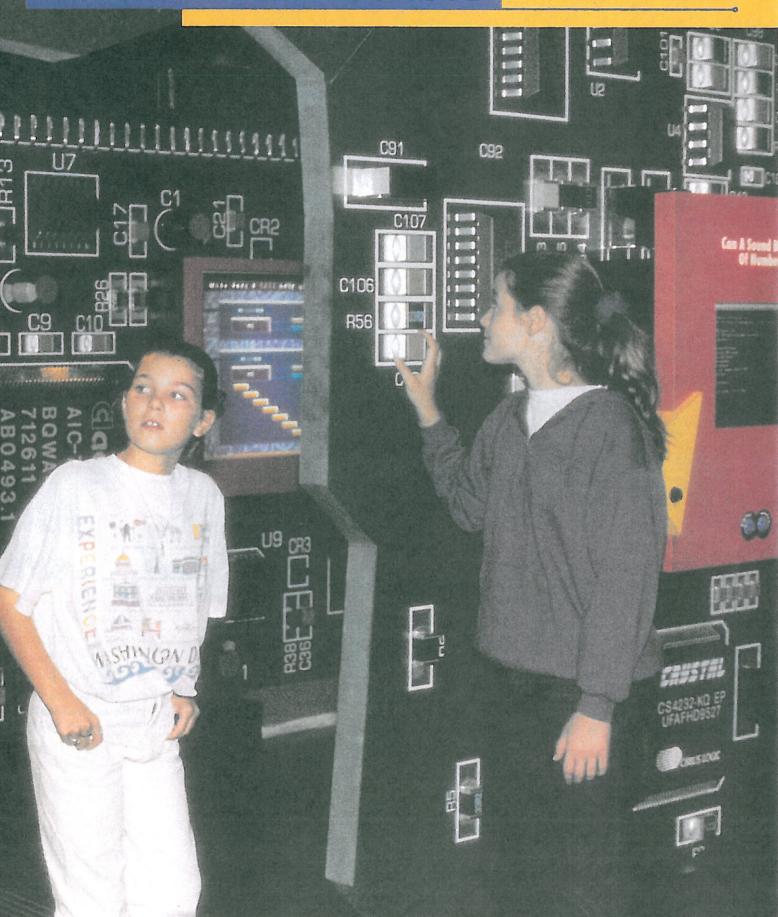
The Computer Museum

ANNUAL REPORT FY 1996





all ages and backgrounds from around the world through dynamic exhibitions and programs on the technology, application, and impact of computers To preserve and celebrate the history and promote the understanding of computers worldwide

To be an international resource for research into the history of computing

MUSEUM HOURS

Winter: Tuesday-Sunday, 10am-5pm Summer: daily, 10am-6pm

ADMISSIONS

\$7.00 adults; \$5.00 students, children five and up, seniors. Free for Museum Members and children four and under. Half price Sundays 3-5pm. Group rates by arrangement.

COMPUTER

ADDRESS: 300 Congress Street, Boston, Massachusetts 02210

PHONE: (617) 426-2800 FAX: (617) 426-2943

WEB ADDRESS: www.tcm.org

Non-Profit Org. U.S. Postage

PAID

Boston, MA Permit No. 55897

BOARD OF TRUSTEES

(AS OF JUNE 30, 1996)

Lawrence Weber The Weber Group, Inc.

Vice Chairman Richard P. Case IBM Corporation

Oliver Strimpel Executive Director The Computer Museum

Gwen Rell Founding President
The Computer Museum

Edward Relove

Lynda Schubert Bodman

Richard M. Burnes, Jr. Charles River Ventures

Gary Eichhorn Open Market

J. Thomas Franklin Lucash, Gesmer & Updegrove

Samuel F. Fuller Digital Equipment Corporation

Roger A. Heinen, Jr.

Gardner C. Hendrie Sigma Partners

Charles House Spectron Microsystems

David L. House Intel Corporation

James L. McKenney

Laura Barker Morse Heirfrick & Struggles

David Nelson Savoy Software Development

Anthony D. Pell Pell, Rudman & Co., Inc.

Nicholas A. Pettinella Intermetrics, Inc.

F. Grant Saviers

Adaptec, Inc.

Edward A. Schwartz New England Legal Foundation

Hal B. Shear Research Investment Advisors, Ltd.

Leonard Shustek Network General Corporation

Michael Simmons Security Capital Group

Richard L. Taylor Blue Cross Blue Shield

Dorothy A. Terrell SunExpress Inc

Charles A. Zraket Mitretek Systems

General Counsel

Lucash, Gesmer & Updegrove

BOARD OF OVERSEERS

Chairman

David Nelson Savoy Software Development

Sam Albert Sam Albert Associates

David Anderson Amdahl Corporation Gary J. Beach Computerworld

C. Gordon Bell

Frich Bloch Council on Competitiveness

Daniel Bricklin Software Garden

Jeff Braun MAXIS

Lawrence S. Brewster Redding Consultants

Marc Butlein META Group, Inc.

Richard A. Carpenter Carpenter Associates

Clemmie Cash Tarrek Gems

Vinton G. Cerf MCI Data and Information Services Division

Stephen E. Coit Charles River Ventures

Howard E. Cox. Jr. Greylock Management Corporation

Andrea Cunningham Cunningham Communication, Inc.

Robert E. Davoli

Lacy H. Edwards Journey Technology Corp

Robert R. Everett The MITRE Corporation

William Foster Stratus Computer, Inc.

Clifford Gerring, III American Market Connection

Peter S. Hirshberg Peter Hirshberg & Associates

Terri Holbrooke Softbank

Max Honner Max D. Hopper Associates, Inc.

Barry Horowitz The MITRE Corporation

Christine Hughes

James A Lawrence Pensi-Cola International

John D. Loewenberg Connecticut Mutual Life Insurance

Robert Lucky Bellcore, Inc.

Patrick J. McGovern International Data Group

Carver Mead California Institute of Technology

John A. Miller, Jr. Miller Shandwick Technologies

Christopher Morgan Christopher Morgan Communications

Isaac R. Nassi Apple Computer Inc

Barry Nearhos

Edward A. O'Neal Bank of Boston

Seymour Papert Massachusetts Institute of Technology

Suhas S. Patil Cirrus Logic, Inc

John William Poduska, Sr. Advanced Visual Systems, Inc.

Mitchel Resnick Massachusetts Institute of Technology

Howard Salwen

Naomi O. Seligman The Research Board

Paul Severino Bay Networks, Inc.

John Shoch Asset Management Company

W. J. Spencer Sematech

Lee Sproull Boston University

James Sutter Rockwell International Corporation

Juanita Wade Blue Ribbon Commission

Leo V. Welsh, Jr. Sprint Corporation

HONORARY TRUSTEES

Charles Bachman David Chapman Jon Eklund Richard E. Greene Theodore Johnson Mitchell Kapor Pat Collins Nelson Russell Noftsker Brian Randell Jonathan Rotenberg Jean E. Sammet Irwin J. Sitkin Michael Spock

BOARD STANDING COMMITTEES

Executive Committee

Larry Weber (chair) Richard Case (vice chair) Gwen Bell Edward Belove J. Thomas Franklin Gardner Hendrie David House James McKenney Edward Schwartz Oliver Strimpel

Nominating Committee

Gwen Bell (chair) Lynda Bodman Gardner Hendrie David House Dorothy A. Terrell

Audit Committee

Nicholas Pettinella (chair) Richard Case J. Thomas Franklin

Endowment Committee

James McKenney Anthony Pell

BOARD OPERATING COMMITTEES

Collections Committee

Gwen Bell (chair) Richard Case Steven Golson Gardner Hendrie Bill Poduska Howard Salwen Leonard Shustek

Compensation Committee

Brian Cullinane J. Thomas Franklin Nicholas Pettinella

Corporate Development Committee

Larry Weber (chair, East Coast) Grant Saviers (chair, West Coast) Gary Beach Chuck House Mitchell Kertzman Laura Morse Ken Wilcox Elizabeth Passela Steve Vana-Paxhia

Development Committee

Tony Pell (chair) Gwen Bell Richard Burnes Gardner Hendrie Michael Simmons

Education Committee

Mitchel Resnick (chair) Lynda Bodman Clemmie Cash Andee Rubin Hal Shear Dorothy Terrell Juanita Wade

Exhibits Committee

Lee Sproull (chair) Gardner Hendrie Gordon Bell **Edward Belove** Richard Case James McKenney David Nelson Mitchel Resnick

Finance Committee

James McKenney (chair) Brian Cullinane Barry Nearhos Nicholas Pettinella

Friends Committee

Richard Burnes (chair) Robert Davoli Gardner Hendrie Michael Moody Tony Pell Cameron (Bunk) Read

Licensing Committee
J. Thomas Franklin (chair) Lynda Bodman George Halsey Oliver Oldman Tony Pell Dorothy Terrell

Long-Range Positioning Committee

Larry Weber (chair) Stephen Coit Christine Hughes Christopher Morgan

Marketing Committee

Lynda Bodman (chair) Steven Coit J. Thomas Franklin Clifford Gerring Ann Kasabian Christopher Morgan Larry Weber

Museum Wharf Board

Edward Schwartz Richard Taylor

Publications Board

Gwen Bell Edward Belove Clifford Gerring Christopher Morgan

Executive Director

Administration

Computer Museum

Development

Education

Marilyn Gardner, Director

Exhibits

Donald Collins, Controller Regina Gatt

Marketing and Museum Store

John Marchiony, *Director* Martha Ballard Margaret Dasha

Public Relations

AYFOTO/John Ric

\$250 and above Leo L. Beranek Cambridge Mental Health Association Howard and Holley Cannon Walter M. Carlson CMP Publications Lloyd and Eleanor Dickman Lucien and Catherine Dimino Frederick A. Ebeling Andy and Linda Egendorf William T. Elliott John H. Esbin Bob and Maria Evans Barry James Folsom and Tracev Stewart Robert D. Gatti Donald Gaubatz and Linda Kroll Paul and Beatrice Gomory The Stewart and Constance Greenfield Foundation Theodore Hess, Jr., and Susan Scholes Robert B. Hoffman Katharine and Bill Jose John F. Keane Richard H. King Arnold Kraft Richard Lary Michael and Kathleen LeRoy Henry M. Levy James and Kathryn Warren Lewark Jon and Judith Liebman John and Elizabeth Little Arthur Luehrmann Carl Machover Julius and Kay Marcus Tom and Marian Marill Tron McConnell Medford Family Network Todd Medlock Rayman and Antoinette Mustafa David Nagel Arthur H. Nelson David Novak Anthony and Marilyn Oettinger Katherine C. Patterson James R. Payne Jamie and Stan Pearson Robert W. Puffer **Douglas and Pat Ross** Jeffrey Rudman and Susan Fried Michael J. Samek Jean E. Sammet Benn Schreiber and Elizabeth Hunt W. Lee Shevel Stanford University Bruce G. Stewart Robert and Diane Stewart Michael and Marcella Thompson Warren and Jane Tisdale Robert Trudel and Thanh Vu Gary and Janet Vacon Joseph and Susan Wood

