

## The Computer Museum Collecting Strategies

Memo to: Len, here it is in word. Made several changes that you suggested. (Good ideas.) And I wanted you to see how Kip might fit in the big picture. I will be out Nov. 2 - 12. Maybe we can get together.

Collections Committee: Gardner Hendrie, Gordon Bell, Dick Case, Chris Morgan, David Nelson, Howard Salwen, Len Shustek, Charles Zraket, Oliver Strimpel

From: Gwen Bell

Collections activities are about to expand beyond the level of the last several years. While the policy has remained the same since the Museum was instituted, i.e., to have the best collection in the world, the strategy has never been articulated.

This is a first draft, in outline form, for your comments. If we do this well I hope it will be a road map to the long-term future.

Five major topics are covered:

- Review of collecting mission and policy
- Alliances
- Customers
- Collection implementation and activities

## REVIEW OF COLLECTING MISSION AND POLICY

The Computer Museum's mission is

- 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.

The Computer Museum's policy is to collect computer:

- artifacts,
- documentation (including electronic records),
- film and video,
- photographs,
- software (limited to special collections), and
- ephemera.

The criteria for the collecting is as follows:

- the first
- the standard or classic
- technologically interesting cases
- complete sets relating to significant individuals, institutions, machines, and technologies
- representative samples - the best that we can get.

### A Brief History of the Collection

The collection started in 1975 when Ken Olsen and Bob Everett saved the Whirlwind Computer from being trashed. The next stage was Digital's purchase of the TX-0 computer and the idea for its display that led to the establishment of The Digital Computer Museum in 1979. A collection was put in place of DEC's early machines and Gordon Bell added his collection of calculators and early computing modules. In 1982, when The Computer Museum was established as a non-profit educational foundation, collecting began in earnest. A meeting of historians and archivists was held and the policies and criteria were established.

## **ALLIANCES**

The Computer Museum is the only Museum with a mission to collect comprehensively and internationally in the field of computing. Since the scope is so broad, the way that we have built a fine collection is through alliances. Six major groups are addressed: National Museums, Corporations, Government laboratories and agencies, Universities, Professional societies, User groups and volunteer associations and private collectors.

### **1. National Museums**

Forging a joint collecting agreement with The Smithsonian Institution in 1986 was a very important step for The Computer Museum. This has resulted in the referral of some major acquisitions by The Computer Museum. In the long run it should lead to a union catalog.

Developing good working relationships with other national museums, such as the Deutsches Museum, are important for loans and trades in the development of exhibitions.

### **2. Major corporations**

Corporations wax and wane in their efforts to develop museums, collections and exhibits. By having relationship with their archivists and senior engineers, significant artifacts can be saved from being junked (e.g., the Burroughs collection). Working relationships with active corporate museums includes Cray, Digital, IBM, Intel, and Microsoft. Relationships with engineers and librarians companies without historical collections have helped fill out artifacts and materials needed for special exhibits.

### **3. Institutional and Government laboratories and agencies**

Historically Government Laboratories, especially Los Alamos and Livermore, where they had the latest and greatest machines have been a major source of the supercomputer collection. With the laboratories decreasing in size, maintaining the relationships will help prevent serious destruction of historic materials. For example, The Johnniac was acquired from the Museum of Natural History in Los Angeles, who had junked it, and the Rand Corporation.

### **4. Universities**

The Museum has had a long-standing working arrangement with the Charles Babbage Institute at The University of Minnesota. They have the complete collection of computer language manuals, assembled and documented by Jean Sammet. We automatically send them materials on languages. The Museum also has a working relationship with the MIT Museum and MIT's Lincoln Laboratory that is now exhibiting

our TX-0 in their new building. It is important to continue to establish such relationships with others such as the Stanford Silicon Valley Project.

### **5. Professional Associations, User Groups and volunteer associations**

The ACM and the IEEE Computer Society have both been financial contributors to the Museum. In addition, they promote the collecting effort. The Museum has had a correspondent to the IEEE's Annals of Computer History. The Boston Computer Society with their program to refurbish machines for schools, keeps their eyes out to fill in our personal computer collection. A relationship is building with the Perham Foundation in Silicon Valley who have offered free storage space in ocean going containers, and with the California History Association.

### **6. Private collectors**

Many individuals become inspired to collect via the Museum; for example Mitch Kapor is now assembling a small exhibit in his offices, and purchases from the Museum's WEB auction.

Paul Pierce who owns a warehouse in Portland, Oregon, has a goal to acquire all the machines in Bell and Newell, Computer Structures. He already has an IBM 709 and lots of mini-computers. Paul volunteered time during his sabbatical to work in the collection, and donates \$1000 a year to the Museum.

Private collectors and museums traditionally have had close relationships. Many collectors become experts in part of the field and thus a resource. In addition, these collections can become bequests to the Museum.

## **CUSTOMERS**

The Computer Museum's collection has critical mass allowing many groups to have a one-stop resource for primary source data.

### **1. Television**

Television programming is one of the most intense users. This ranges from an immediate need for a piece of film or photo relating to events in the news (including deaths) to long term relationships in the development of major programs, such as the PBS series The Machine that Changed the World.

### **2. Print media**

Newspapers and magazines are never ending in requests for photos yesterday. Fortunately 75% of the requests are for the same 20-25 photos; now that they are identified we need to streamline this process.

### **3. Prior-art legal research**

Lawyers and research firms seem to have an ongoing need to search through materials looking for the golden needle in the haystack. At present we have at least one person per month doing such research.

### **4. Historians**

The material is not yet used by many historians. While many of the inventors and their peers are alive this work will be done directly rather than by poring of the artifactual remnants after they die.

### **5. Corporate marketing and public relations and museums**

Ad campaigns, decorations for lobbies, artifacts for exhibitions, and a variety of requests regularly are fielded as best we can, building up these relationships.

### **6. Museum visitors: students, engineers and history buffs.**

About ten percent of the Museum audience would like to see the real objects, beyond those on display to the general public. On-site and online access to the collections is critically important to this small group, who can be strong advocates for the Museum.

## **COLLECTION IMPLEMENTATION AND ACTIVITIES**

The Collections Committee of the Board of Trustees has the oversight of the Collection. Currently this committee includes: Dick Case, Gardner Hendrie, Christopher Morgan, David Nelson, Howard Salwen and Leonard Shustek. The staff is Gwen Bell, Director of Collections and Brent Sverdloff, Collections Manager.

## 1. Acquisition

### **Servicing offers**

About ten inquiries are fielded each week that are logged, need discussion and a decision. Countless offers for 286-type machines are referred to the Boston Computer Society (if local or to any other appropriate group) that refurbishes machines for schools or other worthy causes. Others are able to be accepted for the auction.

### **Proactive acquisition**

Many of the gems of a collection only come with effort by

- cultivating a donor often over a long of time
- getting a lead from one of the friends of the Museum
- developing an exhibit (the timeline in Networked Planet)

## 2. Management of existing collection

### **Maintaining appropriate preservation standards**

Each of the collections require different care. Everything is kept at Museum standards, i.e., documents in acid-free boxes and photographs in individual sleeves. These collections will be digitized on a demand basis, until or unless they are in harm of degrading.

The most critical concern now is the videotape collection. Video degrades rapidly and the most long-lasting medium is transfer to film, but this is also extremely expensive.

### **Facilities management**

Since the collections have grown while the storage space in the Museum is declining, off-site warehousing is taking place in both Boston and will take place in California.

### **Documenting the collection**

Database. The collection listings are now in Filemaker (artifacts, books, films and video), MICROsoft word (documentation), and xxx (photographs). The systems need to be integrated and updated so that they are in a standard of other collections.

Descriptions. Descriptions of the collections are incomplete. This is being filled in on a volunteer basis. Currently one volunteer is working on the photograph collection a half day a week.

Photographic records The entire artifact collection needs to be photographed, preferably digitally so that this can be part of the database.

### **3. Servicing customers (See also section on customers)**

At least five customers are always being actively serviced. In early October 1995 we worked with:

- Oregon PBS and the BBC in gathering material for three one-hour shows on the origin of the PC;
- Japanese national television on the history of the computer;
- A prior-art law case centering on the calendar function in computers;
- Data General Corporation for artifacts and photographs for an exhibit at Comdex.
- Comdex organizers for a video to be shown on the floor;
- plus photo researchers for print media.

