover all of the facets, including the design of the system, creation and management of text files, and the type of programming required to make it all come together into a package. As you find out what is possible, you can make decisions about how basic or how sophisticated the system for your environment can and should be.

Out here, on the leading edge of mainframe computer applications, very little is impossible. We demonstrate how to build several different kinds of on-line text systems, ranging from the simple display of composed text, to more PC-like applications using windows and menus that incorporate associative navigation and hypertext information retrieval techniques.

## Using This Book

Your path through the remainder of the book may take any of several directions. If you are primarily interested in the creation of the text to be used in an on-line system, you can concentrate your attention on Parts 3 and 4. If you are primarily interested in the programming requirements, concentrate your attention on Parts 3 and 5. If you require an overall understanding, read the entire book in the sequence presented.

## Product Information

It would be impossible to create a book like this and not name quite a few products whose names are trademarked by their owners. To avoid the clutter than can occur on a page when one entry after another has a footnote associated with it, we have gathered all of the trademarked entities into an appendix, *Our On-line Environment*, and identified their owners. For more information on any of the products named, contact the vendors directly. If you have difficulty locating information, please contact the authors.

## Acknowledgments

We must first thank our friends and colleagues who helped us define our ideas and provided feedback. We want to especially thank the following people for reading and critiquing drafts of the manuscript:

- **Carolyn Rosenberg, Manager of Documentation Systems, Candle Corporation, Los Angeles, CA**

Carolyn has been our most enthusiastic supporter. She read drafts that were sometimes no more than a shell of an idea and shared her ideas with us. Her questions to us about what was and was not possible often helped us to break more ground toward our goal of creating a usable on-line text system using existing source files.

- **Frank Zdanowski, Senior Development Center Analyst, Kemper Group, Long Grove, IL**

Frank is an old friend. From his vantage point in the development center of a large insurance provider, he provides a critical eye and an understanding of the requirements of end-users.

- **Annette Norris Bradford, Staff Information Planner, IBM, Kingston, NY**

Annette is a new friend who has a common interest in technical communication in general and on-line text specifically. We met when she became the IBM representative to the Professional Development project at SHARE; from that moment on she became a valuable source of material drawn from areas we would not normally have had access to. She was also an excellent editor for style and consistency.

- **John Fauss and Gary Good, Amoco Production Company, Tulsa, OK**

John is another new friend. He and his colleague, Gary Good, took the time to read and analyze our manuscript in record time. Their thoughts and comments were extremely helpful as we finalized the manuscript. Gary's background as the developer of the Text Display Facility, now marketed by VM/CMS Unlimited, Inc., gave us more insight into how others have solved the problems of displaying on-line text.

- **Elie Cassorla, Jim Slater, and their staff at the IBM Thomas J. Watson Research Laboratory, Hawthorne, NY**

At the SHARE conference in August, 1987, Elie presented a session on SmartBook, a research project involving the use of on-line text display applications within IBM. Many of the ideas and presentation concepts were parallel to our ideas. He invited us to Hawthorne to discuss our ideas about on-line text, and to learn more about how the SmartBook design evolved.

We also owe a debt to our friends at QMS, Inc. in Mobile, Alabama, especially Diane Davis, Software Applications Engineer. The PostScript printer used for drafts and testing was their QMS PS/800+. Diane was often there to answer questions as we broke new ground by creating text and graphics on our mainframe and moved them down to the PostScript printer. Rick Gable at QMS was another source of help and encouragement as we came down to the final days of finishing the manuscript.

Phil Plumbo and Jewel Johnson at Printware, Inc. also provided attentive help when we reached the final challenge of making our host-produced PostScript actually print on a their PostScript printer.

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Michael allowed us the use of the time on the mainframe to develop the text and graphics for the book, which made drafting and revising the manuscript an easier task than it would have been if we had been confined to PC-based writing tools.

- **Garry Taylor**

Garry is the MicroLab Project Leader on the Research and Design staff, and our resident superhero. Regardless of the problems we encountered as we tried new ways to create graphics on the mainframe for printing in the PostScript environment, or the opportunities presented when it came time to find a way to transfer our 85 MB PostScript file to the PC through software with a 64 MB transfer limit, Garry always had an idea and a solution. His friendship is highly valued, as is his ability to make just about anything work.

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James is a technical writer in the Documentation department. As we came down to the final days, we used both his eyes and mind to make sure we were not missing obvious problems.

- **Stephen Poe**

Stephen is the AI Project Leader on the R&D staff. He was a constant source of articles and books relating to human factors, text display, and just about any other topic we needed information about.

We also want to acknowledge the support of Jay Ranade, our series editor; Theron Shreve, our editor at McGraw-Hill; and especially Alan Rose of Inter-text Publications. His patience and support as we introduced him to the

concept of creating a document on the mainframe for printing on a PC-attached printer was admirable. We also appreciated his unwavering faith that we would come through.

And finally, we must thank our families for their support during the months of early mornings, late nights, and lost weekends it took to create this entity.

A handwritten signature in cursive script, appearing to read "R. McFar". The letters are fluid and connected, with a long horizontal stroke extending from the end.A second handwritten signature in cursive script, appearing to read "R. McFar". This signature is more stylized and elongated than the one above, with a prominent flourish at the end.

November, 1988



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# Introduction

*Before we launch into how to create a text retrieval and display system, we discuss the various types of on-line display applications, the questions surrounding how to provide some type of text examination on-line in a mainframe environment, and the reason you might want to attempt it. We also discuss why an on-line environment is desirable and the variety of situations which might change the way you would design such a system.*

*To help you understand the concepts associated with moving to an on-line documentation environment, we discuss the terminology associated with this type of text application.*

*We close with a description of the hardware and software required to provide up-to-date documentation and quality on-line help facilities to users of mainframe applications.*