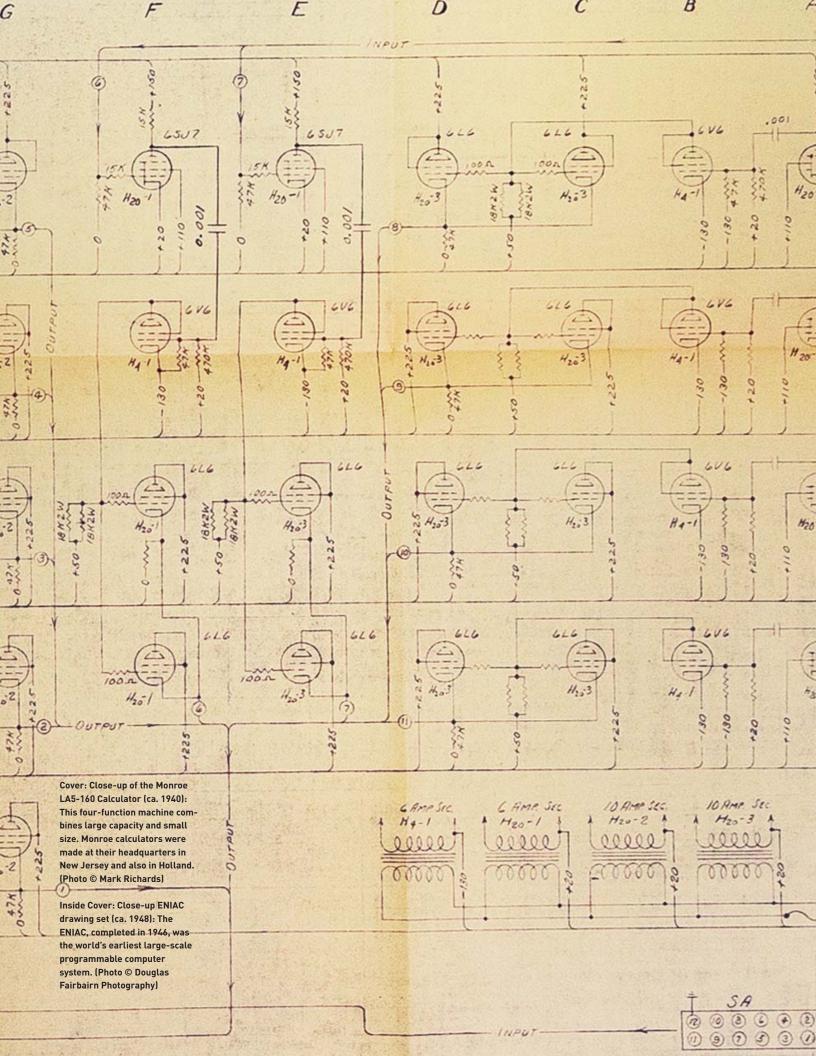


FISCAL 2016 REPORT TO THE COMMUNITY





# HISTORY KEEPS CHANGING— AND THAT'S GOOD

# LETTER FROM THE CHAIRMAN

# The past doesn't change, but the history of it often

does because of new discoveries. For example, historians believed for centuries that the first mechanical calculators, like Blaise Pascal's Pascaline, were built in the 1600s. But in 1900, Greek sponge divers off the island of Antikythera discovered a shipwreck with the remains of a device<sup>1</sup> that, after much study, we now know was an extremely complicated astronomical calculator built at least 1,500 years earlier. That history had to be rewritten.

Here's a more recent example. Conventional wisdom, enshrined in many textbooks and websites, including Wikipedia, records June 21, 1948, as the birth of the stored-program digital computer because the "Manchester Baby" ran a 17-line program on that day.

But is that true? You've probably heard about ENIAC,<sup>3</sup> the plugboard-wired computer that first began running in 1946. A recent book by computer historian Thomas Haigh and colleagues Mark Priestley and Crispin Rope explores the conversion of ENIAC into what they call a "modern code paradigm" computer. Based on machine logs and handwritten notes, they have discovered that a complex coded program began running on ENIAC on April 12, 1948, months before the Baby was running.

The comparison is tricky, though. The ENIAC's program was stored in switches as read-only memory; the Baby's was stored in read-write data memory. The ENIAC's program did something useful (a simulation of neutron decay in nuclear fission); the Baby's was a small demonstration that computed already-known factors of a number. In what ways are they comparable?<sup>4</sup>

Anointing either one with the "first" label is unproductive, because that depends on precise definitions of fuzzy concepts. Does the "first computer" need to be electronic? Does it have to have a program stored in memory? If so, what kind of memory? Does it need to be general-purpose? Does it need to be built, or just designed? You'll get different answers depending on what adjectives you choose.

The real point is to fully understand the events, people, motivation, influence, and significance of what happened. As much as we like heroic narratives, like Edison invented the light bulb, the reality is almost always more complicated.