### **4. Curating exhibits**

#### **On-site Computer Museum.**

Many of the exhibits benefit from glimpses at history. Collections curated the timelines in the Networked Planet and Robots exhibits; added artifacts to Tools and Toys and were seriously involved with People and Computers. At this time, the Collections Department plans to develop a new exhibit: 50 Years of Computer Technology.

#### **The Computer Museum Network - on-line.**

Collections has a large role to play in developing a multi-layered timeline derived from the work that has been done on the other timelines and making it suitable for the web, utilizing documents, photographs and RealAudio. A longer term goal is to develop an online catalog of the collection.

#### **Consultation**

Collections is continually consulting with other exhibitors, corporate and non-profit about historic artifacts and appropriate materials for exhibitions. Sometimes these turn into customers but often it is to build good will.

### **5. Publications and Communications**

#### **Pioneer Computers and Computer Pioneers video tape and cd rom.**

Using our collection of video tapes, especially the tapes made by the Museum at the Pioneer lecture series in Marlboro between 1979 and 82, Gordon Bell, the ACM, and the Collections Department is putting together two hours of video that features the first computers and their inventors and users. This unique video is aimed at professionals and students of computing. It will be distributed to the 60,000 members of the ACM, the First Society of Computing, with the celebration of their 50th anniversary in 1997. Both the video tape and cd rom will be made available for sale.

### **Museum Annual Report.**

New acquisitions are written up each year in the Annual Report and credit given to all the donors to the collection.

### **Occasional email newsletter**

Over a hundred people get a copy of this informal communication letter. It helps in acquisitions, identifying volunteers, and building enthusiasm.

## **6. Fundraising**

### **Contributing to the WEB Auction. \_**

One of the biggest draws of the WEB auction are the collectibles. Fortunately, most of the collection is manufactured goods, and donors are willing to donate to in the web auction. This builds relationships with collectors who also become supporters.

### **Individual and corporate contributions.**

Collections works with development so that corporate and individual users of the collection are encouraged and requested to support the Museum in general.

## **7. Organizing volunteers**

### **Committees.**

The collection committee of the Board is important to activate to for establishing the direction, and seeking advice as appropriate.

### **Individual workers. \_**

Competent individuals need to be recruited. For example Simpson Garfinkel, an author, has planned the organization of the photo files and implementation is being undertaken by a retiree. Since 1984, Ann Russell, a prior-art researcher, has been spending about 4 weeks each year working on the document collection. Gordon Bell has volunteered his time as the author of the video tape.

The role of the collections staff is to identify competent volunteers and match them to activities that will benefit both the Museum and the volunteer.

## **8. Public relations**

an evaluation of our public relations efforts and their results will be added to the final draft.

To: Len Shustek  
Gordon Bell  
Carol Welsh

Please keep this confidential.

The Computer Museum view:

## The Case for The Computer Museum History Center in Silicon Valley

The Computer Museum's mission is

- 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.

Silicon Valley is as close to the center of computing as anywhere -- and looks like it will remain so for the next half century. Developing a history center in the Valley makes sense. The Museum is running out of space in Boston and should capitalize on support and interest in Silicon Valley in the creation of a history center as a precursor to a full-service, third wave Museum.

A vision, first articulated by Patrick McGovern, is for a multi-organization International Computing Museum made up of many pavillions that would range from a History Center and Library to a walk-through-chip landscape and be inclusive of our dream for a "Center for the Best Kids Software" based on our perrenial evaluation. We have started to discuss this dream at a dinner meeting in Boston with The Smithsonian, The Babbage Institute, the ACM, and organizers of The ComputerWorld / Smithsonian Awards. These discussions will continue this winter and may be brought up at a Symposium eight participants at Monticello. (I am part of the planning group. The discussants to date include Jay Forrester, Gordon Moore, Gordon Bell, and Bob Metcalfe.) The Museum has the chance to be part of this vision.

While working at the visionary, international level, local and short term activity is also critical. This is the way to build a set of accomplishments and the collection. The integration with The Computer Museum's Guide to the Best Kids Software means that all the best software described will be given by the authors to the Museum for the historic collection. They are the filters to insure that we have the best.

### HOW DO I SEE MOVING TOWARDS THE VISION

1. Continue the dialog so that The Computer Museum is considered to be a world class player. This means:
  - a. nurturing high level strategic partnerships, eg., with the Smithsonian, major corporations, and leaders; moving toward getting this agenda on the Monticello

agenda and other major discussions.

b. building a first rate board of trustees and overseers; and a distinguished collections advisory group.

c. implementing our collection mission, policy and strategy on both sites -- Boston and Silicon Valley.

2. Developing a history center in Silicon Valley that becomes a first step in this direction. This means:

a. building up the collection: proactive collecting based on a well thought out list of acquisitions;

b. making the collection widely available physically, whether it is with an exhibit at Comdex, helping Citibank do a display, or working with other corporate or institutional headquarters, and making it available on the web;

c. creating a center with artifacts and historic materials, that is open by appointment for research and study. Developing an exhibition open to the public until it has critical mass and is well-funded.

3. Operational next steps.

a. develop a "strawman budget" for a Center;

b. discuss the project with CA-based overseers and trustees week after Thanksgiving;

c. develop a "hit list" of artifacts and materials to collect;

d. support Chuck House and Dave House in getting support/space from Hewlett/Packard.

The Computer Museum History Center  
Silicon Valley

Grist for the mill from Gwen Bell, Nov. 9, 1995

This memo summarizes my view of the next steps and more fully explains the mission and resources that The Computer Museum will bring to the project. The following topics are covered:

- The Computer Museum mission and The History Center
- A History Center versus a Third Wave Museum
- Characteristics of the History Center
- Potential role of a Stanford History Seminars/Research
- Potential role of the Analytical Engine
- Potential role of the ACM
- Governance, Volunteers and "Staff"
- Funding relation to the "mother ship"
- Two scenarios for the future
- Next steps

#### THE COMPUTER MUSEUM MISSION AND THE HISTORY CENTER

The Computer Museum mission is threefold:

- To educate and inspire people of 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 understand of computers worldwide.
- To be an international resource for the research into the history of computing.

Since 1987, the Museum has been focusing on the first component. At the last meeting of the Board, we were directed to change our focus to the last two components. The Board also agreed to the Museum looking for space in Silicon Valley especially for collecting activities and that we would be going forth to look for a new permanent home for the Museum. The Board debated whether the Museum would be distributed or only in one location. It was agreed that any location must be a center of computing activity to provide the needed volunteer and support stream. The governance

structure of the Museum has always been as broad-based, representing different aspects of the industry and different locations.

Importance of International Activities. In order to have the premier collection and be authoritative, the Museum has collected on a worldwide basis. From the outset we had artifacts from Colossus and Fujitsu's FACOM (1949). While a new locus for collecting in Boston created a superior mini-computer collection, an international competition for the first personal computer gave us the definitive pc collection. Locating in Silicon Valley will bring more items from this locale, international collecting made easier by the internet should increase these collections.

## A HISTORY CENTER VERSUS A THIRD WAVE MUSEUM

Everyone discussed phase one, "a history center" versus phase two, "a third wave museum." Let me first describe a third wave museum.

First wave museums have collections in cases with some labeling. The second wave, introduced by the Deutsches Museum were "hands-on science museum" with an artificial coal mine to educate about mines led to the modern science museum that has no collections. The third wave integrates collections with hands on learning.

How does a third wave museum work? At The Computer Museum an exhibition on Milestones of the Computer Revolution supplement the installations of major machines with videos and films from the era plus interactive computer simulations of the technology or applications. Or in the topical exhibit "Robots and Other Smart Machines" features the "Robot Theater" using a the collection of research robots in a theatrical setting with a sound and light show that places them in context.

Disney and theme parks have attuned people to "edutainment". Other than the very purposeful visitor, "edutainment" is expected. The attendance at Museums throughout the US is declining, including the national museums in Washington. School trips and families are choosing to visit the Orlando region with Disney World, Epcot, Seaworld etc.

In Boston, The Computer Museum is one of the few institutions with steadily growing attendance for the last several years. We are at 150,000 a year and capacity about 200,000, which means it can start to degrade the visit as that capacity is reached. At present we turn away groups during April and May, as we are fully booked.

The Museum had a slow start since we were primarily a first wave museum. School groups would book once and never return. The importance of school groups is that they not only return but often the children get their parents to bring them back to something they like. If children don't like it, the parents also get this message and never come.

The History Center should open as a History Center and not as a museum. The metric of its value should not be visitors, and there should be no charge for visitors. A member program should be very important so that those who care have an opportunity to contribute in a variety of ways.