\$100 and above

Ken R. Adcock Mark and Diane Allen Alpha Software Sheldon Apsell

Walter and Olga Attridge Donald L. Baker Mario R. Barbacci Russell and Jacqueline Barbour John Barstow and Eugenia Ware Bentley H. Beaver Beckingham Family Jeffrey Berg and Debra Paget Joshua Boger Rontropies James and Diana Bouchard K.C. Branscomb and David Kellev Brown University Bruce G. Buchanan Richard and Cheryl Bugley Bunker Hill Community College Jack Burness John and Mary Cadwallader Mary Cahill Bob Caron Brigitte Casemyr Laurence and Ann Chait George and Judy Chamberlain Chistolini and Desimone William and Vicki Christensen Richard J. Clayton Richard and Jena Close Daniel and Sandra Cohen Clement Cole and Margaret Marshall Mr. and Mrs. William H. Congleton Fernando J. Corbato Ed Council Michael Cronin Henry J. Crouse Bruce Curran Paul J. Curran Charles Dana Arnold De Larisch Thomas A. DeFanti Gregory and Janice Del Sesto Michael L. Dertouzos Peter and Kate DeWolf David R. Dick **Bay Duncan** Steve Emmerich and Eve Horwitz Robert and Jacqueline Fano Andrew and Joan Farber **FAYFOTO** Ronald Fisher and Lisa Rosenbaum Myron Fox Steven and Wendy Frank Daniel Freedman Bruce Gilchrist George and Cornelia Gilder Lee Gillespie Brian J. Gladish Robert and Deanne Glorioso Steve and Terry Golson Eugene F. Grant Paul and Martha Green Robert and Marion Grimm Stephen Gross Ronald Gruner John and Cynthia Haldeman Tom and Rosemarie Hall Keith and Priscilla Hare Ardoth A. Hassler and

James M. Short

Jim and Karen Hayes

Frank and Jane Heart Winston and Sarah Hindle Albert A. Holman, III Charles Hood James J. Horning Allan Hurst David Inman John Ippolito Brad and Dorothy Jeffries Gail A. Jennes Nolan and Joan Jones Ann Karpick Kenneth W. Kennedy, Jr. Richard Kenner Gary and Carol Kessler Roger and Shirley King Robert M. Klein Joseph W. Kmoch Alan and Judith Kotok Bernard and Ronni Lacroute Bruce and Sandra Laskin James and Mary Lawrence Gerald Leary John R. Levine Joyce Currie Little Carl and Claudia Lowenstein Hermann Luttermann Carol Dianne and David Martin Melvin J. Mason, Jr. Craig J. Mathias Joseph Matuscak Alan Maya Thomas and Emily McClintock Richard McCluskey Pamela McCorduck and Joseph Traub F. Warren and Karen McFarlan William and Vesta McLean John E. McNamara R. W. Meister Gentaro Mivairi George Miyashiro Moco Robert Moe Thomas H. Moog Robert and Barbara Morrill Morris & Associates Joseph C. Morris Carl A. Niehaus David C. Noderer Landon C. Noll Bernard J. Nordmann The Noyce-LaBombard Family

James and Cheryl O'Malley

Robert K Otnes Paul Pangaro David and Linda Patterson Edward and Rhonda Perkins Monty Peters Ernest P. Petrides James and Beverly Philip Jonathan Postel Vickie Prescott Peter and Peggy Preuss Tony and Melinda Rea David and Jessica Reed Stephen and William Scott Reilly Audrey R. Reith Mitchel Resnick Duane A. Rice William and Pamela Mallory Ricker C. Mike and Carol Riggle Robert and Rosalie Rosin Kenneth Ross Jonathan Rotenberg Stephane M. Rousset Rita Seplowitz Saltz Michael Sand David B. Sarrazin Ralph Savir Phillip H. Schearer P. B. Schechter and Naomi Reshotko Sarah Schiermeyer Earl and Mary Schweppe Michael Sedita Aaron and Ruth Seidman Richard G. Shoup Roger Sinclair Linda C. Smith Frank and Betsey Solensky Karen Sollins Norman Soong Lillian Sparacino Robert and Verna Spinrad William and Judith Steul Jack and Arlene Schreck Stevens Peter R. Stickells Oliver and Harriet Strimpel Atsuyoshi Takayama David Tarabar Hal Tepfer Joseph and Cynthia Thompson William and Patricia Thompson Erwin and Adelle Tomash H. Dean and Patricia Toombs Tutoring Plus Of Cambridge

Ocean Software

David Tweed Richard M. Van Slyke Juanita and Kenneth Wade Fred Wang Stuart Wecker Robert and Ann Elizabeth Todd Wells Leo and Linda Welsh Eric Werme Christopher G. Westbury Gary and La Donna Wicklund Harvey W. Wiggins, Jr. Joan Blout Wylie Gayle J. Yaverbaum

Library Members

Abbot Public Library Belmont Public Library Brookline Public Library **Burlington Public Library** Hanscom Air Force Base Library Hingham Public Library Lucius Beebe Memorial Library Lynn Public Library Richards Memorial Library Somerville Public Library Thayer Public Library Waltham Public Library Wayland Free Public Library Wellesley Free Library Winchester Public Library

MATCHING GIFTS 7/95-6/96

We thankfully acknowledge the following corporations and foundations that supported the Museum by matching their employees' contributions.

Adobe Systems Apple Computer AT&T Foundation Gillette Company Hoechst Celanese Corporation McGraw-Hill Companies Microsoft Sun Microsystems Foundation United Technologies Corporation

We apologize for any inadvertent omissions from our donor list. Please inform us of any errors so that we may correct our records.

THE MUSEUM CELEBRATES CHILDREN

It's been a banner year for kids at the Museum. They have been at the heart of several initiatives that exemplify the Museum's educational philosophy: to inspire people about technology without intimidation.

This year, the Museum published its first book, *The Computer Museum Guide to the Best Software for Kids*, to resounding reviews. Following this came the launching of the *Guide*'s companion exhibit, *The Best Software for Kids Gallery*. Like the book, the gallery has garnered enormous attention, its space packed with delighted visitors of all ages. Both *Guide* and *Gallery* offer beleaguered parents solid, highly digestible information about choosing children's software. The Museum was honored to receive a Best of Boston ™ 1996 award from *Boston* Magazine, citing both the exhibit and the book's author-experts, Cathy Miranker and Alison Elliot.

The Museum also unveiled the upgrade to its flagship exhibit, *The Walk-Through Computer* TM 2000. In addition to the latest technological bells and whistles, the new exhibit radiates a whimsical, kid-friendly practicality.

The monster keyboard, for example, is now sturdy enough to withstand the rigors of a multitude of tiny but energetic jumping feet.

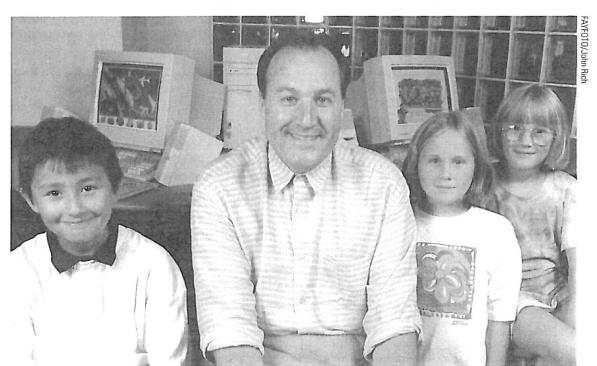
I am gratified to have been involved in the promotion of *The Guide to the Best Software for Kids*. And as a parent of three small children, I am delighted that the Museum continues to dispel the notion of stodgy computing by offering a place where the entire family can learn while having fun together.

These achievements could never happen without the support of our many generous members, sponsors, and volunteers. On behalf of my fellow Board members, I thank everyone who has played a part in the Museum's progress this past year. And I invite new friends to join us and share in the excitement to come.

Larry Weber

Chairman, Board of Trustees

Tayelelle



THE NON-CYBER MUSEUM

This year I was fortunate to be able to take a six-month sabbatical. During my absence, Marilyn Gardner did an excellent job as acting director, and, together with our dedicated staff, successfully maintained the Museum's strong momentum. I returned in May to a Museum that looked better than ever. A few weeks later,

Copyright 1996 Louis Fabian Bachrach

The Best Software for Kids Gallery™ opened, and the exhibit has been packed ever since. A tremendous energy exists throughout the Museum as our visitor assistants conduct a wide array of gallery tours and theatrical performances.

Last year, I wrote about "The Year of the Internet." Since then, the Internet, with its ethereal "cyberspace," has grown by leaps and bounds. Yet the Museum kicked off the fiscal year with an extremely real-space, physical exhibit. *The*

Walk-Through Computer[™] 2000 exists in only one place and uses literally tons of atoms to convey its bits of information and knowledge.

As I left on sabbatical, the tension between the physicalspace and cyberspace manifestations of the Museum was on my mind. People kept asking me if I feared the demise of the physical museum under the onslaught of an ever-more-capable global computer network. The sabbatical gave me a golden opportunity to tackle this issue.

The book *City of Bits*, by William J. Mitchell (MIT Press 1995), and subsequent conversations with the author helped my ideas to gel. Mitchell sees the Internet as one of a family of technologies that include storage and telecommunications. Storage technologies, from ink on paper to CD-ROMs, enable us to write information into a medium and retrieve it at a later time. This frees us from the need to convey information in real time. Telecommunications technologies let us share information without being in the same place. Telegraph, telephone, or video conferencing all allow real-time communication between people separated in space.

Storage and communications technologies can be combined so that people can communicate across both time and space. Traditionally, this has been accomplished with books and paper mail. The advent of the Internet makes this "ungluing" of space and time more practical, as the bits can be stored and transmitted with fewer, or even no atoms tagging along for the ride. More and more, the technology gives us a choice. Do we want to do things in the same space and time (face-to-face), or do we prefer to decouple space and/or time from our transactions?

Plenty of examples from every-day life show the trend towards the decoupling of life from the here and now. These include ATM banking, mail-order catalog shopping, and telephone airline reservations. Will the same thing happen to museums? Will people simply click onto our website, explore virtual galleries, exchange messages online with other visitors and staff, and check our online gift shop before they jump to another site?

I began to see the answer when Bill Mitchell and I discussed his analysis of the Economy of Presence. He pointed out that being in the same place and time as another person or object is a scarce resource. There are only a few cubic meters of real space around a person where one can be said to be in the same place and have a face-to-face meeting. In contrast, an infinite amount of

space is available outside that small sphere. Similarly with time: The present is fleetingly scarce compared to time past or future. The relative scarcity of high levels of presence in which time and/or space is shared creates value. So a high level of presence is appropriate for an interaction only if it can add value to the experience. Otherwise, lower levels of presence are preferred because they are more cost-effective.

Looked at this way, certain activities seem to shift into the lowest possible levels of presence. Banking, mail-order shopping, and travel reservations are activities for which the added cost of high presence (travel time and cost, parking, etc.) do not add sufficient value to justify the cost. But when interactions are not routine, but more subtle or sensitive, higher levels of presence become necessary. For example, we can conduct a great deal of business on the phone, but prefer a face-to-face meeting for delicate negotiations.

The question for museums now becomes:

Do museums bring value to high levels of physical presence? If this question can be answered affirmatively, museums as physical entities will endure, just as live performance has prospered in an age of TV, radio, and hi-fi, and face-to-face meetings have not been rendered obsolete by the telephone.

I believe at least four aspects of museums thrive in real space, adding value that justifies the cost of the real museum visit. First, the artifacts. An unmistakable thrill comes from being close to an important artifact. At The Computer Museum, our visitors love seeing the actual "R2-D2" costume used to make *The Return of the Jedi*. Standing in front of part of the pioneering 1951 computer Whirlwind conjures up an awe and appreciation of the engineering imagination and effort that launched computing. It is simply a different experience from seeing a photograph, or even exploring a high-resolution virtual world of the object. Museums with collections will continue to attract visitors.