The ENIAC story is great new history. It's the kind we encourage, and we do—history that's complex, nuanced, and not static. If this is what it means to rewrite history, let's keep doing it.



CHAIRMAN OF THE BOARD OF TRUSTEES

Len Shutel



<sup>1</sup> computerhistory.org/ revolution/calculators/1/42

<sup>&</sup>lt;sup>2</sup> computerhistory.org/ revolution/birth-of-thecomputer/4/87

<sup>&</sup>lt;sup>3</sup> computerhistory.org/ revolution/birth-of-thecomputer/4/78

For more, see computerhistory. org/atchm/programming-theeniac-an-example-of-whycomputer-history-is-hard/

# LETTER FROM THE CEO

# The fiscal year that concluded on June 30, 2016,

OF MILESTONES

AND GROWTH

was the most successful fundraising year since the original capital campaign that launched the Computer History Museum (CHM). On the strength of your generosity, CHM has moved forward in every strategic area and has taken important steps toward our institution's overall expansion, beginning with deep commitments to software and entrepreneurship. These areas will allow the Museum to build on its historical foundation and provide new insight on the forces of change that computing in all its forms has unleashed.

Three major milestones this fiscal year have contributed to our overall expansion goal. First, we successfully concluded almost \$8 million in fundraising to establish our software history program and to ensure the opening of our major new exhibition, *Make Software: Change the World!* The exhibition is the "sonic boom" heralding the upcoming launch of the new Center for Software History under the direction of David C. Brock, the distinguished technology historian who joined us earlier in the year from the Chemical Heritage Foundation's Institute for Research.

Second, building on the momentum of our fund-raising success on *Make Software*, we tacked on an additional \$2 million project to construct a new education center adjacent to the exhibition space. This center will provide our first major dedicated area to CHM's rapidly growing education programs—from kindergarten to executive education. The joining of the education and exhibition spaces essentially creates a 9,000-square-foot "classroom" for our important education programs.

Third, we launched the Exponential Center, our new long-term effort to add the history, impact, and future implications of entrepreneurship and innovation to our overall narrative about computing's transformation of our world. Executive Director Marguerite Gong Hancock led the Exponential Center's launch at a gala evening honoring six towering figures of entrepreneurship in Silicon Valley: Gordon Moore, Jay Last, Arthur Rock, Regis McKenna, Larry Sonsini, and John Doerr.

The fundraising for these efforts built on the successful completion and opening of the Shustek Center, the third major real estate acquisition in CHM's history. The center, named for our founder and chairman Len Shustek, houses our research workspace, our digitization and digital repository work, our new software preservation lab, and a generous amount of space for our text and media collections.

This work represents about \$18 million in fundraising toward an overall expansion goal of \$30 million. It always feels good to pass the halfway mark in a major campaign, and we felt the momentum building all year. So many people helped: our donors, our members, our staff, our wonderful and energetic Board of Trustees, and our loyal corps of volunteers. As always, on their behalf, and on behalf of the entire CHM community, I extend my heartfelt and profound thanks.

Yours sincerely,

JOHN C. HOLLAR
PRESIDENT AND CHIEF EXECUTIVE OFFICER

# **CHM BY THE NUMBERS**

Facebook followers

YouTube videos

Instagram followers



Source code releases



155,338

@CHM blog views

Oral histories

70,441,540

Total page views since 2006

Countries and territories hosted

Events in 365 days

109,200

Cataloged artifacts

4,000

Users of handheld tour app

Memberships

# 1.703

Reviews on Groupon

#1 Attraction in Mountain View (Trip Advisor)

# THINKING BIG EXHIBIT





Visitors experience Thinking Big: Ada, Countess of Lovelace, on display in the CHM lobby.

# On December 11, 2015,

the Museum opened Thinking Big: Ada, Countess of Lovelace. The exhibit features reproductions from special collections at the University of Oxford's Bodleian Libraries that highlight Lovelace's mathematical prowess as well as her creativity and imagination. Discover rare historical documents from Lovelace's childhood and later correspondence with her distinguished tutors, including Augustus De Morgan, Charles Babbage, and other well-known Victorian thinkers. Visitors can also see paintings and photographs from Lovelace's life, and hear special audio readings of four select papers.