The metric of success should be based on the quality of the collection that can be determined by use.

## CHARACTERISTICS OF THE HISTORY CENTER

The first step in California should be a first-rate Computer History Center. The center would have four components.

1. Displayed artifacts with explanations
2. Lecture/seminar space
3. Research library with multi-media, networking facilities
4. Storage for artifacts not on display.

It is not critical that the storage space be located with the first three spaces.

1. The artifacts should be displayed for serious study. This is often referred to as a "study collection". Care and creativity should be used in developing appropriate units for displaying components such as variations of core memory; different vacuum tube modules or integrated circuits as well as whole computer systems.

The displays could be in several "galleries" each suitable for holding

gallery talks or seminars. For example, instead of a "robot theater", research robots would all be able to be looked at from all dimensions and a speaker on the topic could illustrate with the real object. While, the robot theater will not leave Boston in the near future, a similar kind of setting could be made for all kinds of memory and storage devices from delay lines and core stacks to disks and integrated circuits, personal computers, super computers, the work of Seymour Cray, or a variety of other subjects.

2. The "lecture/seminar" space should be integrated with the artifact displays. At the Museum in Digital, an exhibition on Pioneer Computers was placed around a cafeteria which in turn doubled as the lecture hall. During the years at Digital and the first years in Boston, the Museum had "lecture/seminars" as often as twice a week. These were on Sunday afternoons and Thursday evening. (Now the Museum has breakfast talks.) The timing for talks has to work with the local culture. No honoraria was paid. The talks were either audio or video taped. They drew from 15 to 500 people. Opening the Center on the days of talks develops a set of volunteers and donors. (Peter Nurske attended at least one talk in Marlboro and got his idea from this event.) The space could be regularly programmed for the Stanford seminars. The space can also be rented to other groups, ranging from a set of engineers on a "retreat" to a cocktail party with a conference or meeting. This would probably mean that people were in the display space about four days of the week.

3. Research library with multi/media and networking facilities. The paper, film, video, photo, and book collections need to be made accessible to scholars, researchers, and students. The paper archives in the Museum's collection have been sorted and boxed and listed by a volunteer from Boulder Creek who comes to Boston and is put up at the Copley Plaza so that she can get a first hand understanding of the materials. She is employed by a prior-art research company. The primary use of these materials has been by the press, prior-art researchers, and for the production of television programs.

A "staff" area (whether this is staff or dedicated volunteer) is needed for the acquisition of materials and their recognition, cataloging, fielding requests and maintaining the collection.

An area would be created that would encourage people to "record" their history. The Holocaust Museum has a section in which survivors and their

descendants can come and tell their stories. Some way should be created that is not labor intensive to gather the stories of many people in the industry.

The Computer Museum is launching a multi-media multi-threaded 50 year time line on the WWW in April. This includes "real audio" of Grace Hopper describing the first bug, for example. The historical offerings on the WWW from the collections should grow from this and be part of the activity of the center.

4. Densely packed storage space is not essential on the site. Some small space of 1000 square feet may be needed as transitional to off-site storage. The storage area needs to have industrial strength large scale shelves and would contain everything boxed and labeled. Or, in the case of big machines, appropriately covered.

#### POTENTIAL ROLE OF A STANFORD HISTORY PROJECTS

Integrating the programs of the faculty and students at Stanford working on the history of technology of computing would become a rich addition to the Center. Every attempt should be made to work with them and integrate their needs.

#### POTENTIAL ROLE OF THE ANALYTICAL ENGINE

Kip Crosby has the right idea in wanting to create a popular history magazine and this would be nice component for The Center. But the magazine must either get the backing of a good popular publisher or co-publish with the Stanford historians.

#### POTENTIAL ROLE OF THE ACM

Actually, everything except "warehouse" could easily co-locate with the ACM who need 40,000 square feet of office space. (They are now spending about \$700,000 a year for space.) They would be "renters" of the seminar/meeting space that would help The Center offset costs. They would go for ownership or a long-term lease. Their 50th year anniversary in 1997 will be held in San Jose and they see the action moving West.

## GOVERNANCE, VOLUNTEERS AND STAFF

The Center would be a "division" of The Computer Museum. The Silicon Valley trustees on the Executive Committee (David House and Gwen Bell) would have principal responsibility. The oversight would fall to the other Trustees and Overseers including Gordon Bell, Jeff Braun, Lacey Edwards, Chuck House, Isaac Nassi, Suhas Patil, Grant Saviers, John Shoch, and Len Shustek. It would be useful to have a "chairman". Committees would be responsible for various aspects of the Center. These Committees would probably need to have a representative from the Museum Trustees and Overseers. (The Overseers can be added to.)

At the outset, three committees are needed:

- Planning and facilities

- Development (fundraising)

- Collection (the existing committee with new additions)

When we had acquired space then we could raise the issues of staff/volunteers. But I could see two people devoting full time. One in charge of the collections and the other in charge of lecture/seminar series and public relations. The Museum now has one full time staff in the valley who is supported by The Computer Bowl but works on a variety of projects, especially public relations.

## FUNDING AND RELATIONSHIP TO "MOTHER SHIP"

Presently, the local trustees, overseers, corporations, and friends of the Museum give annual gifts of \$1,000 or more. In the future, if they give more to support the West Coast operation that increase should go to the West Coast. Probably something like a 10% overhead will be needed since Boston will keep the books, etc. The online auction at OnSale on the WWW

could be expanded by more products and become a project of the Center. Any inventive funding ideas would be possible. In addition, a strategy would be developed and agreed on to attract new moneys to support either a project in Boston (assuming that Museum continues) or the West Coast operation.

The Museum also has \$35-100 members in Silicon Valley. I do not believe that this will be the way to fund the Center. Grass roots \$35 members are important and all be sent the Museum newsletter and annual report, and may choose to get notification of Silicon Valley activities.

Since this is a startup, a "startup" campaign is good. In 1982 we had 500 founding members at \$250 and 25 founding corporations at \$2500. Inflation has occurred since then. Then when we moved downtown we did it with the help of many 4K contributors (\$4096). A funding plan needs to be made in relationship to the needs and goals.

## TWO SCENARIOS FOR THE FUTURE

Scenario X: The Computer Museum History Center in Silicon Valley would grow and prosper as the premier collection of artifacts and materials on the history of the technology of computing. It would retain a relationship with The Computer Museum in Boston that would primarily concentrate on public education and outreach, drawing on the resources of the Center for special exhibitions.

Scenario Y: The Computer Museum would move to Silicon Valley, and the History Center would be incorporated into the Museum. The Museum would probably have several galleries that would feature interpreted historical themes. This would be a major facility for the public with several hundred thousand square feet.

## NEXT STEPS

Let's get together a lists

- people who might support in a major way
- organizations/communities that we need to see

Plan several meetings

- brainstorming rallies with supporters
- indepth discussion with Stanford faculty (Paul Edwards wants to come to dinner).
- meeting of the Museum trustees.

## Issues for The Computer Museum

**Background:** From almost the beginning, The Computer Museum has been marginal in its location on Museum Wharf. The site never lived up to the "industry standard" of refinement or pizzazz. Efforts to provide a "visionary future" had no serious backers. In 1987, the mission was re-worked to focus on education; collections and history took a back seat. From 1990-95, the Museum was in reasonable shape via a series of successful industry-funded computer-focused exhibitions. Spending little money on the collections/history allowed the funds from those supporters to go to the public facility. Today, with no major computer-focused exhibit that is well funded, and without the marginal extra resources brought from those who support the history component, the Boston facility is struggling from month to month, with no respite in sight.

### Questions:

Can The Computer Museum exhibit center/Club House reinvent itself in its current space, with current Board, and staff? Can The Computer Museum find resources to reinvent itself?

Can The Computer Museum merge with another Museum anywhere without losing its identity: the only one in the world with the best collection in the world and unique exhibits focused solely on computing.

Can The Computer Museum exist without

- \* educational exhibits that explain:
  - \* how computers work?
  - \* computer applications -- what computers do?
  - \* how computers evolve -- their history?
- \* the collection?
- \* the computer bowl?
- \* the computer club house?
- \* it's site on Museum Wharf?

What is the essence of The Computer Museum to be preserved?

Can the other components that are not part of the essence be "sold", "decommissioned", etc.

### Points of view:

Larry Weber: joining with The Museum of Science, can give Boston a world-class Science Museum, not supporting the world's best/only computer museum. Larry isn't a computer person.