Second, physical museums can effectively convey physical scale—large or small. The giant *Walk-Through Computer* is exciting because it is larger than you; scale is harder to gauge in a virtual exhibit. The major draw to natural history museums are dinosaurs. Can there be a

better way of appreciating the *Tyrannosaurus rex*'s bulk than by being dwarfed by its towering skeletal fossil?

Third, architectural spaces can convey an ambiance that heightens cultural experiences. Appropriate exhibit design enhances the content of a physical space, harnessing all the senses in concert to create a powerful impact on the museum-goer. Physical environments can

evoke a feeling of having arrived at a destination, which adds a special sense of occasion to the visit.

Fourth, the social interactions of a museum visit are vital determinants of the experience. The simultaneous sharing of experience within a family or school group becomes part of the fun. Conversation stimulated by the exhibits helps build relationships and understanding of the museum's content.

So when people ask me if physical museums will disappear, I answer that they will not if they play to the strengths that physical space uniquely endows upon them. The Internet

should be used to build complementary experiences that stem from the special assets of the physical museum.

As we enter the new fiscal year, we are moving ahead vigorously with programs that will further strengthen the physical presence of our exhibition galleries. We are also launching a major, complementary presence in cyberspace, called *The Computer Museum Network*. I look forward to reporting on exciting developments in both "spaces" next year.

Olivi Stringer

Oliver Strimpel
Executive Director

THE QUESTION

FOR MUSEUMS

NOW BECOMES:

DO MUSEUMS

BRING VALUE

TO HIGH LEVELS

OF PHYSICAL

PRESENCE?

ASSETS

CURRENT ASSETS	
Cash and cash equivalents	\$208,969
Accounts receivable	211,627
Pledges receivable	131,442
Inventory and prepaid expenses	65,227
TOTAL CURRENT ASSETS	617,265
PLEDGES RECEIVABLE, non-current	331,270
INVESTMENTS	724,763
LAND, BUILDING, EQUIPMENT, AND EXHIBITS -	
net of accumulated depreciation of \$5,494,922	3,943,995
TOTAL ASSETS	5,617,293
LIABILITIES AND NET ASSETS	
CURRENT LIABILITIES	
Accounts payable	230,411
Deferred revenue	24,035
Current portion of bond payable	80,000
TOTAL CURRENT LIABILITIES	334,446
BOND PAYABLE, net of current portion	269,333
NET ASSETS	
Unrestricted	3,414,118
Temporarily restricted	1,349,396
Permanently restricted	250,000
TOTAL NET ASSETS	5,013,514

TOTAL LIABILITIES AND NET ASSETS

THE COMPUTER MUSEUM, INC	. STATEMENT OF	ACTIVITY FOR THE	YEAR ENDED JUNE 30	, 1996
	UNRESTRICTED	TEMPORARILY RESTRICTED	PERMANENTLY RESTRICTED	GRAND TOTAL
REVENUES, GAINS AND OTHER SUPPORT Contributions Membership Admissions Investment income Auxiliary income	\$2,201,642 368,505 560,555 11,824 495,938 3,638,464	\$1,079,396 - - - - 1,079,396	\$ -	\$3,281,038 368,505 560,555 11,824 495,938 4,717,860
Total				
NET ASSETS RELEASED FROM RESTRICTIONS satisfaction of program restrictions	497,658	(497,658)		
TOTAL REVENUES, GAINS, AND OTHER SUPPORT	4,136,122	581,738		4,717,860
EXPENSES Exhibits Marketing and membership Auxiliary General administration Fundraising Depreciation	1,434,878 516,079 518,954 227,873 724,959 902,683		* (a)	1,434,878 516,079 518,954 227,873 724,959 902,683 4,325,426
Total	<u>4,325,426</u>	19 		1,020,120
CHANGE IN NET ASSETS	(189,304)	581,738	*	392,434
NET ASSETS AT BEGINNING OF YEAR	3,603,422	<u>767,658</u>	250,000	4,621,080
NET ASSETS AT END OF YEAR	\$3,414,118	\$1,349,396	\$250,000	\$5,013,514

\$5,617,293



GETTING TRIVIAL WITH

THE OFFICIAL COMPUTER By Christopher Morgan BOWL TRIVIA BOOK

When readers tell me my new book is trivial, I thank them for the compliment! That's because it's a trivia book—*The Official Computer Bowl Trivia Book*, to be exact—and it proves that computer "nerds" (and nerd wannabes) can have fun, too! The book (Crown paperbacks, \$10.00) is available from The Computer Museum Bookstore (617-426-2800 x307).

The Official Computer Bowl Trivia Book was born when fans of The Computer Bowl™ began asking for copies of the questions. So we assembled the questions used in the first six Computer Bowls and the pre-game shows in book form, along with hundreds of additional questions. Half of the questions in the book are new.

With a foreword by Microsoft Corporation's Bill Gates, the book features chapters on computers in the arts; the PC revolution; fun and games; people in computing; the Information Highway; companies, business and money; tough questions for hackers only; minis, mainframes and supercomputers; software; and pioneering computing.

WHAT IS THE COMPUTER BOWL?

The Computer Bowl was born in 1988 when the Museum's founding president, Gwen Bell, saw a set of computer trivia questions compiled by Steve Coit. They inspired the idea for a good-natured battle of wits between colorful high-tech personalities on West and East Coast teams. The object: to answer tough computer trivia questions and win the title "Computer Trivia Champs of the Universe." Over its nearly decade-long existence, The Computer Bowl has entertained thousands of people in the studio audience and millions more on PBS's *Computer Chronicles* show. Though strictly for fun, the competition is fierce, transforming the Bowl into something of an institution, and raising millions of dollars for the Museum, thanks to generous corporate and individual contributors.

RADIO DAYS

I've spent a lot of time on radio shows this year promoting the book, including NPR's *Science Friday* with Ira Flatow, where I challenged callers from around the country with tricky questions. The listeners did especially well, but here's one that stumped them: "Who invented the mouse, and how many buttons did it have?" (Answer: Doug Engelbart; three buttons.)

WHERE DO THE QUESTIONS COME FROM?

I contributed many of the questions to the book, but the majority have come from Museum members and staff, ACM members, the media, and trivia mavens Gwen Bell and Steve Golson. The questions range from the light-hearted ("Is the divorce rate higher in Silicon Valley or in Boston's Route 128 area?") to the "tough-techie" ("The ancient Mayan numbering system was not a base 10

system. Was it base 5, base 12, or base 20?") (Answers: Route 128; base 20.)

My job was to collate and fact-check the questions, combing Internet byways and libraries for arcane bits of computer trivia, such as the identity of the computer pioneer who hated street musicians so much that he sued them. (Answer: Charles Babbage.) And what did computer pioneer Alan Turing bury in his backyard during World War II, and why? (Answer: silver ingots to guard against inflation.)

1988: THE FIRST BOWL

The first Computer Bowl was held at Boston's World Trade Center in 1988. I co-hosted with William Randolph Hearst III. We got off to a somewhat shaky start when we learned that the satellite upload was not established to beam the Bowl to a waiting West Coast audience. Fortunately, I had an extra set of questions with me and spent an unscripted half hour asking the audience to answer them.

The audience was more than up to the challenge, rivaling our Bowl contestants from the East Coast (Esther Dyson, Mitch Kapor, David Hathaway, Bill Poduska, and Dick Shaffer) and the West Coast (Adele Goldberg, Bill Joy, Casey Powell, Allen Michels, and David Bunnell). The link was eventually established, and the show went on without a hitch. (The East Coast won, by the way).

Look for reruns of past Bowls on PBS and the Jones Computer Network.

SOME TEASERS FROM THE 1996 BOWL

Are you up to a challenge? Try answering these 1996 Bowl questions:

- 1. *Toy Story* was the first full-length feature film to be completely generated by computer. Its director, John Lasseter, won an academy award for a previous computer-generated short film. What was it called?
- 2. One trendy term on the Internet these days is actually a Sanskrit word that means "the visible form that the gods take on earth." Is that word *agent*, *avatar* or *java*?
- 3. What was the internal code name for the Netscape 1,2 Internet browser? Was it Cheddar, Brie or Provolone?
- 4. Which of the following is not the name of a real website: The House of Sacred Squirrels, The Bureau of Missing Socks, or Wombats Who Speak Esperanto?
- 5. One of the earliest forms of mechanical information storage was an ancient Peruvian device consisting of a cord with knotted strings of various colors attached, used for recording events, keeping accounts, etc. What was the device called? A quipu, an atahualpa or a picchu?

SOME ALL-TIME FAVORITE BOWL QUESTIONS

Here are some of my all-time favorite Bowl questions, taken from past Bowl scripts. My choices are mostly whimsical or slightly wacky because I am mostly whimsical and slightly wacky. Enjoy!

- 1. According to *The New York Times*, what U.S. government figure once sent the following e-mail message: "Oh Lord, I lost the slip and broke one of the high heels. Forgive please. Will return the wig on Monday." Was it Oliver North, J. Edgar Hoover or George Bush?
- 2. What was the first rock group to go online on the Internet? The Rolling Stones, Severe Tire Damage, or Aerosmith?

3. In the movie *Star Trek IV*, *The Voyage Home*, Scotty makes a mistake in attempting to communicate with a 20th century computer by speaking into the wrong peripheral device. What was the device?

- 4. What leading man was attacked by robot spiders in the movie *Runaway*? Was it Tom Selleck, Tom Hanks or Tom Cruise?
- 5. What Looney Toons cartoon character once used a UNIVAC computer to solve a mystery? Bugs Bunny, Porky Pig or Sylvester?
- 6. In the comic strip *Doonesbury*, what computer did Mark learn to program? The PDP-11/70, the Macintosh or the IBM PC?
- 7. Sega is the name of a popular line of computer video games including *Sonic*, *The Hedgehog*, but it's also an acronym. What do the letters "SEGA" stand for?
- 8. Texas Instruments developed the first popular microcomputer-based toy. What was it called?
- 9. What famous economic advisor appeared in an ad for Apple Computer in 1985?
- 10. In *Star Wars* was "R2-D2"™ an actual working robot, a hollow robot operated by a midget or a computer animation image?

1994 Computer Bowl All-Star Game winners from the East Coast (from left): Neil J. Colvin, Foundation Technologies Ltd.; Bob Frankston, Microsoft; Team Captain Mitchell Kapor, Electronic Frontier Foundation; Pamela McCorduck; and David L. Nelson, Novell MultiMedia.

Photograph: Vera Zark

Photo, page 5: 1990 East Coast Captain Pat McGovern (left), of International Data Group, dukes it out with West Coast Captain John Doerr of Kleiner Perkins Caufield and Byers.

1996 BOWL ANSWERS

1. Tin Toy • 2. Avatar • 3. Cheddar • 4. Wombats Who Speak Esperanto [No one got this one right, by the way.] • 5. A quipu

ALL TIME FAVORITE BOWL ANSWERS

1. Oliver North • 2. Severe Tire Damage, according to *The New York Times*. The group performed November 18, 1994, on the Internet 20 minutes before the Stones began their first-ever online concert. • 3. A mouse • 4. Tom Selleck • 5. Porky Pig • 6. The PDP-11/70 • 7. SErvice GAmes • 8. Speak and Spell • 9. Alan Greenspan • 10. A hollow robot operated by a midget.

Christopher Morgan is president of Christopher Morgan Communications in Boston and a Museum Overseer.



Chris Morgan and Bill Gates at The Computer Museum in November 1995. Gates wrote the foreward to the Bowl trivia book.

