

# Implementing Cost-Effective Assistive Computer Technology

A How-To-Do-It Manual for Librarians®

**Jane Vincent**

**HOW-TO-DO-IT MANUALS®**

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**Don't miss this book's companion wiki:**

To access links to information about new and useful accessibility programs and apps, changes in legislation, innovations in the assistive technology field, and other parallel topics, go to:

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CIP Pending

*For James Edward Knox  
and  
Laurence Minsky*

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# Foreword

I was honored when Jane asked me to write a foreword for her book *Implementing Cost-Effective Assistive Computer Technology*. I had no qualms about introducing the book as I have observed her work with many libraries in the San Francisco Bay Area, I recommend her to clients, and I bring my assistive technology questions to her as well. But I was a bit puzzled as to what I could contribute to the book. After looking at numerous other forewords, it seemed clear that I should answer two basic questions: why the library community needs this book and why Jane Vincent is the author to read.

Since 1975 my own career has involved helping libraries improve their services to people with disabilities. At that time, most libraries sent anyone with a disability, or a patron acting on behalf of someone with a disability, to the nearest regional library of the National Library Service for the Blind and Physically Handicapped and considered that they'd done their job. Any professional discussions on the topic centered on serving either blind people and people with visual impairments or Deaf people and people with hearing impairments. A few progressive libraries provided large type books, braille signage, commercial talking books, TTYs, and signed story hours.

In 1990, the passage of landmark civil rights legislation known as the Americans with Disabilities Act (ADA) compelled reluctant libraries to consider that everything in and about their libraries should be considered from the perspective of people with disabilities—and disabilities other than visual and hearing ones. Building accessibility was the first priority for most libraries. But once libraries could focus beyond entrance ramps, stack aisle widths, and accessible bathrooms, they turned their attention to assistive technologies, including computers.

The American Library Association (ALA) immediately began providing assistance (through publications and conference programs) to help libraries address the ADA. The federal government offered aid through Library Services and Technology Act (LSTA) grant money, which funded many pilot projects across the country. The outcomes of many of these programs demonstrated common preconceptions and problems for libraries.

One of the proudest moment in my life as a librarian was in 2001, when ALA—after Council defeated the measure in 2000—finally passed

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a policy on serving people with disabilities that looked beyond compliance with laws and regulations to equal access in the broadest sense. I was fortunate to serve as editor and chief lobbyist for this “controversial” policy, drafted and sponsored by the ADA Assembly (now the Accessibility Assembly). The Accessibility Policy gave libraries a tool other than the ADA to bolster their arguments—and budget request rationales—for new services and technologies to recalcitrant library boards and local governments.

Despite all this technical, financial, and policy assistance, many libraries still cling to the initial arguments and issues around providing adaptive technologies that they presented 20 years ago. Their contentions have remained surprisingly—and depressingly—constant, no matter what the latest technologies are or where the libraries are located. The top five are:

1. We can’t afford the assistive technology (whatever it is).
2. The IT department won’t allow us to use it and/or it won’t work with our current systems.
3. We can’t find a solution that works for all people with disabilities.
4. We’ve bought it and installed, but no one uses it.
5. Staff can’t be expected to remember how to use it or to help users with it.

This wonderful book addresses all of the above obstacles and does so with real-life examples, creative approaches, and pragmatic alternatives.

Jane Vincent is a librarian and has worked for the Center for Accessible Technology (Berkeley, CA) since 1997. She mixes and matches everything from the lowest tech materials to cutting-edge high-tech products to custom fit solutions to specific situations. Her approach is to provide efficiency and comfort for all library users, not just for people with disabilities.

As you read her book, I know that you, too, will be impressed with her extensive knowledge and expertise. Because of her continual reading, her avid curiosity, and her many connections in the assistive technology field, Jane not only knows what is available and possible now, but also what is coming around the corner. As a colleague has said about Jane, “Her vision is sharp, but not narrow; she sees important connections even if they’re far afield.”

*Rhea Joyce Rubin*  
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# Preface

Within the past 20 years, a heartening revolution has started to occur in the perception of people with disabilities. Rather than continuing to be stereotyped as incapable and dependent, disabled people are becoming appreciated as individuals with varied interests and with much to offer the world. Technology, and computer technology in particular, has had an inestimable role in this revolution, facilitating the ability of many people to pursue educational, employment, and personal goals.

However, computer design still assumes uniform capabilities of vision, dexterity, and comprehension among all users. Thus, computers can also create the single, largest barrier that people with disabilities still must overcome. This barrier is primarily addressed through use of some of the hundreds of products—commonly known as “assistive technologies”—that modify or replace standard monitors, keyboards, and mice and provide strategies for presenting information in ways that are easier to understand.

You may be aware of people with disabilities who already come to your library and wondered if there were ways to make your computers usable by them. You might have even bought a few products that are advertised for enhancing computer accessibility, such as screen magnifying software or a keyboard labeled as “ergonomic.” However, you may still be unclear whether these are providing appropriate accommodations for your patrons.

The purpose of *Implementing Cost-Effective Assistive Computer Technology: A How-To-Do-It Manual for Librarians* is to help library teams make the best possible choices, both initially and on an ongoing basis, about which assistive computer technologies will provide the most appropriate strategies for accommodating patrons with disabilities. It draws extensively on writings about library best practices to ensure that assistive technology implementation is a fully integrated part of your services, not an afterthought.

Reading this book from cover to cover will give you a step-by-step process for getting the maximum payoff from assistive technology implementation for the benefit of people with cognitive, physical, and sensory disabilities, as well as many others who have difficulty using a standard computer. If you’re already providing some assistive technology services, the book’s organization will let you easily find ideas to strengthen your program.