Roger Heinen: it's a mess -- neither Larry nor Oliver are controlling and maximizing the resources and all the activities. Gwen is getting away with murder by moving the collection to Silicon Valley and fundraising out there for the collection.

Ed Schwartz: I worked hard for DEC to give money to the building and I don't want to lose it, and I don't want to fund raise, and I don't want to be asked for money.

Oliver Strimpel: I'm demoralized.

Lynda Bodman: I can be in the middle and meddle with a merger without financial commitment.

Gardner Hendrie: I want more history exhibits in Boston at a very low cost.

Len Shustek: I want to get going and open up The Computer Museum History Center.

Gwen Bell: I want the best computer collection in the world and I will go anywhere to do that.

### **Issues of merging with The Museum of Science**

One of the issues seems to be local, i.e., The Museum of Science wants to do more computing exhibits, and is "hampered" by The Computer Museum. If MOS sees that TCM is in trouble, won't they just "wait it out" or "try to move faster" and develop the computer exhibits that suit them.

Larry's point of taking the best of both Boards is wishful thinking. MOS would totally overshadow TCM, and TCM's interests would be compromised.

The exhibits are not portable; all will have to be refunded to at least 66% of original cost, (10,000 square feet of exhibits = \$1 - \$2 million).

Down time for Museum with almost no income. Who will pay? No "big real estate payoff likely." (The most that will return is about \$2million).

Museum of Science is not a history or a collecting Museum; under their management the History Center would even have greater difficulty achieving its goals. Staying here, it would split off. Can The Computer Museum History Center, have the name "The Computer Museum" and be independent with a relationship with the MOSC (Museum of Science and Computing). What is the intent of Gardner's endowment and the Bell's unitary trust?

If the History Center breaks away, MOSC loses many of the current Silicon Valley Board members and some of its industry relationships nurtured by history and anniversaries.

Who is the prime mover "godfather" who will put \$1-2 million to really make the merger with the Science Museum happen? This is not an idea that will bring in funds "naturally."

### **An Alternative.**

What if The Computer Museum:

- sold the 5th floor exhibits to The Children's Museum? (could probably realize about \$3m for that and the building).
- 'sold' The Club House to the Media Lab, The Science Museum, or let it become it's own 501c/3?
- moved in with The Computer History Center and going back to its roots of educational, historical exhibits?

Are there some prime movers "godfathers" who would match funds derived from the sales in Boston?

Would this alternative fire up the locals in Boston enough to save the TCM?

# The Case for a Silicon Valley Computer Museum

The computer was not invented in the San Francisco Bay area, nor are most of the world's computers built here. But few would argue with Silicon Valley's claim to the title of intellectual capital of the computer business. The confluence of established companies, startups, venture capital firms, technology-friendly universities, and media coverage has caused the center of gravity to shift to this area.

Perhaps because the early development of computers was centered elsewhere, an appreciation of the history of computers has not been much expressed here until recently. That has changed, however, and the objective of this paper is to show that **now is the time, and Silicon Valley is the place, to establish a major computer history center and the world's premier display collection of computer memorabilia.**

## Why now?

The awakening of interest in computer history is fueled in large part by the sudden awareness that history not preserved is history lost. We can see that two important things are being lost at an accelerating rate: old computers, and people.

The new model of computing based on small distributed machines is quickly becoming dominant, and the mainframes and minicomputers on which the previous generation was based are disappearing. Machines from the 40's and 50's are no longer available for preservation, and those from the 60's and 70's are going fast. Unless significant specimens are saved, they will be lost forever. In fifty years no one will have any sense of what a mainframe computer room in the early days was like, unless we preserve it now.

Secondly, now that the beginning of the electronic computer age extends back 50 years, the early pioneers are dying. We will soon lose forever the opportunity to record personal histories and observations on the development of this crucial technology. Some early contributors have already gone without being adequately recorded, and that is a tragedy. Many who are now in their 60's, 70's and 80's seek and appreciate the opportunity to tell their stories.

In one respect the aging of computers is beneficial for our cause: it provides an audience. Old-timers like history, and for the first time now there is a significant population of computer old-timers who were designers and users in “the old days”. For some, the old days are when the Eniac was alive, and for others it’s when they bought their first Altair-8800, but they are all sympathetic to the goal of preserving what they worked on.

The computer does not exist in nature; it is entirely a recent creation of the mind. It will surely have a long and significant future that none of us can predict. But its origins are still within our grasp. We have a duty to future generations to record and preserve those origins, and an opportunity to do so with activities that are exciting and educational for us now.

## **What is it that we are proposing?**

First and foremost, we are proposing to build a prominent display museum for exhibiting the history of computers to a technologically-aware audience. It is a medium-sized space (10,000 to 20,000 square feet) dedicated exclusively to showing and explaining the significant artifacts of computer history.

Each artifact will be accompanied by text that describes the technology and indicates its significance in the evolution of computers. In addition, copies of some of the original documentation and collateral material (such as advertisements or photographs of typical installations) will be on display. Other exhibits will include timelines, video terminals for viewing “soft” exhibits, and photographic collages, enhanced when appropriate with the latest in multimedia techniques.

The complete artifact collection includes computer hardware (both complete machines and significant components), peripherals, contemporary documentation, and software. Special emphasis is placed on documents which can be used to understand the technology in detail: theory-of-operation manuals, logic diagrams, programs listings and source code. Secondary materials include photographs, films and videos, audio tapes, books, and digital versions of all of these. As with all display museums, there will be a significant part of the collection which is in storage and not on public display, but will be available by arrangement.

Supporting the collection are the usual activities for acquisition, cataloging, maintenance, and preservation. One of the most intriguing new challenges will be determining the appropriate ways to preserve software and make it accessible.

Secondly, going beyond the collection, we can aspire to make this facility be a true “Institute for Computer History” by other activities that support academic research. These include providing a library, developing material for courses on computer history, preserving individual and corporate archives, encouraging and participating in the

compilation of histories, and becoming involved with other disciplines interested more broadly in the history of technology.

## What is it not?

Many of the existing organizations that one thinks of as dedicated historical computer museums are not that. Instead, most of them instead have as their primary focus the explication of current computer technology to school-age children, which laudable goal they achieve with great success. We will be different.

In the Bay Area *The Tech Museum of Innovation* in San Jose and *The Exploratorium* in San Francisco are two such examples, neither of which has an historical bent. Also, both cover areas of technology other than computers; in fact the Exploratorium has very little display space devoted to computer exhibits.

The Computer Museum in Boston is closer to what we have in mind, but is still off the mark. It does cover only computers, and it's original purpose was indeed historical preservation and exhibition. But its focus and audience has changed in the last decade, and it is now is 75% *Tech*-like, and 25% historical. Most of their impressive historical collection is not on display because the space is needed for the tutorial and hands-on exhibits.

Similarly, the Smithsonian's exhibit (the "Information Age" section of the National Museum of American History) is not restricted to computers, is directed towards children and non-technical adults, and emphasizes showing the effects of technology on society.

The facility proposed here does not compete with any of those that already exist except in minor ways. In particular, there is no overlap with anything else in the San Francisco Bay area, including *The Tech*.

## Who is the audience?

There are many categories of people who are likely to be customers of an historical and research-oriented computer museum:

- Nostalgic computer users and engineers: The population of people who worked with "old" computers is becoming huge, and they respond with enthusiasm to having their memories refreshed. You can't show a familiar old machine to one of its programmers or users without provoking a long stream of reminiscences.
- Curious college students: The EE students who are learning to put  $10^7$  transistors on a chip are absolutely fascinated by fact that complete computers were built out of

postcard-sized logic modules that implemented two AND gates each. Just hand a 4 Kbit core memory module to a budding digital engineer who has never seen one and watch his or her jaw drop.