The WALK-THROUGH COMPUTER 2000

MAKING A
GREAT EXHIBIT

On October 21, 1995, The Computer Museum opened *The Walk-Through Computer 2000*, the networked, multimedia upgrade of its colossal, 50-times-scale personal computer.

The original *Walk-Through*, unveiled in 1990, had captured the public's imagination, inspiring 750,000 Museum visitors from around the world to learn how computers work by entering and operating the huge PC. But over the next five years, rapid advances in technology had made *The Walk-*

Through Computer[™] obsolete. By 1995, PCs everywhere featured impressive multimedia, communications, and networking applications that were not available in 1990. They also sported faster microprocessors, more powerful hard drives, and lots more memory than the older models.

The Museum decided that it was time to upgrade its flagship exhibit. With the support of Cirrus Logic, Inc., Intel Corporation, and 12 other corporate sponsors—which all supply components used by today's PCs—the 1990 *Walk-Through Computer* was replaced by a totally new exhibit, packed with state-of-the-art technology.

The new machine is driven by a high-speed Pentium® processor, surrounded by multimedia boards, connected to a CD-ROM drive, and networked—at the same 50-times-scale as its predecessor. Over 100 people—sponsors, volunteers, the Museum exhibit and design team, and outside contractors—spent 18 months fabricating the \$1 million exhibit, designing it to captivate a diverse audience including seniors and small children.

IMPROVING UPON THE ORIGINAL

To bring new life to its cornerstone exhibit, the Museum had to find innovative, exciting ways to explain how a computer works to an increasingly sophisticated audience. The upgrade provided a unique opportunity to improve upon the original model.

Ongoing evaluations of visitors' experiences had revealed specific instances where the old exhibit did not work for some people. At the same time, an advisory group of educators and marketing experts began to meet regularly and recommended that the new exhibit be more interactive, immersive, and fun.

FAYFOTO/John Ri

UPGRADE HIGHLIGHTS

The Walk-Through Computer is state-of-the-art inside and out:

MULTIMEDIA

• The Philips Electronics CD-ROM player stores over 600 MB of data optically on a CD-ROM—enough for an entire encyclopedia set with graphics and sound.

 The audio/video board, loaded with Cirrus Logic processing chips, lets the computer process audio, video, graphics and text

• The Adaptec SCSI adapter card allows the CD-ROM player to connect to the computer for rapid transfer of data.

NETWORKING

 A Hayes modem allows people at computers to send electronic mail or hook onto global networks like the Internet.

 A Cirrus Logic infrared transceiver chip provides communication via infrared signals between the computer and a cellular phone or personal digital assistant.

• The 3COM Ethernet card enables people at computers on a local-area network (LAN) to share information and messages.

MORE MEMORY

- The Quantum 4.2 GB hard drive (upgraded from 400 MB) is faster at reading and writing the vast amounts of information used in movies, animation, and sound.
- The 32 MB of random access memory (RAM) from Texas Instruments (upgraded from 4MB) enables the computer to have eight times as many files open at once as did the 1990 model. This means more multimedia applications can be used in real time.

MORE SPEED AND POWER

- The Intel Pentium® Processor is three times faster than the 1990 exhibit's 486 microprocessor, and handles the vast amounts of data needed for full-motion video and rich CD-quality sound.
- The Texas Instruments digital signal processing chip (DSP) speeds up the modem so that multimedia data travel over the phone lines faster.
- The American Power Conversion Uninterruptible Power Supply provides battery-backup power, and prevents electrical surges from entering the computer via an outlet, phone line, or network cable.

The plan that emerged from both the advisors and visitor evaluations called for these changes:

- interactive activities built inside the oversized components that would bring each part to life and help visitors learn, as they move through the exhibit, what each part does and how it relates to the whole computer;
 - a fanciful, oversized desktop environment that would immerse visitors as they explore the giant machine and its new, more life-like, 3-D components. It was decided that the desktop would belong to an imaginary teenager named C.J.;
 - a new, more realistic application for the big monitor that would resemble the operating environment of computers people actually use nowadays for work and play.

Visitors enter the new exhibit through a colossal simulation of a bubble-jet printer and find themselves shrunk to crayon-size next to an eight-foot-long CD-ROM. Clicking and rolling a car-sized trackball on C.J.'s vast desktop, they answer e-mail from C.J.'s friends and explore full-motion video on a 12-foot-tall color monitor.

Once inside the giant machine, visitors discover ceiling-high printed circuit boards loaded with suitcase-sized chips accurate down to the number of pins on each. Bright flashing lights in the motherboard floor lead to a powerful

seven-foot-square Pentium® processor, opened to reveal a photo of the actual silicon die.

THE INTERACTIVES

The new *Walk-Through* presents and explains each of the components by its role in the operation of the computer: Input, Processing, Storage, Communication, and Output. Most of the components feature interactive activities that enable visitors to experience firsthand how the parts work.

PROCESSING

At the heart of the new PC sits the table-sized microprocessor, with a cut-away view revealing how the levels of the chip are soldered to wires connected to pins plugged into the motherboard. The interactive program embedded in the processor shows how it converts instructions from English to programming and assembly languages, and finally to ones and zeroes. By operating a control panel, visitors take charge of the computer, fetching an instruction from one of three programs—sending e-mail, playing a sound, or making a picture. Each is designed to highlight the microprocessor's interaction with the computer's components. As visitors execute each instruction, it jumps off the screen into a fantastic display of lights and sounds racing from the microprocessor through buslines in the motherboard floor to each component.

A periscope-type device reveals an actual electron-microscope view of real transistor gates switching. For a simulated view into the heart of the microprocessor, the Museum used edited IMAX footage of a microprocessor fly-through, provided by Intel. A stunning, enlarged colorized image of a Pentium processor covers the processor's surface.

The audio/video board, loaded with Cirrus Logic processing chips, enables the computer to process audio, video, graphics, and text. To tell the story of the other chips inside the PC, a customized A/V board uses larger-than-life-sized replicas of audio and

video processing chips, supplied by Cirrus Logic. An exploded hole in the middle of the card allows entry. The interactive program embedded in the board's audio section lets visitors record their voice as an analog audio signal, convert it to a digital signal that the computer understands, and manipulate the numbers to hear how their voice changes. An interactive in the video section lets visitors capture a digital image of their face and discover how a computer mixes red, green, and blue to create a full-color image accurately on a screen.

STORAGE

At the hard drive, visitors use a giant read/write arm to flip magnets and write messages by setting eight bits of code. As the mammoth disk platters spin, visitors then see the bits read magnetically and decoded, with the results displayed on a monitor.

The interactive program embedded in the 8-foot-by-10-foot CD-ROM player reveals how a CD stores and retrieves vast amounts of data optically. By manipulating individual bits of information on a table-sized CD, visitors "write" a code, then see the giant mirrored disk spin past a laser that reads the code. A monitor displays the results. The CD-ROM player actually shoots a laser at pits and lands on the surface of the disk.

Creating these interactives was a challenge, since they had to work on spinning platters. The Museum worked with the New Curiosity Shop in California to develop the concepts for writing bits with magnets and laser light. Mystic Scenic Studios of Dedham, Mass., the exhibit's primary fabricator, developed the mechanics—a series of 96 bits that could be manipulated—while programmer Eban Gay created the software offering visitors feedback during the activity.

A magnified display inside the huge RAM modules lets visitors take "files" from a bin and "load" them into RAM. If visitors switch off the power, the files drop and the RAM "forgets" everything. Another display lets visitors discover how RAM stores information at the microscopic level by setting eight individual bits to form a single byte of information.

COMMUNICATIONS

In an Ethernet board, a lighthearted 3-D animation tells the story of networks. Created by computer animator Ed Hill, the interactive program reveals how messages are sent to all the computers on a local area network, but are delivered only to those with proper addresses.

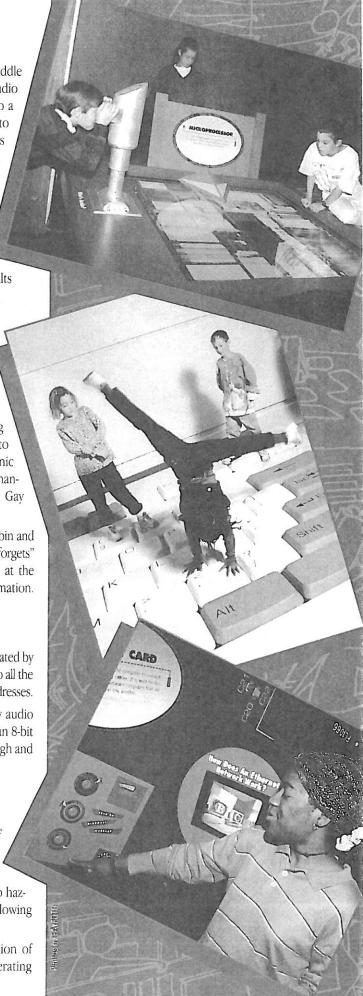
Behind and outside the PC chassis, the huge modem's interactive shows how audio tones are used to send and receive digital messages over phone lines. Setting an 8-bit ASCII code (one byte) using audio tones turns into a series of corresponding high and low tones as it is sent to a receiving unit to be read, decoded, and displayed.

INPUT AND OUTPUT

A spruced-up, car-sized Kensington Turbo Mouse 4.0 controls the action of the cursor on the 108-square-foot NEC color monitor. Since the new ball sits on a cushion of air, not on ball bearings, it is much easier to manipulate.

In the first version of the *Walk-Through*, the keyboard's steep keys proved too hazardous for little feet. The new streamlined keyboard is ergonomically safe, allowing kids (of all ages) to climb on the keys to their hearts' content.

The new application being output to the big monitor is a realistic collection of work-and-play-related faux programs, games, and files that simulate the operating



Some members of The Walk-Through 2000 exhibit team. From left: (back row) Don Greene, Jennifer Brackett, Owen Mysliwy, Dennis Shea, Josh Hooten; (front row) Patrick Liddy, Ann Fraioli, Sari Boren, and Christopher Grotke.

environment of a typical multimedia computer. Programmer Dan Griscom and graphics designer Patrick Liddy worked with the Museum to create the interactive activities, which include e-mail, songs, movies, letters, and games-all relating to C.J., the computer's imaginary teen-age owner, and the upcoming visit of a pen pal.

R.I.P. WALK-THROUGH 1.0

On Sunday evening, August 13, the giant computer's lights dimmed for the last time. In the following weeks, the old Walk-Through's insides were razed. As the opening date approached, Mystic Scenic Studios worked round the clock, as the Museum's carpentry and design shop prepared the exhibit space and completed a mammoth replica of a bubble-jet printer. At the crack of dawn and after dusk, the PC's huge components arrived

(in 10 truckloads) from Mystic Scenic. Six-man crews carefully unloaded the oversized parts in sections and placed them in the exhibit. Meanwhile, local muralists finished painting the huge books and other details on C.J.'s

desk that accentuated the big computer's scale.

Finally, on Saturday, October 21, The Walk-Through Computer 2000 opened to the public. Jim Blessing, 9, of Concord, Mass., was the first person to operate the upgrade. The last to use the old exhibit in August, Jim returned in the fall, eager to try out the new version. (He gave it a big thumbs up.) As of July 31, more than 100,000 visitors had explored the new PC.

EXHIBIT ADVISORS & SPONSORS

Copyright 1996 Louis Fabian Bachrach

The upgrade would not have been possible without the support of its sponsors.