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You'll also find many anecdotes, checklists, templates, and worksheets. The anecdotes are from librarians across the country, most of whom were interviewed specifically for this book. The checklists, templates, and worksheets will help you think about what information you need to gather and what decisions you need to make, and it will give you a practical way to organize your findings so you can take action.

## Organization

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*Implementing Cost-Effective Assistive Computer Technology* consists of six chapters, followed by an appendix, glossary, and bibliography.

Assistive technology implementation shouldn't be distinct from your general computer services. By following library best practices starting at the planning process, you will be able to add assistive technology to your current computers with minimal disruption and maximal effectiveness. Chapter 1, "Equal but Not Separate: Integrating Assistive Technology into Your Overall Planning," starts by discussing all patrons—not just those who are clearly covered by the ADA—who would benefit from assistive technology use. It then discusses ways to gather data about appropriate solutions, identify useful community resources, create measurable planning objectives, and set equitable policies. Information about using accessible formats for communication is also included.

Before making informed assistive technology purchase decisions, it's critical to understand why assistive technology is even necessary. The reasons usually involve the inaccessibility of standard equipment, where physical, sensory, or comprehension barriers may exist. Chapter 2, "Understanding Barriers and Solutions," focuses on barriers to use of the standard monitor, keyboard, mouse, computer casing, and workstation and on problems that patrons may have with understanding and creating information content on computers. For each barrier, it presents categories of solutions, with attention given to the relevance of the solution for library environments. These solutions may be available via the computer operating system (both Windows and Macintosh systems are covered), product features, or third-party vendors. It also describes peripherals that may play a role in effective implementation, such as scanners and headphones.

Once you've talked with all interested parties, the next step is to select appropriate categories of solutions from those listed in Chapter 2. Because in many cases there will be more than one way to address barriers, specific products will need to be evaluated for desirability and affordability. Chapter 3, "Selecting the Appropriate Solutions for Your Library," covers how to prioritize acquisition of assistive technology solutions, using established practices for collection development. This includes a look at the benefits and drawbacks of freeware versus commercial products and mainstream versus specialized solutions. It then discusses how to create a justifiable budget for both up-front and hidden costs, including some creative funding strategies, and how to work with product vendors.

Even products that seem ideal for eliminating access barriers still need to be evaluated for compatibility issues. Conflicts can occur because of the existing computer setup, because of the applications or materials being accessed, or even because of issues between two or more assistive technology programs. Chapter 4, “Exploring Compatibility with Other Applications,” looks at how to communicate effectively with information technology (IT) staff about potential compatibility issues. It then provides details about the potential causes of these issues: security software, networks, different types of applications, and document formats. To address these issues, it then covers testing for compatibility, communicating with vendors, and addressing situations where technical issues cannot be resolved.

Once assistive technology is in place, the public needs to be informed of its availability and supported in its use. Staff members will need training, not only about the technology, but also about providing appropriate services to its users, including referrals as necessary. Chapter 5, “Communicating with All Relevant Communities,” discusses marketing services to potential consumers, including those who may not identify as having disabilities or as computer users. It also provides a guide to training staff members about disability etiquette and assistive technology. Finally, for patrons who require more assistance than the library can provide, it covers working with community resources that provide training, support, and other services.

Like any other technology, assistive hardware and software will occasionally need to be updated. This can be triggered by evaluation results, new product releases, or changes to the library’s overall computer setup. Chapter 6, “Keeping Assistive Technology Up-to-Date,” covers collecting information on assistive technology use and user demand that can be integrated into the next round of planning. It provides guidance on when and when not to upgrade to new versions of assistive software, as well as potential assistive technology implications when the library’s computers are upgraded to a new operating system or otherwise modified. The chapter ends with a look at the future of assistive technology.

The appendix lists several manufacturers of assistive technology products, with annotations indicating each manufacturer’s specialty. It also lists several vendors that sell products from multiple manufacturers. Finally, it cites lists of resources for learning about accessibility apps for mobile devices.

The glossary provides short definitions of topics that are mentioned throughout the book. It’s intended as an easy way to understand key concepts without having to look for the full definitions elsewhere.

The book ends with a bibliography that provides additional sources of information about many topics related to assistive technology and services to people with disabilities.

To keep this book continually current, there is a companion wiki at <http://www.janevincent.com/iceact>. This resource provides links to information about new and useful accessibility programs and apps, changes in legislation, innovations in the assistive technology field, and other parallel topics.

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Even in the technological age, librarianship remains a service profession, dedicated to ensuring equitable access to information for all. The goal of *Implementing Cost-Effective Assistive Computer Technology* is to provide a guide to all facets of making your computers accessible, not only so your library can meet its legal requirements for equal access, but also so your patrons with disabilities can experience the highest possible level of customer service when using your public computers.

# Acknowledgments

This book has multiple root systems. One started in the children's room of the Highland Park (IL) Public Library, where a kindly librarian handed my four-year-old self a primer on elephants and gave me a lifetime appreciation for high, overstuffed bookshelves. Another began at Lawrence University when Ronna Swift introduced me to Larry Minsky, who has shaped my thinking more than even he could ever appreciate. A third came from the Barrier Free Computer Users Group at the University of Michigan, whose spark was started by Doug Thompson and is carried to this day by Jack Bernard.

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# Implementing Cost-Effective Assistive Computer Technology

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As this book was being developed, the world suddenly lost a passionate, brilliant, generous, funny, and very dear man. Jim Knox was a quiet titan of assistive technology whose influence was felt at the University of Michigan and well beyond. We grew up in the field side by side, and I relied on his wise insight to find both innovative accommodation strategies and exquisite \$1.50 Chinese food. For the many who miss him—especially Roberta, Bill, Linda, and their families—it is hoped that the dedication brings some comfort.