- Practicing engineers doing new designs: There are techniques that were used in the past that are useful to research in detail for two possible reasons: (1) they may be useful again in a new technology (example: Tomasulo's instruction-scheduling algorithm designed for the 360/91, which is being reimplemented for the latest superscalar microprocessors), or (2) they have been dead-ends in the past for good reasons whose lessons can be inexpensively learned. For both you may need detailed access to design details from the historical documentation.
- Visitors to the area who have a technology interest: This facility can become one of the standard high-tech tourist spots to which visitors at Silicon Valley companies and conventions go, on a par with the tourist spots of San Francisco and The Tech in San Jose.
- Lovers of collections: As personal computers become ubiquitous among the general population, old computers may become an object of more broadly-based interest in the same way that old cars and old aircraft are. Not all visitors to those collections are dedicated car or airplane buffs. Many of those who enjoy them are casual users, just as they will be of computers.
- History researchers: The displayed and stored collection, especially the technology and developmental history documentation, is a valuable resource for studying the evolution of computer hardware and software. At a more global level, the development of the computer industry is a rich example of accelerated scientific development and the social and economic factors that made it work; future historians will need primary source documents to understand these times.
- Legal researchers: Lawyers and corporate research staff doing prior-art investigations of intellectual property for patent and trademark work need this material.
- Public media: Television and print media need a source for historical photographs, films, and sound clips, as well as a place (or service?) to do historical fact-checking.
- The next generation: Posterity. We are preserving an historical record for people yet unborn. What would you like the college student of 100 years from now to be able to find out about the origins of the computer?

## What organizations could be involved?

There are several organizations which are sympathetic to the establishment of a west coast computer collection, and two in particular which have expressed serious interest in participating.

- The Computer Museum in Boston (TCM) wants to establish a presence in the Bay Area, and in doing so would like to return to its roots as an historical museum. They have an impressive collection in storage, a prestigious board, good name recognition, and an ongoing source of funds. Surely if TCM moves the major part of its collection here and establishes a display space, they instantly become **the** Silicon Valley computer museum with which all the other organizations must align.
- The Computer History Association of California (CHAC) is a small non-profit corporation which has published a journal called *The Analytical Engine* for several years, and is the strongest local lobbying group for an historical museum. They have a modest artifact collection to which has just been added a complete 60's-era small mainframe: an SDS-930. The CHAC is sympathetic to the idea of joining forces with TCM if their goals are aligned, and the *Engine* could serve as the basis for a more widely-circulated journal of the museum.

At the next level down, there are several local projects which could be more loosely affiliated with this new venture.

- Stanford University has a project within their library's Department of Special Collections called the *Silicon Valley Project*. Its mission is documenting the history of science and technology, but its scope is regional rather than disciplinary, so it includes biotechnology, physics, and aerospace as well as computers. They have a good private-use collection of company and individual archives from people who worked in the area, but only a small artifact collection. They have encouraged us in the establishment of a display collection and discussed several avenues of collaboration.
- The Perham Foundation has an electronics museum collection, and once had a display facility in a building on the Foothill College campus. Their collection is currently in storage, and they are planning a new facility in downtown San Jose. They have expressed interest in cross-loaning artifacts as appropriate, and perhaps other cooperative efforts.
- The *Bay Area Computer History Perspectives* is a popular lecture series on computer history organized by a couple of Sun employees. They originally thought that it could be an official event of TCM, but the long-distance coordination made that impossible. It could instead be sponsored by this new museum.

- The *Tech Museum of Innovation* would be a sensible collaborative partner, since there is little or no overlap in approach but there is a shared interest in the subject matter.

In addition, other relationships would be likely to develop with like-minded organizations in other areas, including the Smithsonian, the Babbage Institute, the London Science Museum, the IEEE History Center at Rutgers University, and others.

## What other activities can it sponsor?

In addition to activities directly related to the collection and to historical research, there are other activities which can be sponsored or encouraged, some of them especially appropriate if the display facility is reasonably slick and spacious:

- Use of the facility for company and organization events. Many other museums have found this to be a valuable PR and fundraising source. What is more appropriate than for a modern computer technology company to hold a board meeting, press announcement, awards dinner, or shareholder meeting amidst the equipment that represents its historical roots?
- A lecture series on computer history, trends, and future prospects, subsuming that of the Bay Area Computer Perspectives series.
- If TCM is a sponsor, it makes sense for their annual auction to be sponsored as an event of the historical collection.
- A library dedicated to preserving computer history, which might include: contemporaneous material (books, manuals, design documents), books and monographs on computer history, video and audio tapes of interviews with pioneers, and so on. The library's scope will need to be refined in collaboration with the other associated organizations which have similar functions.
- Publication of an informal journal, which is both the house organ and is of wider interest to computer history collectors. Here, too, it's scope will be defined to avoid overlap or competition with the product of other organizations, like the IEEE's excellent *Annals of the History of Computing*.

## What do we call it?

This is not the time or place to worry about or decide on a name and associated image, but here are some possibilities which may help to convey the flavor of the undertaking:

- The Silicon Valley Computer Museum

- The [SiliconValley?] Institute for Computer History
- The [Silicon Valley?] Computer History Center
- ...

## Site location possibilities

The target location is the San Francisco peninsula along the freeway 101/280 corridor from Menlo Park to San Jose. Easy freeway access and simple directions are a plus.

The target facility is a stand-alone building of 10,000 to 20,000 square feet. It should be mostly large open spaces with few offices. Having a distinctive architectural look, making it a recognizable destination in this land of boring concrete tilt-ups, would be a plus.

.....

## Funding and staffing scenarios

...TBD...

## How do we proceed?

...TBD...

# The Case for a Silicon Valley Computer Museum

The computer was not invented in the San Francisco Bay area, nor are most of the world's computers built here. But few would argue with Silicon Valley's claim to the title of intellectual capital of the computer business. The confluence of established companies, startups, venture capital firms, technology-friendly universities, and media coverage has caused the center of gravity to shift to this area.

Perhaps because the early development of computers was centered elsewhere, an appreciation of the history of computers has not been much expressed here until recently. That has changed, however, and the objective of this paper is to show that **now is the time, and Silicon Valley is the place, to establish a major computer history center and the world's premier display collection of computer memorabilia.**

## Why now?

The awakening of interest in computer history is fueled in large part by the sudden awareness that history not preserved is history lost. We can see that two important things are being lost at an accelerating rate: old computers, and people.

The new model of computing based on small distributed machines is quickly becoming dominant, and the mainframes and minicomputers on which the previous generation was based are disappearing. Machines from the 40's and 50's are no longer available for preservation, and those from the 60's and 70's are going fast. Unless significant specimens are saved, they will be lost forever. In fifty years no one will have any sense of what a mainframe computer room in the early days was like, unless we preserve it now.

Secondly, now that the beginning of the electronic computer age extends back 50 years, the early pioneers are dying. We will soon lose forever the opportunity to record personal histories and observations on the development of this crucial technology. Some early contributors have already gone without being adequately recorded, and that is a tragedy. Many who are now in their 60's, 70's and 80's seek and appreciate the opportunity to tell their stories.

In one respect the aging of computers is beneficial for our cause: it provides an audience. Old-timers like history, and for the first time now there is a significant population of computer old-timers who were designers and users in “the old days”. For some, the old days are when the Eniac was alive, and for others it’s when they bought their first Altair-8800, but they are all sympathetic to the goal of preserving what they worked on.

The computer does not exist in nature; it is entirely a recent creation of the mind. It will surely have a long and significant future that none of us can predict. But its origins are still within our grasp. We have a duty to future generations to record and preserve those origins, and an opportunity to do so with activities that are exciting and educational for us now.

## **What is it that we are proposing?**

First and foremost, we are proposing to build a prominent display museum for showing the history of computers to a technologically-aware audience. It is a medium-sized space (10,000 to 20,000 square feet) dedicated exclusively to explaining the evolution of computer technology through the display of significant artifacts. The core of the collection will be that of The Computer Museum in Boston, and it will expand from that base.

The display will be designed to appeal to adults. Each artifact will be accompanied by text that describes the technology and indicates its significance in the evolution of computers. In addition, copies of some of the original documentation and collateral material (such as advertisements or photographs of typical installations) will be on display. Other exhibits will include timelines, video terminals for viewing “soft” exhibits, and photographic collages, enhanced when appropriate with the latest in multimedia techniques.

The complete artifact collection includes computer hardware (both complete machines and significant components), peripherals, contemporary documentation, and software. Special emphasis is placed on documents which can be used to understand the technology in detail: theory-of-operation manuals, logic diagrams, programs listings and source code. Secondary materials include photographs, films and videos, audio tapes, books, and digital versions of all of these. As with all display museums, there will be a significant part of the collection which is in storage and not on public display, but will be available by arrangement.

Supporting the collection are the usual activities for acquisition, cataloging, maintenance, and preservation. One of the most intriguing new challenges will be determining the appropriate ways to preserve software and make it accessible.

Secondly, going beyond the collection, we can aspire to make this facility be a true “Institute for Computer History” by other activities that support academic research. These include providing a library, developing material for courses on computer history, preserving individual and corporate archives, encouraging and participating in the compilation of histories, and becoming involved with other disciplines interested more broadly in the history of technology.