PRINCIPAL SPONSORS

- · Cirrus Logic, Inc.
- · Intel Corporation

MAJOR SPONSORS

- 3Com Corporation
- · Adaptec, Inc.
- American Power Conversion (APC)
- Bose Corporation
- Canon Computer Systems
- · The Dennis C. Hayes Foundation
- · Kensington Microware Ltd.
- · NEC Technologies, Inc.
- · Philips Electronics
- · Phoenix Technologies Ltd.
- · Quantum Corporation
- Texas Instruments

IN-KIND SPONSORS

- · Avid Technology, Inc.
- Bose Corporation
- · Digital Equipment Corporation

EXHIBIT ADVISORS

The following individuals offered valuable insights throughout the planning and implementation of the upgrade:

- · Daniel Dennett
- · Clif Gerring
- Jan Liziak
- · Christopher Morgan
- · Mitchel Resnick

Lee Sproull

THE PRESS AND THE CELEBRIT

N ews of the original Walk-Through Computer traveled quickly around the world, generating media coverage in 63 countries, including spots on the Today show and Sesame Street.

Not to be outdone, the new Walk-Through has already prompted interest worldwide. The exhibit turned into a mini-United Nations last summer, as film crews from Japan's NHK-TV, the BBC, and Germany's ZDF-TV arrived to shoot the giant computer for educational programs—all within the same week! A long feature in the German news magazine Stern prompted The Times of London to fly a photographer across the Atlantic to capture the giant PC for a cover.

On the home front, Bill Nye, PBS's "Science Guy," was filmed using the keyboard as a giant teaching tool. Weekly Reader put the exhibit on its cover to help teachers excite young children about computers. Washington Post writer John Schwartz was inspired to reflect on the nature of obsolescence for Wired. For a page-one story on Sherry Turkle, USA Today photographed the MIT psychologistsociologist on the giant keyboard. In April, The Boston

Globe followed suit, assembling 11 owners of successful computer companies—all women-for a "power" pose on the keyboard that ran on the front page of the Living/Arts section.

The big PC has also proven popular with corporations and event planners. In May, Microsoft Chairman and CEO Bill Gates introduced his company's Internet Discovery Kiosk program nationally at the Museum, simulcasting images and sound to the The Walk-Through's screen. And on a lighter note, the giant PC made a guest appearance as "Boston's Favorite Byte" in a Papa Gino's television commercial highlighting local attractions.

A BOOK · A GALLERY · A WEBSITE · & MORE

The Computer Museum this year elevated the notion of a traditional exhibit to a new level by offering Museum-goers several mediums through which to explore a single subject. The subject was choosing the best software for children, and the Museum wrapped it in a comprehensive package that included a best-selling book, a vibrant on-site exhibit, and a constantly refreshed website.



ago, when Museum staff began to realize the same question was surfacing time and again from Museum callers and visitors: What software should I buy for

my kids? What's educational? What's worth the investment? Sensitive to the public's confusion and need for an answer, staff and volunteers began to brainstorm about how the Museum, as a source of accurate, reliable knowledge about technology, should respond to the question.

THE GUIDE TO THE BEST SOFTWARE

First to emerge from the brainstorming sessions was the concept for a book. Then began a search to find the right authors. Founding President Gwen Bell remembered Cathy Miranker and Alison Elliott, long associated with the Museum as members and supporters. California mothers with backgrounds in the computer industry, Alison and Cathy had discovered independently that no good sources of impartial information about software for kids existed. Gwen persuaded them that their collective experience in the areas of education, journalism, the computer industry, and parenting, as well as their belief in the Museum's mission of informal learning, made them the perfect pair to become authorities on the subject.

The match was thus made: Cathy and Alison would author the book, and the Museum would lend its expertise and objectivity. The result was The Computer Museum Guide to the Best Software for Kids, an informative, insightful collection of reviews published by HarperCollins in October 1995.

Cathy and Alison first worked with Museum staff to develop exacting standards by which to judge the software. They then tried out close to 1,000 titles for ages 2-12 with a group of test families. The Guide, which contains their final selection of 215 software programs, shows that the best titles are not necessarily the most popular on the best-seller lists.

Each title in the Guide is evaluated in rigorous detail, based on what the authors call the three L's: learning, looks, and longevity. A program, for example, should fit children's developmental needs and interests and have such a distinctive look and feel that they will want to play with it over and over again. The Guide met with immediate acclaim, and plans were put in place to publish an updated version each year.

THE WEBSITE

Meanwhile, the authors worked with Web developers and designers at the Museum to complement the print edition of the Guide with "electronic pages" on the Museum's website. Now people could choose the best



Some of the education staff. From left: (back) Patrick Mungal, Rina Granizo, Tanya Morris, Sheila Sibley, Andrea Browne; (front) Ann Fraioli, Jennifer Rich.



KIDS SOFTWARE

GALLERY FUNDERS

The Best Software for Kids Gallery couldn't have happened without the generous support of these sponsors:

MAJOR SPONSOR

. Novell, Inc.

SUPPORTING SPONSORS

- · Canon Computer Systems, Inc.
- · Hewlett-Packard Company
- Symantec Corporation

ADDITIONAL PRODUCT & EQUIPMENT SUPPORT

- Bay Networks
- · Bose Corporation
- CyberData Systems
- Logicraft Information Systems, Inc.
- Macromedia
- Measurement Techniques
- · Quantum Corporation

of both worlds: the reassuringly low-tech book and its high-tech counterpart, the website (http://www.tcm.org/), for new information not included in the original *Guide*.

The website offered several sections to browsers:

- "Reviews" provided periodic new-product assessments, using the same categories and criteria developed for the book.
- "Parent Tips" delved into topics such as kid-proofing your computer and choosing reading software.
- "Best Lists" enumerated such things as the best programs for kids and parents to use together, or the best programming activities for kids.
- "Talk to Us" invited browsers to share their thoughts and opinions. Comments from kids, parents, teachers, and programmers helped to shape subsequent reviews.

Colorful icons of the book jacket (for information about the *Guide*), balloons (for Parent Tips), a mailbox (Talk to Us), and a propeller beanie (Best Lists) guided Web browsers as they made their selections.

THE EXHIBIT

While attention swirled around the *Guide* and website, exhibit and design staff were hard at work readying *The Best Software for Kids Gallery*: which opened in June. A logical outgrowth of the book, this permanent companion exhibit exemplifies the Museum's hands-on approach, as well as its belief that the best software will inspire kids to create, explore and learn by doing. Press and public response to the exhibit was immediate and substantial—parents and educators (not to mention kids!) never had a destination quite like this before. Their collective enthusiasm can be measured in the constantly high decibel

level found in the gallery.

Exhibits staff chose 50 of the best titles in the *Guide* for the gallery, with representative selections on arts, animation, reading, math, story-telling, history, science, geography, and games. Sound effects, 3D graphics, and video abound, and the space is decked out in vivid kids' colors, adding to the exhibit's overall cheerfulness and energy.

Each of the gallery's 14

computer stations offers all of the unabridged titles, making software surfing easy for visitors. Once they sit down at a station, visitors can look for a specific title by name or type in a child's age and subject interest to obtain a unique list of the best titles in that category. In addition to downloading the program, they can read a short

review that includes the suggested age range, assessments from the families who tested the software, a summary of the criteria used to evaluate the program, and a final recommendation, along with the publisher, platform, and price.

The stations also contain a checklist of criteria to gauge a program's learning, graphics, and replay value; purchasing tips; titles in Spanish and Japanese; software suitable for the hearingimpaired; and detailed information on

computer viruses, made possible by support from Symantec Corporation. All the software is stored in two powerful, custom-made network servers, and all the stations, which were donated by Canon and Hewlett-Packard, are networked to a central file server using software by Novell.

The *Kids Software Gallery* is evaluated and updated regularly, and an expanded exhibit is planned for next year.

EDUCATIONAL PROGRAMS

Education and exhibits staff continue to implement special educational programming to help visitors get the most out of the gallery. For example, a "Play Group" for parents and toddlers (ages 18 months to five years) allows adults and kids to explore the software together.

For those a bit older, a "Software Discovery Group" (ages 10 and up) leads participants through half-hour tutorials about some of the gallery's expecially challenging titles. Each class focuses on one program in depth and is small enough so that everyone can play.

Visitors in search of more than skill-and-drill exercises and arcade games can sample "Selecting the Best," 15-minute demonstrations with tips on buying the best family software, using examples from the gallery.

THE COLLECTION

Kids Software also touches other areas of the Museum. As Cathy Miranker and Alison Elliott continue to review vast amounts of software, they continue to acquire mountains of packages—all of which currently reside in Cathy's basement. These will eventually become part of the Museum's permanent software collection.

LOOKING AHEAD

The fiscal year ended with a greatly expanded gallery and a brand new book in the works for next year. We're pleased to offer you a peek at the latter in the following pages.



Guide authors Alison Elliott and Cathy Miranker with their kids. From left: Katie Blank, Alison Elliot, Emily Miranker, Sarah Blank, Cathy Miranker, and Molly Miranker.

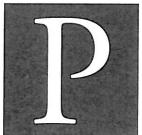
Illustrations courtesy of Soleil, Edmark and HMI Inc.

GREAT

SOFTWARE

FOR KIDS & PARENTS

The Computer Museum continues its rewarding association with children's software gurus Cathy Miranker and Alison Elliott as they ready their second book, *Great Software For Kids & Parents*, for publication by IDG Books Worldwide, Inc. in early 1997.



Part of a new ... For Dummies series for IDG, the book expands on the review-andrating format of the original Guide, helping parents understand what kids of different ages can and should be doing with the computer. Great Soft-

ware For Kids & Parents features chatty, personal reviews, with each chapter liberally peppered with snippets of practical yet inventive advice.

A sampling of reviews and snippets follows.



More than three dozen special software profiles provide an in-depth look at the best kids' titles. Here's a profile from Chapter 3, "Playing to Learn":

BUILD-A-BOOK WITH ROBERTO

This product is perfect for preschool-age children because of its unique focus: friends and feelings. If your preschooler is at the stage when you're constantly saying "Don't hit so-and-so, use your words," or if your child needs help putting words to feelings, consider *Build-A-Book*.

The hero, Roberto, is a hippo with a classic kids' problem. Hovering at the edge of the pool, he desperately wants to join the other hippos in a game of "hippo ball." But when Roberto asks, "Can I play with you?" his *friends* tell him to get lost. What's a hippo to do?

Kids help Roberto decide how to make his way into the game. Animated thought-balloons pop up over Roberto's head every time he gets an idea, and kids choose one. Sometimes the possibilities are emotional ("I could get angry" or "I could pout"). Sometimes they're imaginative ("I could amaze them" or "I could give them popsicles"). Sometimes they're outrageous ("I could pump all the water out of the pool"). When kids click their choice, the story resumes, and they watch the consequences. Sometimes, Roberto's strategy works. Sometimes the choice fails miserably, and then Roberto conjures up some more ideas, and kids make another choice.

SOLVING PRESCHOOL PROBLEMS

Playing with Roberto is great for preschoolers who are just becoming aware of how their behavior affects others. Kids get to experiment with different emotions and watch how others react. When Roberto throws a temper tantrum, for example, he scares the other hippos right out of the pool. And when he pouts, the others simply ignore him.

At any point, kids can choose to watch or print the story they have created. They can also experiment with emotions in an art room. By clicking on Roberto's face, they can watch his emotions change from angry to silly to surprised, and more. Print the face, and you have a perfect-sized mask for a small child. Kids can color the mask on the computer or print and color it by hand. Depending on their choice, kids can also create Roberto puppets that skip happily or scowl angrily. The Parents' Guide has some great tips about assembling Roberto books, masks, and puppets. (Theatrix Interactive, Ages 2-4)

000

Whatever the topic, readers of Great Software For Kids & Parents will find sensible Parent Tips for getting the most from their kids' software.