## What is it not?

Many of the existing organizations that one might casually think of as historical computer museums are not that. Instead, most of them instead have as their primary focus the explication of current computer technology to school-age children, which laudable goal they achieve with great success.

In the Bay Area *The Tech Museum of Innovation* in San Jose and *The Exploratorium* in San Francisco are two such examples, neither of which has an historical bent. Also, both cover areas of technology other than computers; in fact the Exploratorium has relatively little space devoted to computer exhibits.

There certainly is nothing like what we are proposing anywhere in the Bay Area. Even worldwide, there are few such places. For example, the Smithsonian’s exhibit (the “Information Age” section of the National Museum of American History) is not restricted to computers, is directed towards children and non-technical adults, and emphasizes showing the effects of technology on society.

Parts of the current facility of the Computer Museum are close to what we have in mind. It does cover only computer technology, but the focus and audience has changed in the last decade away from the original concentration on historical preservation and exhibition. Most of the impressive artifact collection is not on display because the space is needed for the tutorial and hands-on exhibits. We are advocating, for this new west coast location, a return to its roots as an important expansion of the current mission.

In short, the facility proposed here does not compete with any of those that already exist except in minor ways. In particular, there is no overlap with anything else in the San Francisco Bay area, including *The Tech*.

## Why show dusty old computers?

Why would people want to see a collection of old computers? For the same reason people stand on line in Washington D.C. to see the Declaration of Independence.

We are primarily trying to document the history of ideas, not machines. But the way to make that tangible -- and popular -- is to display the physical artifacts, just as the history of democracy is made tangible -- and popular -- by displaying the physical documents of the time. It is a ruse: visitors are enticed and (one hopes) impressed by the physical objects, and then are motivated to understand the concepts, the relationships, the politics, the organizations, and the people that created them.

## Who is the audience?

There are many categories of likely customers of an historical and research-oriented computer museum:

- Nostalgic computer users and engineers: The population of people who worked with “old” computers is becoming huge, and they respond with enthusiasm to having their memories refreshed. You can’t show a familiar old machine to one of its programmers or users without provoking a long stream of reminiscences.
- Curious college students: The EE students who are learning to put  $10^7$  transistors on a chip are absolutely fascinated by fact that complete computers were built out of postcard-sized logic modules that implemented two AND gates each. Just hand a 4 Kbit core memory module to a budding digital engineer who has never seen one and watch his or her jaw drop.
- Practicing engineers doing new designs: There are techniques that were used in the past that are useful to research in detail for two possible reasons: (1) they may be useful again in a new technology (example: Tomasulo’s instruction-scheduling algorithm designed for the 360/91, which is being reimplemented for the latest superscalar microprocessors), or (2) they have been dead-ends in the past for good reasons whose lessons can be inexpensively learned. For both you may need detailed access to design details from the historical documentation.
- Visitors to the area who have a technology interest: This facility can become one of the standard high-tech tourist spots to which visitors at Silicon Valley companies and conventions go, on a par with the tourist spots of San Francisco and *The Tech* in San Jose.
- Lovers of collections: As personal computers become ubiquitous among the general population, old computers may become an object of more broadly-based interest in the same way that old cars and old aircraft are. Not all visitors to those collections are dedicated car or airplane buffs. Many of those who enjoy them are casual users, just as they will be of computers.

- History researchers: The displayed and stored collection, especially the technology and developmental history documentation, is a valuable resource for studying the evolution of computer hardware and software. At a more global level, the development of the computer industry is a rich example of accelerated scientific development and the social and economic factors that made it happen; future historians will need primary source documents to understand these times.
- Legal researchers: Lawyers and corporate research staff doing prior-art investigations of intellectual property for patent and trademark work need this material.
- Public media: Television and print media need a source for historical photographs, films, and sound clips, as well as a place (or service?) to do historical fact-checking.
- The next generation: Posterity. We are preserving an historical record for people yet unborn. What would you like the college student of 100 years from now to be able to find out about the origins of the computer and its applications?

## What other organizations could be involved?

The Computer Museum (TCM) has an impressive collection in storage, a prestigious board, good name recognition, and an ongoing source of funds. If it establishes a presence in the Bay Area, and in doing so returns to its roots as an historical museum, it will instantly become **the** Silicon Valley computer museum with which all the other organizations must align. (Remember, *The Tech* is not a museum in the sense we mean.)

But it need not, and in fact should not, be done entirely alone by TCM. It is important to get local grass roots support to provide enthusiastic volunteers, contributors, and promoters.

In this regard there are several existing local organizations interested in the history of technology, and which would be interested in some level of affiliation:

- The *Computer History Association of California* (CHAC) is a small non-profit corporation which has published a journal called *The Analytical Engine* for several years, and is the strongest local lobbying group for an historical museum. They have a modest artifact collection to which has just been added a complete 60's-era small mainframe: the SDS-930. The CHAC is sympathetic to the idea of joining forces with TCM if their goals are aligned, and the *Engine* could serve as the basis for a more widely-circulated journal of the museum.
- Stanford University has a project within their library's Department of Special Collections called the *Silicon Valley Project*. Its mission is documenting the history of science and technology, but its scope is regional rather than disciplinary, so it

includes biotechnology, physics, and aerospace as well as computers. They have a good private-use collection of company and individual archives from people who worked in the area, but only a small artifact collection. They have encouraged us in the establishment of a display collection and discussed several avenues of collaboration.

- The Perham Foundation has an electronics museum collection, and once had a display facility in a building on the Foothill College campus. Their collection is currently in storage, and they are planning a new facility in downtown San Jose. They have expressed interest in cross-loaning artifacts as appropriate, and perhaps other cooperative efforts. In the meantime they have graciously made available some space in their storage lockers for TCM's use in starting a west coast collection activity.
- The *Bay Area Computer History Perspectives* is a popular lecture series on computer history organized by a couple of Sun employees. They originally thought that it could be an official event of TCM, but the long-distance coordination made that impossible. It could instead be sponsored by this new west coast museum.
- The *Tech Museum of Innovation* would be a sensible collaborative partner, since there is little or no overlap in approach but there is a shared interest in the subject matter.

In addition, other relationships would be likely to develop with like-minded organizations in other areas, including the Smithsonian, the Babbage Institute, the London Science Museum, the IEEE History Center at Rutgers University, and others.

## **What other activities can it sponsor?**

In addition to activities directly related to the collection and to historical research, there are other activities which can be sponsored or encouraged, some of them especially appropriate if the display facility is reasonably slick and spacious:

- Use of the facility for company and organization events. Many other museums have found this to be a valuable PR and fundraising source. What is more appropriate than for a modern computer technology company to hold a board meeting, press announcement, awards dinner, or shareholder meeting amidst the equipment that represents its historical roots?
- A lecture series on computer history, trends, and future prospects. It would subsume (with their cooperation) that of the the Bay Area Computer Perspectives series, whose mission is retrospective presentation by important original contributors. In addition, we could develop researched talks on particular topics in computer history that are broader than a particular individual or organization.

- The development of “portable” curriculum material for one or more courses on the history of computers. The courses can be given at the museum (as part of or in addition to the lecture series), or at an interested local university.
- The TCM annual auction might be sponsored and promoted as an event of the historical collection, since much of the auctioned material is historical.
- A library dedicated to preserving computer history, which might include: contemporaneous material (books, manuals, design documents), books and monographs on computer history, video and audio tapes of interviews with pioneers, and so on. The library’s scope will need to be refined in collaboration with the other associated organizations which have similar functions.
- Publication of an informal journal, which is both the house organ and is of wider interest to computer history collectors. Here, too, it’s scope will be defined to avoid overlap or competition with the product of other organizations, like the IEEE’s excellent *Annals of the History of Computing*.

## What do we call it?

This is not the time or place to worry about or decide on a name and associated image, but here are some possibilities which may help to convey the flavor of the undertaking:

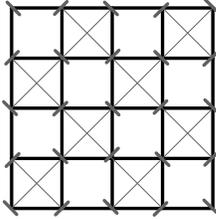
- The Computer Museum Silicon Valley History Center
- The Silicon Valley Computer Museum
- The [SiliconValley?] Institute for Computer History
- etc.

## Site location possibilities

The target location is the San Francisco peninsula along the freeway 101/280 corridor from Menlo Park to San Jose. Easy freeway access and simple directions are a plus.

The target facility is a stand-alone building of 10,000 to 20,000 square feet. It should be mostly large open spaces with few offices. Having a distinctive architectural look, making it a recognizable destination in this land of boring concrete tilt-ups, would be a plus.

...more to come.....



# The Computer Museum

## Proposal for Historical Displays in the Gates Building

With inspiration from Gio Wiederhold and encouragement from John Hennessy, The Computer Museum has developed a plan to provide a “mini-museum” of historical computer artifacts and exhibits for open areas of the Gates Computer Science Building. This proposal outlines the benefits and details of the plan.

### **Motivation**

- To create attractive and educational displays in public spaces of the Gates building.
- To better utilize space which has not shown to be effective.
- To instill a sense of computer history and its continuity with current research.
- To help establish a west coast presence for The Computer Museum, which is planning a major Computer History Center in the bay area.

### **Aesthetics**

- Display cases will be professionally designed and built, and have the approval of the building committee and the architects.
- Placement and sizing will be by mutual agreement. Suggested locations are below.
- The Computer Museum will be responsible, subject to the necessary approvals, for curating the exhibit. That includes
  - selection and arrangement of the artifacts
  - design and implementation of signage
  - transportation and installation

### **Locations**

The public spaces proposed for the exhibit are all located in lobby areas. The locations are marked on the floor plans in the appendix.

- On the main floor:
  - A low glass case on top of the currently unused marble countertop. (Approx. 30” by 16’, or 40 sq. ft)

- A long waist-high display cabinet on the opposite wall (also 40 sq. ft.). The wall space above would still be available for artwork, as currently.
- Two freestanding display cases in the east vestibule on either side of the stairs leading to the basement. (Approx. 3' by 5', or 30 sq. ft. total). This is the high-traffic area for classroom attendance, but is a separate entrance from the other areas on this floor.
- In the basement:
  - Two shallow alcoves adjacent to the elevators (1' by 4')
  - Two shallow alcoves on opposite sides of the hall entry (1' by 3')
  - One shallow alcove at the south end of the lobby (1' by 3')
- On each of floors 2, 3, and 4:
  - Two deep alcoves adjacent to the stairwell (3' by 5')
  - One corner space to the left of the elevators (4' by 4', or 3' by 5')

This represents a total of 18 cabinets and about 220 square feet of floor space. Many of the display cabinets will have shelves at multiple levels, depending on the size of artifacts chosen.

In addition, the Museum has a number of wall displays that may be appropriate. Some of them, such as large rubilith masters of computer chips, are both technologically important and artistically interesting, and could be displayed in the currently unused stairwell walls or other places.

## **Content**

The display spaces described above can be considered to be six small exhibit galleries: one each for the basement and floors 2, 3, and 4, and two (with separate entrances) for the first floor.

The proposal is to design 8 to 12 independent exhibits, each with a separate theme or subject. Three will be installed initially -- one per exhibit gallery -- and three more one quarter later. Thereafter, each gallery will be replaced annually with another theme exhibit.

Exhibits which are not on display in the Gates building will be used by The Computer Museum for display in corporate lobbies in the bay area. After the Computer History Center is built, exhibits will be staged from there.

The list of potential exhibit themes, still being developed, is large. Each will emphasize the historical progression of the technology and end with current research. Some of the candidates include:

- Graphic input devices: mice, trackballs, lightpens, etc.
- Calculators: mechanical and electronic
- Slide rules and other analog mechanical computers

- Non-mechanical memory devices: vacuum tube storage, core memory, transistorized memory, semiconductor memory, etc.
- Mechanical memory devices: disk, drums, mechanical delay lines, etc.
- Logic implementation technology: mechanical, tube, transistor, IC
- Printers and print technology
- Display devices: CRTs, LCDs
- Tape storage devices and media: paper, magnetic, cartridge, etc.
- Network/internet hardware and software
- Robotics
- Game programs and computers
- The history of chess-playing programs through the years
- Computer languages: manuals, related media, sample programs
- Specific algorithm histories, such as sorting algorithms or line-drawing algorithms
- “Things that didn’t work”: Selected failures from the hardware and/or software world
- “Stanford companies”: representative artifacts from companies started by Stanford faculty or alumni

Other themes can be suggested by and based on current research projects. We enthusiastically welcome faculty, staff, and student participation in the development of the exhibits. The use of large-scale artifacts, such as robots or the larger computers, is obviously limited by the space constraints.

There will be a brochure available in the lobby that describes the currently installed exhibits and their location. The brochure will be produced by the Museum, and printed and kept stocked by Stanford.

### **Other related activities**

We may jointly want to consider several related activities or installations:

- The Museum offers to organize a public lecture associated with the opening or changing of the exhibits, thus probably two per year. These would be historically oriented and related to the exhibit, preferably prepared and delivered by researchers or developers who were/are involved in the technology.
- It may be appropriate to use one of the lobby kiosk terminals for an internet browser linked to the Museum’s web site and other online sources of historical information.

## Expenses

The expenses for this project are a combination of one-time and ongoing costs. It is proposed that Stanford pay for the permanent cabinets, the Museum pay for the exhibit development, and the ongoing costs be shared, as follows:

<u>Item</u>	<u>Total cost</u>	<u>Stanford</u>	<u>Computer Museum</u>
Cabinet design	\$10K	\$10K	\$0K
Cabinet construction and installation	\$60K	\$60K	\$0K
Exhibit development	\$50K	\$0K	\$50K
Exhibit rotation	\$30K/year	\$20K/year	\$10K/year
<b>Totals</b>	\$120K + \$30K/year	\$70K + \$20K/year	\$50K + \$10K/year

These are initial estimates. The Museum expects to use a combination of donated funds, existing staff members and volunteer experts for this project.

## Duration and Ownership

We propose a three-year commitment from both Stanford and The Museum. If the exhibits prove successful, it will be in the interest of both to continue the arrangement.

Ownership of all artifacts remains with The Museum, if part of its collection, or the lender, if borrowed. Ownership of the display cabinets remains with Stanford.

The Museum would request the use of a desk in an office somewhere in the Gates building for coordinating the on-site activities.

## Action items

- Approval of concept by the building committee
- Approval of funding from Stanford and from the Museum's Board

After the necessary approvals, the Museum will work with the Gates building administrators and architects to design the display cases.

## Tentative Schedule

March '96: Discussion, plan refinement, and approval of project  
 April-May '96: Design of cabinets; exhibit planning  
 June-August '96: Fabrication of cabinets; initial exhibit construction

- September '96: Installation of first floor and basement exhibits, in time for Autumn quarter start
- December '96: Installation of second, third, and fourth floor exhibits, in time for Winter quarter start