If your child is not ready for telling time, don't push it. Remember that kids have an internal developmental clock (please forgive the pun) that governs their readiness to learn. They need to develop a sense of time first—understanding today, tomorrow, and yesterday; morning, noon, and night; school days versus weekends—before they're interested in actually telling time. When they're ready, remember *The Time Twins in Trudy's Time* and *Place House* (Edmark). Even though the rest of the program may seem babyish to them, the clock activity may strike exactly the right note for kids in the second or even third grade.



000

The book is packed with special ideas for helping kids over the hurdles of schoolwork. Here's a sample from Chapter 6, "Using the Computer to Help Kids Master Math":

THE "I DESPISE MATH" SYNDROME (& THREE WAYS THE COMPUTER CAN HELP)

An Ounce of Prevention

Cure the problem before it starts. Make a fun. nopressure math program one of your child's first software titles. Read children's books that give you a chance to "talk math." (We especially these authors: Mitsumasa Anno, Eric Carle, Tana Hoban, and Pat Hutchins.) That way, kids will have happy "math memories" by the time they reach elementary school. And they'll be less likely to pick up bad math "vibes" from older kids.

Try Togetherness

Talk to your children about how you handle math, whether you're checking the change from a purchase, keeping score at a game, or mortgaging property in Monopoly. Play with your kid's math software. It'll give them a chance to see you having fun with math; and it'll give you a chance to talk math in a no-pressure context.

Instead of hovering while your kids do their homework, hang out while they play a math CD-ROM. And play together, too.

Lighten Up

Humor helps. In one of our ventures onto the Web, we found a collection of math cartoons. Nothing fancy. The cartoons look as though they've been clipped from newspapers over the years and then scanned into the computer. But some are hysterically funny, and older kids may especially enjoy them. (www.csun. edu/~hcmth014/bam-dad.html)



Each chapter of Great Software For Kids & Parents introduces Classroom Connections that show parents how different software titles dovetail with the school curriculum or build school skills.

Writing or dictating stories helps kids get ready to read. As they watch their ideas take form as words on a page and hear them read aloud, kids make the connection between speaking, writing, and reading. They also encounter story-writing basics like settings, characters, and actions. And children sense the classic patterns—beginning, middle, and end—that make stories so satisfying.



Great Software For Kids & Parents contains scores of Family Fun suggestions for cooperative (and sometimes competitive) gameplay that extends software fun with off-the-computer activities.

Just for fun, shelve the almanac that comes with your *Carmen* CD-ROM and don't touch the *World Wiz*. Play the game alongside your kids with you as the reference, instead. Share your geography know-how by thinking aloud as you puzzle out clues. (It's also a good way to show kids how to make an educated guess when you don't know the answer!) When you're right, your kids will be impressed. But be prepared for heckling when you're in the dark and the crook gets away!



In every chapter, practical Checklists help parents make choices among software titles. Here's one from Chapter 11, "Using the Computer for Explorations Back in Time":

How to choose among the scores of history titles available for home computers:

- ••• First consider your kids. What are their personal interests? Egyptian pyramids? The gold rush?
- ••• Next consider their schoolwork. Is this the year they tackle state reports? Are they studying colonial America?
- • Here's the most important of the criteria. Make sure that the history titles give kids lots of experience with the "4 Rs"—Reading, Research, 'Riting and Reenacting:
- ✓ **Reading.** "Real" words from original sources and literature can attract and personalize kids' interest. Reading (or hearing) words written or spoken in the past tells kids that history is about real people, real places.
- ✓ **Research.** Kids need to "do" history as well as read about it. When they uncover information on their own about events and people, it really sticks with them.
- ✓ Riting. For kids, writing history as they read and research hammers home the facts and flavors of times past. Good software invites kids to pretend on paper—writing diaries, newspaper accounts, imagined debates.
- ✓ Reenacting. Stepping into someone else's shoes is a powerful way of experiencing the hopes, hardships, and challenges of historical figures. Don't put this down as mere playacting! Envisioning how (and why) other people felt and acted is as important for understanding the world today as it is for grasping the significance of historical events.

Kid-friendly Web sites can be a real educational bonus—if parents can find them! WebVentures point out worthwhile sites that relate to reading, writing, history, science, geography, and more.

VERS VERS

GREAT SITES FOR WORD LOVERS

Chances are kids (and parents!) who like codes also like anagrams and puns, knock-knock jokes, and crossword puzzles. Here are some Web sites to surf in your quest for wordplay:

Palindromes

A palindrome is text that reads the same backward as it does forward. like "Madam I'm Adam" or "Able was I ere I saw Elba." If your child finds those silly sentences intriguing, check out this amazing site for links to hundreds and hundreds of palindromes. You and your kids will find such gems as: "Flee to me. remote elf." "Was it a cat I saw?" "He did, eh?" "No lemons, no melon." (www.rdg.ac.uk)

Anagrams

An anagram is a word or phrase made from the letters of another word or phrase. Ideally, the new word(s) should also shed some light on the meaning of the original word(s).

Because it's an exercise in mental agility and good for vocabulary, teachers often have students practice making anagrams. They're fun to do at home, too. Start kids off with simple words, and after they get the hang of it, have them compete with each other or with you by using longer words or names. We surfed the Web for inspiration and found these examples at www.geocities.com:

- The Morse code = Here come dots
- England's Queen
 Victoria = Governs a
 nice guiet land
- •Funeral = Real fun For an instantaneous anagram generator, check http://csugrad. cs.vt.edu/~eburke/ anagrams.

Word Searches

Every week this site posts new crossword and wordsearch puzzles that are just right for third through sixth graders. (www.smartcode.com/ isshtml/weekwsk)

Word Finds, Analogies & More

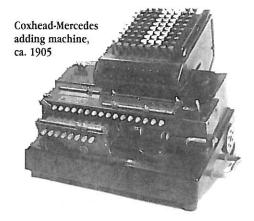
This site (http://syndicate. com) features word find puzzle contests (how many words of four letters or more can you make from "trestles" or "charisma," for example); word analogy puzzles (child is to mother as symphony is to x), rebuses (pictures that stand for letters or words), and more.

Illustrations courtesy of IDG Books Worldwide, Inc.



You'll find *Great Software For Kids & Parents*, which comes with a CD-ROM, in The Computer Museum Store (617-426-2800 x307) starting in January 1997 at a cover price of \$22.99. You can also order the book on the Internet via e-mail (store@tcm.org) and The Computer Museum Web Store (www.tcm.org).





COMPUTERS

Altos Computers Altos C8000, 1985

One of the first multi-user machines to use Digital Research's MP/M-80 and a large hard disk

Donated by Andy Johnson-Laird. X1283 96

Apple Computer, Inc. Apple Lisa 128K

Donated by Boston Computer Society. X1255.96a

Apple Computer, Inc. Apple II, 1977

This was the first Apple computer sold in New England, specifically at the Harvard Coop in Cambridge. As Apple monitors were not made until 1978, this unit relied on a Sylvania TV, serial number A12142.

Donated by Boston Computer Society X1262.96a

Apple Computer, Inc. Apple IIc Plus

Donated by Boston Computer Society X1255.96b

Apple Computer, Inc. Apple IIe

Donated by Boston Computer Society X1262.96b

Apple Computer, Inc. "Black Apple," ca. 1980

Commissioned by Bell & Howell, this unit is equipped to play videotapes Donated by Boston Computer Society X1263 96

AT&T 7300 desktop computer, ca. 1984

AT&T's first foray into the desktop computer market. It runs a proprietary version of Unix with telephony extensions.

Donated by Andy Johnson-Laird X1278 96

Atari, Inc. 800 XL computer

Donated by David Dellinger, X1258.96

Coleco Industries Coleco Adam

Donated by James Patriquin X1269.96

Compaq Portable Computer, Model 1, 1982

One of the very first off the assembly line Donated by Compaq Computer Center X1234 96

Compaq Computer Corporation Portable IBM PC-compatible, 1984

Donated by Frank W. Winne. Associates. X1227.96

Cromenco Z2, 1977

Donated by Andy Johnson-Laird X1279.96

2Mhz/4Mhz Z80 CPU with 65,536 bytes of RAM

Data General Corporation Data-General One, ca. 1984

Donated by Andy Johnson-Laird. X1281.96

Digital Equipment Corporation Digital Rainbow, 1984

Donated by William Davis. X1274.96

Electronic Associates, Inc. Pace 48 Analog Computer

Donated by Aeronautics Lab, MIT X1248 96

Epson Apex Computer Donated by Stephen Levine X1268.96

GM Research First patented portable computer, 1979

Invented by James Murez, includes patent.

Donated by Leonard Massey X1243.96

Heath 161 portable computer

Donated by Mr. Micha Ronen X1272.96

International Business Machines Corporation IBM PC (first model), ca.1982

Donated by William Wachenfeld X1261.96

International Business Machines Corporation PC jr., ca 1983

Donated by Thomas Burchill X1259 96

Kaypro 10 Computer, 1984 Donated by Neil Karl X1231.96

NEC Corporation 8201a laptop computer, 1983

With miniature printer, tape recorder, cables, software tape.

Donated by Al Marsh. X1247.96

North Star Computers, Inc. Advantage Computer

Donated by Connie Ducey, X1253.96

Olivetti ETV 260 word processor, ca. 1980

CPU built into printer

Donated by Boston Computer Society.
X1232 96

ON Computer

Donated by Jim Kahnweiler, X1242.96

Onyx Computers Onyx C5000, ca. 1982

Donated by Andy Johnson-Laird X1282 96

One of the first "professional" personal computers used in US businesses. A descendant of the Altos C8000, it uses a 5" hard disk manufactured by IMI and features a non-streaming tape drive from DEI for backup purposes

Osborne 1 "luggable" computer, 1981

Donated by Joe Santangelo X1226.96

Processor Technology, Inc. Sol-20 Computer, ca. 1978

Donated by Richard Pence X1254.96

Tandy Radio Shack TRS-80, Model I, 1977

The TRS-80 (affectionately known as the "Trash-80") was a hit on the home front for those without the wherewithal to tackle the homebrew kits on the market. The set contained a monitor, keyboard, and already installed BASIC software and relied upon a standard issue cassette recorder to record programs or load taped programs. Word length was 8 bits 16K memory.

Donated by Mark Corigliano X1238 96

Tandy Radio Shack TRS-80, Model 100 (laptop), 1983

Donated by Charles Zraket X1233.96

Texas Instruments, Inc. TI-99/4a, 1979

Donated by Susan McDougall X1235.96

Texas Instruments, Inc. TI-99/4 with speech synthesizer, 1979

Donated by Walter Tincher, X1245.96

Timex-Sinclair 1000 (ZX81), 1981

Donated by David Dellinger X1240 96

Victor Computer Corporation Two Victor 9000 computers, ca. 1982

One with internal hard drive, one with external hard drive.

Anonymous X1293.96

Zenith laptop computer, ca. 1983

Donated by KSNW-TV, Wichita, KS X1270.96

Zenith Z-100

Donated by Ruth Sheridan, X1257.96

SUB-ASSEMBLIES AND COMPONENTS

Amdahl Corporation

Integrated circuit with cooling tower element, embedded in lucite cube.