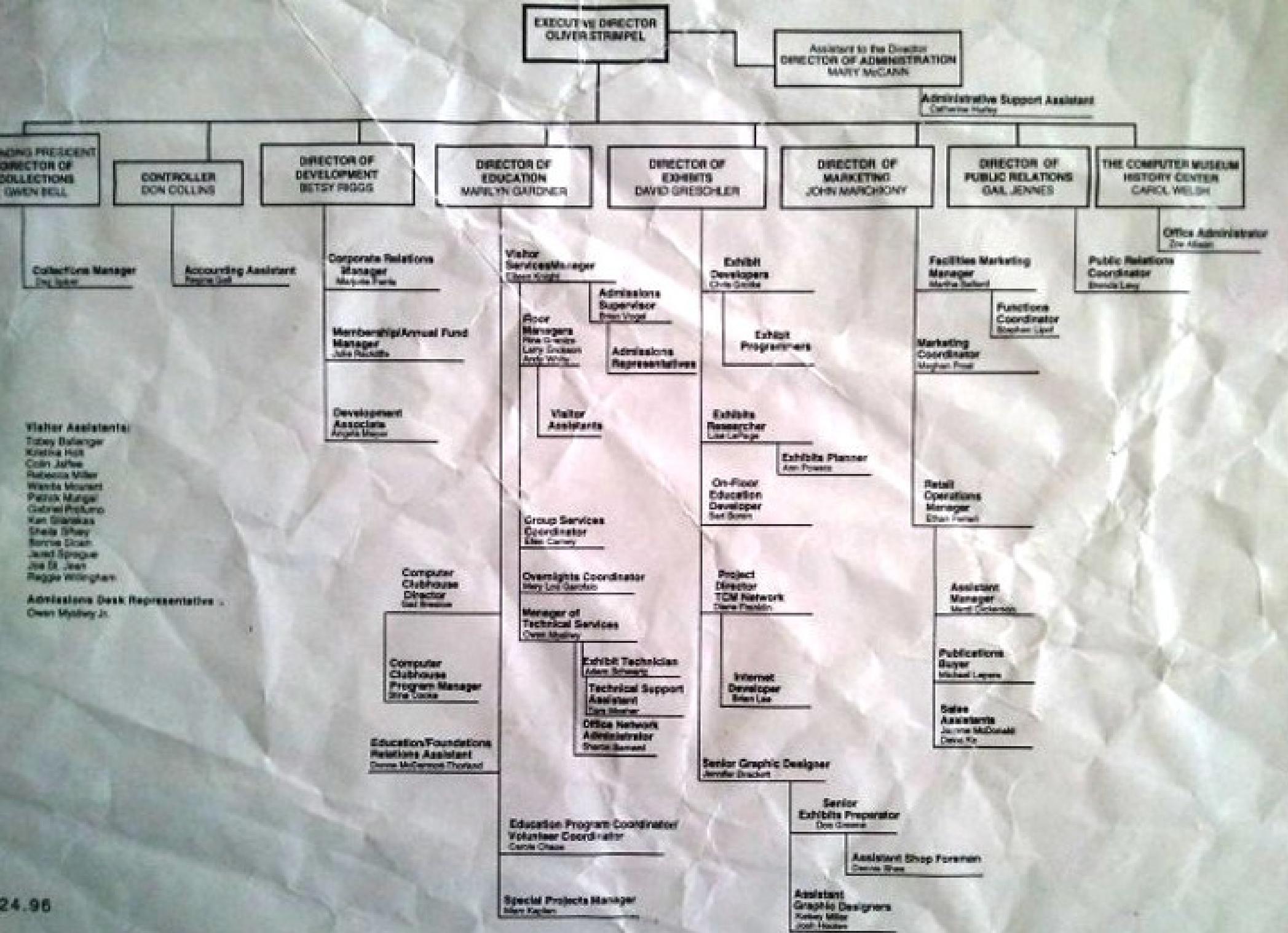
This is a fast track for a project of this size, and can only happen with a minimum of bureaucracy and a sense of cooperative enthusiasm from both participants.

## **Credentials**

The Computer Museum is a 15-year-old successful and financially stable nonprofit corporation. The major facility is an owned 53,000 square foot exhibit space on the wharf in downtown Boston. In addition to earned income, funds come from donations and events such as the annual televised Computer Bowl. See the attached Annual Report for more detailed information.

The Museum has what is probably the best collection of historical computer artifacts in the world, most of which is not on display in Boston. Plans are currently underway to establish a major History Center in silicon valley, which will become the focus for all the collection and archiving activities. The bulk of the stored collection will be moved here from Boston. We expect to collaborate with Stanford for the study and research programs of the Center. See the attached slide presentation for more information on the History Center project.

L. Shustek  
4 March 1996



Visitor Assistants:  
 Tobby Balenger  
 Kristina Holt  
 Colin Jaffe  
 Rebecca Miller  
 Wendy Mount  
 Patrick Mangel  
 Gabriel Profumo  
 Ken Stankus  
 Sheila Shyan  
 Bernice Sloan  
 Janet Sprague  
 Joe St. Jean  
 Reggie Wingham

Admissions Desk Representatives:  
 Owen Mynthey Jr.

12/98

Founded in 1982 as a nonprofit organization, The Computer Museum in Boston is the first institution in the world devotedly solely to people and computers. The mission of the Museum is to inspire people of all ages and backgrounds from around the world about computers through its exhibits and education and preservation programs. The Museum features more than 170 interactive exhibits that explore the history, technology, applications and impact of computing.

**In 1996, The Computer Museum History Center was established in Silicon Valley to further fulfill the Museum's mission as an international resource on the history of computing. The History Center is home to the most comprehensive archive of computing artifacts in the world.**

In addition, The Computer Museum enables thousands of inner-city youths in Boston, New York, Ohio, and Germany to expand their horizons via its Computer Clubhouse after-school program (winner of the 1997 Drucker Award for Nonprofit Innovation). The Computer Museum Network ([www.tcm.org](http://www.tcm.org)) reinterprets Museum's elements for the global audience of the Internet through Java-enabled, interactive exhibits, a historic timeline, educational materials, and a store.

### **Computer Museum Unveils a Giant Virtual Aquarium Where Visitors Build and Interact With Their Own Fish**

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1998

Boston, Mass. (June 2) – Starting June 13, 1998, Computer Museum visitors venture inside a 2,200-square-foot virtual undersea world, The Virtual FishTank™. In the exhibit, visitors create and interact with their own virtual fish to discover new insights into how complex living systems work. The exhibit is a collaboration with the [MIT Media Lab](#) and [Nearlife, Inc.](#) The Museum has built this compelling, simulated aquatic environment, combining the latest techniques in 3-D computer graphics and real-time interactive character animation

#### **FOR IMMEDIATE RELEASE**

### **COMPUTER MUSEUM PICKS SENIOR MANAGEMENT AND MARKETING STRATEGIST LUCIA QUINN TO LEAD MUSEUM INTO 21ST CENTURY**

Boston, Mass. (January 12, 1999) — The Computer Museum announced today the appointment of Lucia Luce Quinn as Executive Director, succeeding Oliver Strimpel, who left June 30, 1998. Quinn, 45, known for her innovative approach to management, organizational strategy, and marketing in the computer industry, assumes over-all responsibility for the Museum, effective immediately.

“Lucia has a profound appreciation of the Museum’s mission to educate people of all ages about computers and their impact,” said Larry Weber, chairman of the Museum’s Board of Trustees. “She also has the vision, skills and management experience to bring the Museum into the 21st century and to foster the relationships that can enhance and expand the Museum’s mission.” Quinn was chosen by the Board after an international search.

After positions as a business and communications strategist at Westinghouse Electric Corporation, Pittsburgh, Pennsylvania, and as vice president and senior partner at Harbor Research Corporation in Boston, Quinn joined Digital Equipment Corporation in 1989. There, she pioneered approaches to business, organization, marketing and brand strategy to strengthen and position the company and its products in the rapidly changing high-tech environment.

“Tucked away in the city’s vibrant seaport area, The Computer Museum is a unique gem in Boston’s and New England’s portfolio of educational and cultural assets,” said Quinn. “Specifically, the region’s rich high-tech roots and dynamic new business environment create an extraordinary opportunity to foster the relationship between technology and people of all ages. The Museum’s mission extends well beyond its four walls to make the world of computers — the technology, its application and its impact — more understandable, accessible and motivating to the greatest number of people. We do that through events and exhibits and, especially, through technology training for educators, by providing greater access to computing power for the under-served, and by creating exciting connections with and among the high-tech community here,” said Quinn. “It’s a privilege and a delight to contribute my industry experience and expertise to the vision and outreach of The Computer Museum.”

Since The Computer Museum was founded in 1982, its interactive exhibits and informal learning activities have enabled hundreds of thousands of people from around the world to explore the power of computing. Each year, more than 40,000 students from New England experience the Museum’s on-site resources, while its Education Program Center provides Internet training for hundreds of Boston educators and its website ([www.tcm.org](http://www.tcm.org)) brings the Museum’s interactivity to millions online. The Computer Clubhouse after-school program, winner of the 1997 Drucker Award for Nonprofit Innovation, enables thousands of inner-city youths in the United States, Europe and, this spring, in South America, to expand their horizons. The Computer Bowl®, the Museum’s signature fundraiser, has garnered worldwide attention. The Computer Museum History Center in Silicon Valley is home to the most comprehensive archive of computing artifacts in the world.

Ellen Spear, who has been acting Executive Director during the interim, will stay on at the Museum, serving as Deputy Director, responsible for day-to-day operations.

Quinn’s commitment to the Museum is prompted by her belief in the power of education and technology to shape lives and events. A native of Pittsburgh, Pennsylvania, she

graduated from Simmons College in 1975 with a BA in management, and currently serves as a Trustee of the college. At Digital Equipment Corporation from 1989 until the present, she held a variety of senior management positions, including vice president, Corporate Strategy and Alliances; vice president, Windows NT™ Business Segment; and, most recently, vice president, Corporate Brand Strategy and Management, Worldwide Sales and Marketing.

She lives in Concord, Mass., with her husband John, minister of pastoral care at Trinitarian Congregational Church, in Wayland, Mass., their son Will, 10, and daughter Emma, 7, who are students in Concord public schools.