Donated by Rita Saltz X1277.96

Cromenco, Hayes, et al. Eight S-100 boards used in the Cromenco Z2, 1975-1978

(1) EPROM burner, (2) early PC speech synthesizer, (3) Tarbell audio cassette tape interface (made by PC pioneer Don Tarbell), (4) Speech-lab speech recognition board, (5) DC Hayes modem card (300 baud), (6) Digital/analog board from Cromenco, (7) S-100-based logic analyzer (connected to oscilloscope for test/diagnosis work), (8) 2 dazzler boards

Donated by Andy Johnson-Laird X1280.96

Intel Pentium Chips, 1995

Ten chips in tray, measuring 12 1/4" x 5 1/4".

Donated by Intel Corporation X1289.96

Prime 9655 CPU board set Donated by Paul Sliney X1273.96

CALCULATORS

Burroughs Adding Machine Corporation Portable Adding Machine, ca. 1940

Donated by Mrs. Eleri Gulliver X1228.96

Contina Ltd. Mauren Curta calculator, ca. 1950 Donated by Thomas A Hundt X1275 96

Coxhead-Mercedes adding machine, ca. 1905

Donated by John Hancock Financial Services. X1244 96

Otis King Helical Slide Rule, ca. 1930 Serial Number R1807

Donated by M.L. Petterson, X1265.96

MEMORY

Ferranti

Digital Equipment Corporation Unused 1" PDP tape (1 box)

Donated by Walter Beesley. X1241 96

Cathode Ray Tube, ca. 1950 Suspended in wooden crate -21"x11" x11"

Donated by Philip E. Fox. X1286.96

International Business Machines Corporation Magnetic Core Plane Parts, 1955

These experimental parts represent some of the results of Dr. Hans P. Luhn's study of the core-plane winding problem. A green plastic plate was designed to hold 3-hole cores then being considered for a higher-speed memory. The tan and gray plastic strips held conventional cores for winding as is illustrated by several cores on one of the strips. A number of these strips were to be stacked so that an additional wire could be put through each core perpendicular to the wires that ran along the strips. These approaches were dropped when improved techniques for handling and winding toroidal cores were developed by MIT Lincoln Labs and IBM Poughkeepsie Manufacturing Donated by Philip E. Fox. X1285.96b

International Business Machines Corporation Two IBM 704 Magnetic disks, ca. 1955

36 cm in diameter, hole in middle 18 cm in diameter.

Donated by William Meyer, Inc., IBM X1230.96

International Business Machines Corporation Unused IBM punch cards (1 box), ca. 1962

Donated by Shag Graetz. X1267.96

James Millen Manufacturing Company, Malden, MA Electrostatic Memory Unit, Type 706, 1953

Each unit holds 2 type IBM-85 3 inch cathode ray tubes, which were specially designed for Williams' storage use

Donated by Philip E. Fox X1284.96

MIT Whirlwind computer, ca. 1951

Plug-in circuit boards, 4X4 core memory planes, paper tape and peripherals (spoolers, transports)

Donated by Bill Wolf X1256.96

Tandem Semi-memory Board, 256 KB, 1979

This board was used in a NonStop computer and once sold for \$20,000. Donated by Shanghai Tandem Division X1290 96

LOGIC

International Business Machines Corporation IBM 701 pluggable logic units, ca. 1950

Donated by Philip E. Fox. X1285 96a

International Business Machines Corporation Two IBM 704 Plug-In Logic Modules, ca. 1955

Donated by William Meyer, Inc., IBM X1229.96

TRANSDUCERS

Dataproducts Corporation Dataproducts Printer, 1962 Serial Number 1

Donated by Dataproducts Corporation. X1295 96

Includes a 500-page thesis by Rick Forman on the First 10 Years of Dataproducts

Digital Equipment Corporation VT100, 1981

Donated by Dr. Thomas Altshuler X1237.96

Hayes Microcomputer Products Smartmodem (300 baud)

Donated by Dr. Thomas Altshuler X1236.96

International Communications Corporation Two 24 LSI modems, 1976 Donated by BBN X1292.96

MICROPROCESSOR-BASED DEVICES

Bally, Inc. Pong Game (home TV version)

Donated by Stephen Levine X1251 96

ROBOT

Heathkit Hero Jr. Robot Donated by Steven Reich X1260 96

CARD DATA PROCESS-ING EQUIPMENT

International Business Machines Corporation IBM 603 Multiplier Chassis, ca. 1946

The 603 was manufactured for a short time in 1946-1947 before it was replaced by the Type 604 Calculating Punch.

Donated by Philip E Fox X1285 96c Wright Line

Model 2600 Manual Card Punch

Donated by Joe Fisher III X1271.96

SOFTWARE

Internet worm source code, 1988

Programmer's decompilation of the worm that brought the Internet down in 1988. The code was written by Robert T Morris, Jr., then a student at Cornell University

Donated by NASA Ames Research Center, X1294 96

OTHER

Data General College Campus Recruiting Poster, 1977

Executed in comic-book style, this poster portrays four action superheroes, each bearing a Data General product or product name on his or her uniform.

Donated by Charles Polachi, Jr. X1287.96

IntelliChoice, Inc. The Complete Car Cost Guide, published in April, 1987.

The first database-published book to be computerized and automated. Donated by IntelliChoice, Inc. X1276.96

International Business Machines Corporation Teakwood coaster holder with metallic IBM 360 logo, ca. 1964

Donated by John Esbin. X1266.96

Ungermann-Bass Access One 11/slot chassis (router)

Autographed by Ralph Ungermann, this is the 1000th Access One produced Donated by Microsoft Corporation. X1291 96

Hermann Zapf archive, ca. 1970-1990

Two linear feet of business-related material of the noted typographer. Collection includes design and printing examples, corporate information on his company, Design Processing International, format manuals, and miscellaneous clipped articles

STUDY COLLECTION

The study collection is administered and stored separately from the artifact collection. The items in this collection are used for educational, exhibit, and research purposes. They often duplicate items in the artifact collection.

Commodore Business Machines Inc. Commodore PET

Donated by Stephen Levine S#1250

Epson HX-20 portable computer, 1982

Donated by Jeff Purser. S#1239

North Star Computers, Inc. North Star Horizon

Donated by Alan Bowler S#1252

Tandy Radio Shack TRS-80, Model 1, 1977

Donated by Khaled Ahmed Soliman S#1288

Tandy Radio Shack Corporation TRS-80, Model 100, 1980

Donated by Ed Robin S#1249

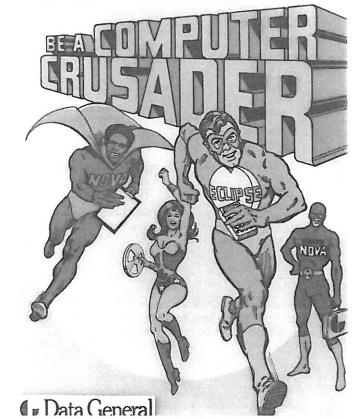
Timex-Sinclair Spectra 1000 (ZX81), 1981 Timex-Sinclair, Inc.

Donated by Khaled Ahmed Soliman S#1264

DONORS TO THE LIBRARY, FILM/VIDEO & PHOTO ARCHIVES

Klaus Berkling Rex Bienz John Block Cheryl Cooper & Bill Warriner Digital Equipment Corporation William Elmendorf Joe Fisher III Jeff Hecht Jodie Hobson Phil Janus Andy Johnson-Laird F Paul Love Jr. Daniel McCracken Michael Marcus Massachusetts Institute of Technology George Moncrief Jay Patton M.L. Petterson Brian Randell Rick Reischl John Rosche Rita Seplowitz Saltz Dave Szacik Shushan Teager University Video Communications John Van Geen William Wolf and other anonymous donors

Data General College Campus Recruiting Poster, 1977



THE WALK-THROUGH COMPUTER™ 2000

Principal Sponsors

Cirrus Logic Intel Corporation

Major Sponsors

3Com Corporation
Adaptec
American Power Conversion
Bose Corporation
Canon Computer Systems
Dennis C. Hayes Foundation
Kensington Microware
NEC Technologies
Philips Electronics
Phoenix Technologies
Quantum Corporation
Texas Instruments

In-Kind Sponsors

Avid Technology Bose Corporation Digital Equipment Corporation

Contributors

PCWEEK
The Weber Group

THE BEST SOFTWARE FOR KIDS GALLERY

Major Sponsor

Novell

Supporting Sponsors

Canon Computer Systems Hewlett-Packard Company Symantec Corporation

In-Kind Contributors

Bay Networks
Bose Corporation
CyberData Systems
Logicraft Information Systems
Macromedia
Measurement Techniques
Quantum Corporation

PROGRAM SUPPORT 7/95-6/96

\$250,000 and above

Digital Equipment Corporation

\$100,000 and above

Novell

\$50,000 and above

Richard and Nonnie Burnes Suhas Patil Massachusetts Cultural Council

\$10,000 and above

The Goel Foundation
The Grey Eagles
Medtronic Foundation
The Monster Board
Network General Corporation
Phoenix Technologies

Siemens Nixdorf Information Systems Sun Microsystems ZOOM Telephonics

\$5,000 and above

Lacy H. Edwards James and Donna Gray Hydro-Quebec Quincy Elementary School

\$1,000 and above

Anonymous Applix Atlas Venture Kim and Simon Beaumont The Bodman Foundation Data General The Docker Group Executive Alliance Group Fenwick Partners Fulbright & Jaworski LLP Richard F. Greene John and Joan Henderson Hutchins, Wheeler & Dittmar Keyfile Corporation Microcom Price Waterhouse LLP Winter, Wyman & Company

IN-KIND GIFTS 7/95-6/96

AETNA American Airlines American Power Conversion Apple Computer Architext Software Art Technology Group Atomic Dog Software Louis Fabian Bachrach Bose Corporation Conley & Hodge Data Transmission Network Corporation Digital Equipment Corporation DRK Forrester Research HarvardNet Hewlett-Packard Company Inmagic Kensington Microware Microsoft Corporation Mass AV **NEC Corporation** NetCount LLC netGenesis

Netscape Communications

Software

Cathy Miranker, co-author of The Computer Museum Guide to the Best Software for Kids, joins Museum members' children for the Kids Software Gallery ribbon-cutting. Philips Electronics PhotoDisc Shiva Corporation Subway Sun Microsystems Tectrix Virtual i-O The Weber Group WZLX

THE COMPUTER CLUBHOUSE 7/95-6/96

Supporters

Anna B. Stearns Foundation Boston Educational Development Foundation Eastern Enterprises Foundation Gillette Company Jack Forté Foundation Jessie B. Cox Charitable Trust John Hancock Mutual Life Insurance Company Mabel Louise Riley Foundation Massachusetts Cultural Council Meek Foundation Microsoft Corporation Orville W. Forté Foundation Polaroid Foundation Reebok Foundation

In-Kind Contributors

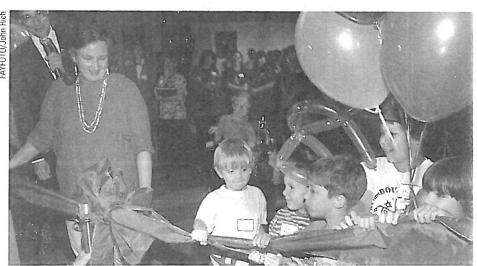
Adobe Systems
Apple Computer
Macromedia
Microsoft Corporation
MIT Media Laboratory
T/Maker Company



Jay W. Forrester addresses The Friends of The Museum at their first annual dinner. He was named a Museum Fellow for his contributions to computing, i.e., the design and construction of the Whirlwind computer.



Computer Museum Founding President Gwen Bell (left), Marabel Lopez-Howard, and Andrew Dod of Hayes Microcomputer Products discuss *The Walk-Through Computer* upgrade, which includes a giant replica of a Hayes modem.



 ${f A}$ unique fundraising event to benefit the Museum's educational programs, The Computer Bowl™ plays out the legendary East/West Coast hightech rivalry in a contest of computer knowledge. The 1996 Bowl marked the release of the Museum's Official Computer Bowl Trivia Book (see page 5), and videotaped cameo appearances by industry leaders. The score was the West 240, East 200. Since 1988, the Bowl has raised \$2.5 million in donations and in-kind support. It attracts hundreds of sponsors and volunteers, and media coverage around the world. The Bowl would not have been possible without the support of those listed below.



George Colony Forrester Research

Paul Gillin, Captain

Judith Hurwitz Hurwitz Consulting Group

Ted Leonsis America Online

Steve Mills IBM Software Solutions

West Coast Team

Dave Anderson Amdahl Corporation

Steve Blank, Captain Rocket Science Games

Gordon Eubanks, Symantec Corporation

Eric Schmidt Sun Microsystems

Magdalena Yesil CyberCash

The Questioners

Stewart Cheifet Computer Chronicles

Heidi Roizen Apple Computer

The Judges

John Doerr Bob Frankston

The Computer Bowl Script Christopher Morgan

The Scorekeeper Steve Golson

The Computer Bowl Sponsors

Sprint Presenter

Computerworld, The Most Valuable Players Awards Sponsor Underwriter

Intel Corporation, The Official Microprocessor Underwriter

Official Sponsors

The First Society For Computing

Adaptec The Best Connections

Apple Computer The Power To Be Your Best

Bay Networks The Internetworking Company

Coopers & Lybrand LLP The Accounting Firm

Kleiner Perkins Caufield & Byers The Venture Capital Company

The Nasdag Stock Market The Stock Market For The Next

Network General Corporation The Sniffer Brand Network Analyzer

Powersoft Corporation The Client Server Application Tool

Stratus Computer The Fault Tolerant Computer Company

Symantec Corporation Software For Desktop And Networks

Table Patrons (2+ tables) **ACM**

Apple Computer

The East Coast Team (from the left): George Colony, Judith Hurwitz, Paul Gillin, Ted Leonsis and Steve Mills.



Coopers & Lybrand LLP Cunningham Communication Forrester Research **IBM** Corporation Miller Shandwick Technologies The Nasdag Stock Market Sun Microsystems The Weber Group

Table Sponsors

Amdahl Corporation America Online Anderson Consulting Asset Management Company Gwen and Gordon Bell Business Week/LAN Times Charles River Ventures CyberCash Edelman PR Worldwide FitzGerald Communications Inso Corporation Interval Research Corporation Lucash, Gesmer, Updegrove Mathworks David Nelson Novell Price Waterhouse LLP Quantum Corporation Rocket Science Games SOFTBANK Spectron Microsystems Unison Software Wired

Xerox PARC Media Sponsors

Business Week Byte CIO Publishing, Inc. Communications of the ACM Computerworld Forbes ASAP Game Developer Information Week InfoWorld Interactions LAN Times Midrange Systems Network World OS/2 Developer PCWEEK The Red Herrina Software

Software Development

UNIX Review

Web Techniques

Upside

Wired

In-Kind Sponsors

1185 Design American Airlines America Online Center for Electronic Materials at San Jose State University Computer Literacy Bookshops Cunningham Communication Gordon Liquors Gourmet Caterers K&L Wines Muller Printing PCTV-Computer Chronicles Upside

A Wild Flower **Auction Donors**

Wace Graphics

Gary Beach Gwen Bell Jean-Louis Gassée Christopher Morgan

Auction Supporters

Scott Cook and Signe Ostby Gordon Eubanks Christine Hughes Mitchell and Julie Owens Kertzman Christopher Morgan Harry and Carol Saal

The 1996 Computer Bowl Committee

Kathy Sulgit Johnson, Co-Chairperson Mark Johnson, Co-Chairperson Brett Bondi Joanne Ehrich Vince Emery Colleen Gleason Catherine Keller Diane Nelson Lisa Payne Kelli Richards **Dorrit Saviers** Linda Marie Strunk Greg Welch

Public Relations

Cunningham Communication

Public Relations Committee

Catherine Keller, chair Sue Earbino Jennifer Hillier Roger Knott



Anderson, Magdalena Yesil, Captain Steve Blank (hoisting the trophy), Gordon Eubanks and Eric Schmidt.

> Jessica McNulty Kristina Scott

Advertising and Collateral 1185 Design

Computer Bowl Questions

Gwen Rell Steve Golson Christopher Morgan

Computer Bowl Website <www.tcm.org>

Vince Emery Mark Johnson Joanne Ehrich

Music

Peter Morgan Band The Computer Bowl Production

Suddenly Hip? West Coast Dinner

Volunteers

Taleda Allen • Scott Aster • Greg Baicher • Roland Bernardo • Heather Bright • Gary Brown • Jack Burness • Todd Christy • Bill Cox • Adam Cunningham • Cathy Dougherty • Cecil Dye • Patti Fortuna • Marilyn Gleason • Angela Hartman . Aabid Husain . Joe Kamara • Kevin Kelly • Ed Kramer Mark Lalley • John Lazaro • Brigitte
Majewski • Jay Marchesseault • Sean McIntyre . Barry McPherson · Lisa Miskinis · Randy Nelson · Danny Olson • Gerry Panganiban Amy Rasbach • Mike Smolenski Cory Stach · Chuao Wang · Steve Wo . Barry Wolfield

Very Special Thanks

Paul and Kathleen Severino • Heidi Roizen and Dave Mohler • Christopher Morgan • Kathy and Mark Johnson and the West Coast Committee . Stewart Cheifet, Sarah O'Brien, and Crystal Burgos, PCTV . Andy Cunningham, Cathy Keller and the Cunningham Communication staff . Peggy Burke, David Schump and the staff of 1185 Design • David and Annie Kasabian • Vince Emery • Tracy Russ and the staff of Computer Literacy Bookshops • Lisa Payne • Judi Littell • Jamie Rubin • Greg Welch · David Warren Johnson

CORPORATE MEMBERS 7/95-6/96

\$25,000 and above

Digital Equipment Corporation Novell

\$10,000 and above

Amdahl Corporation IEEE Computer Society Microsoft Corporation Powersoft Corporation Unisys Corporation

\$5,000 and above

Adobe Systems
AT&T Foundation
Bay Networks
The Boston Company
Compaq Computer Corporation
Data General
International Data Group
Mathworks
Medical Information Technology
National Semiconductor
Stratus Computer
Sun Microsystems Laboratories

\$3,000 and above

Adaptec
Addison-Wesley Publishing
Advanced Micro Devices
Alex. Brown & Sons
American Power Conversion
Banyan Systems
Boston Edison Company
Canadian National Railways
Coopers & Lybrand LLP
Gillette Company

Informix Software
Inso Corporation
Lotus Development Corporation
MAXIS
MCI Telecommunications
NEC Technologies
NYNEX Corporation
Parametric Technology
Raytheon Company
Rockwell
S.W.I.F.T.
Thomson Financial Services
ZOOM Telephonics

\$1,000 and above

Advanced Technology Ventures American Internet **Analog Devices** Andersen Consulting Applied Technology Investors Atria Software Automatic Data Processing Bank of Boston **BBN** Corporation Bull HN Information Systems C.S. Draper Laboratory Cabot Corporation Cambridge Technology Partners Charles River Ventures Choate, Hall & Stewart Chubb & Son Computervision CSC Index Cunningham Communication Deloitte & Touche LLP **Dow Chemical** Ernst & Young Fleet Bank Gensym Corporation

Greylock Management Corporation **GTE** Laboratories Hanify & King Hill & Barlow Houghton Mifflin Company Intermetrics KPMG Peat Marwick LLP Loomis, Sayles & Company LP Mazonson McGraw-Hill Companies McKinsey & Company Mercury Computer Systems Microcom Miller Shandwick Technologies The Millipore Foundation Mitsubishi Electric Research Lab Moody, Lynn & Company Motorola Network General The New England Nintendo of America Oak Industries Open Software Foundation Price Waterhouse LLP Proteon Quantum Corporation The Research Board Ropes & Gray Rourke & Company Shawmut Bank Shiva Corporation Silicon Valley Bank TASC Teradyne VMARK Software The Weber Group Wolfram Research Xerox Corporation XRE Corporation

Corporate Breakfast Seminar Sponsors

Andersen Consulting Bank of Boston Choate, Hall & Stewart Chubb & Son Coopers & Lybrand LLP Novell Price Waterhouse LLP Ropes & Gray

FRIENDS OF THE MUSEUM 7/95-6/96

\$5,000 and above

Gordon and Gwen Bell
Richard and Nonnie Burnes
Benjamin Cohen
Robert Davoli and Eileen
McDonagh
Gardner Hendrie and Karen
Johansen
J. Burgess Jamieson
Mitchell and Julie Owens
Kertzman
David and Pat Collins Nelson
Benjamin and Maureen Robelen
F. Grant and Dorrit Saviers
Dan Schwinn
Michael Simmons

\$2,500 and above

Edward Belove and Laura Roberts Erich and Renee Bloch Richard and Virginia Case Christine Hughes Mitchell Kapor John Mashey and Angela Hey James and Mary McKenney Anthony and Kitty Pell Leslie Vadasz Charles and Shirley Zraket

\$1,000 and above

Sam Albert Richard and Judy Anders Charles and Constance Bachman Gary Beach The Bodman Foundation The Boston Foundation Gary Boone Jeff Braun The META Group Richard Carpenter Arthur and Virginia Carr Steve and Maureen Cheheyl Stephen Crosby John and Diddy Cullinane David Cutler and Deborah Girdler Edson and Eileen deCastro Jean and Sylvia de Valpine Lacy and Joan Edwards Gary and Joan Eichhorn Robert and Ann Everett Kenneth and Barbara Fisher William Foster Robert Frankston and Eleanor Elkin J. Thomas Franklin and Leonie Gordon

Samuel and Carol Fuller

William and Sarah Hambrecht Trip and Diana Hawkins Roger and Marion Heinen Max and Jo Honner Charles House David and Nancy House Theodore Johnson William S. Kaiser Steven Todd and Michele Kirsch Ted and Lynn Leonsis David Liddle John and Linda Loewenberg Daniel and Karen Lynch Fred Molinari Michael Moody Laura Barker and Kenneth Morse Isaac and Ronee Nassi Lee J. Neal Nicholas and Nancy Pettinella Paul R. Pierce James and Noreen Pitts John William Poduska Dennis Ritchie Howard Salwen and Sheryl Marshall Edward A Schwartz Hal B. Shear John F. Shoch Leonard J. Shustek Irwin J. and Helen Sitkin Lee and Bob Sproull Max and Nancy Steinmann Joel D. Sugg James Swartz Dorothy A. Terrell Allan and Nadine Wallack Larry and Dawn Weber Robert Ziff

ANNUAL DONORS 7/95-6/96

\$500 and above

Alden Electronics David L. Anderson Harlan and Lois Anderson Steve F. Barnebey John G. Carberry Randall Davis Donald and Edith Daykin Nick and Margaret DeWolf Feinstein Partners Charles and Gayle Holland Ernest and Elizabeth Jennes Jeffrey and Marlene Kalb Peter and Caroline Kastner Kleven Group Michael and Katharine Kolowich John Little and Nancy Wittenberg Barry Margolin MENTOR Clinical Care Nagler, Robins & Poe James N. Porter Productive Environments John J. and Judy Shields Lawrence Tesler and Colleen Barton William Wulf and Anita Jones **Xionics**