The exhibit was celebrated with a series of events:

# 12.10.2015 CHM Presents

Thinking Big with YouTube CEO Susan Wojcicki & Computer Pioneer Ada Lovelace

# 12.13.16 Community Days @CHM

Adafest: Celebrate Computer Pioneer Ada Lovelace with a Day of Fun and Learning for All Ages

# 01.19.2016 CHM Live

Thinking Big—Ada Lovelace: Mathematician and Visionary

Oxford Professor Ursula Martin, Babbage Expert Tim Robinson, and Lovelace Expert Betty Toole in Conversation with Museum CEO John Hollar

This exhibit was made possible through the generosity of:









# THE EXPONENTIAL CENTER

# In June 2016, CHM

launched the Exponential Center, dedicated to capturing the legacy and advancing the future of entrepreneurship and innovation in Silicon Valley and around the world. With a theme of "1 to 1 Billion." launch festivities began on June 2 with an exclusive evening gala that recognized distinguished honorees Gordon Moore, Jay Last, Arthur Rock, Regis McKenna, Larry Sonsini, and John Doerr. In attendance were more than 250 leading pioneers and company builders from Apple, Google, Cisco, Intel, Kiva, and many more. The launch continued the following day with a public lunch-time symposium. Speakers included Exponential Center honorees Doerr, Last, McKenna, and Moore (via video), in addition to MyFitnessPal co-founders, brothers Mike and Albert Lee.

Moving forward, the Exponential Center will focus on five key initiatives—collections and exhibitions, research, education, live programming, and thought leadership. Look for the center to conduct oral histories of pioneering entrepreneurs and venture capitalists: convene and lead

executive briefings; and create digital content and live programming that highlight entrepreneurial stories. Visit the Exponential Center website to learn more: computerhistory.org/exponential.

# **Executive Director**

Marguerite Gong Hancock

# **Founding Advisors**

Dave Martin (Co-chair) 280 Capital Partners

Steve Smith (Co-chair) Arma Partners

Irwin Federman
US Venture Partners

Chuck Holloway Stanford Graduate School of Business (emeritus)

Floyd Kvamme Kleiner Perkins Caufield & Byers (emeritus)

Regis McKenna Regis McKenna Inc.

Gary Morgenthaler Morgenthaler Ventures

Ray Rothrock RedSeal, Venrock (emeritus)

Larry Sonsini Wilson Sonsini Goodrich & Rosati

Dan Warmenhoven NetApp (retired) The Exponential Center gratefully acknowledges our founding investors:

Mark and Debra Leslie

Franklin "Pitch" and Catherine H. Johnson

Meredith and Ray Rothrock

With generous support from:

Tom and Carolyn Friel

Regis and Dianne McKenna

Barbara and Larry Sonsini

Stephen S. and Paula K. Smith

Gary and Eileen Morgenthaler

Warmenhoven Family Foundation

Paul R. Daugherty

Ben LeNail

Margo and Bill Harding
Phyllis and Bill Draper

Rich and Susan Redelfs

Irwin and Concepcion Federman







The Exponential Center launch recognized honorees Gordon Moore (via video), John Doerr, Arthur Rock, Regis McKenna, Larry Sonsini, and Jay Last. The evening also showcased artifacts from the collection.

# THE SHUSTEK CENTER





The Shustek Center supports the Museum's archival and digital collection efforts, with ample storage space, scanning stations, and an onsite software preservation lab.

# The Shustek Center is

the Museum's state-ofthe-art research and storage facility located in California's Silicon Valley. Established in 2015 and named for Museum founder and chairman Len Shustek, the Shustek Center houses the Museum's acquisitions, archives, software preservation, and research operations. With study space for visiting scholars, climatecontrolled storage for digital and archival collections, artifact acquisitions receiving, and digitization workstations, the Shustek Center promotes greater access and preservation of CHM's world-class collections.

Access by appointment only.

# **Shustek Center Donors**

# Visionary

John and Ann Doerr

Donna Dubinsky and
Leonard Shustek

Gardner C. Hendrie and Karen Johansen

# Architect

Bell Family Foundation Jeff Hawkins and Janet Strauss

John L. Hennessy

House Family Foundation

Derry and Charlene Kabcenell

Jim and Stephanie Nisbet

Bernard L. Peuto

William and Joan Pratt

Harry and Carol Saal

Grant and Dorrit Saviers

John and Sheree Shoch

# Creator

Forest Baskett

Steve Blank and Alison Elliott

George Cogan and Fannie Allen

Joan and Irwin Jacobs

Franklin "Pitch" and Catherine H. Johnson

Mark and Debra Leslie

Burt and Deedee McMurtry

Ike and Ronee Nassi

Dave Rossetti and Jan Avent

Susan Wojcicki and Dennis Troper

# Sponsor

Eric and Sue Baelen John and Sheila Banning Andreas Bechtolsheim

Bill and Phyllis Draper

Edward H. Frank and Sarah G. Ratchye

Jim and Lynn Gibbons

Elaine and Eric Hahn

Dotty and Terry Hayes

John and Mindy Hollar

John Mashey and Angela Hey

Paul and Antje Newhagen

Walstein Bennett and Lisa Williams Smith III

# Supporter

David L. Anderson

Dennis and Jan Austin

Michele Baelen

Sue Baelen and Phil King

Warren S. Baelen

Alfred S. Dubinsky

Frances Gordon and David West

Hillary Gordon

David B. and Deanna L. Gustavson

David and Jean Laws

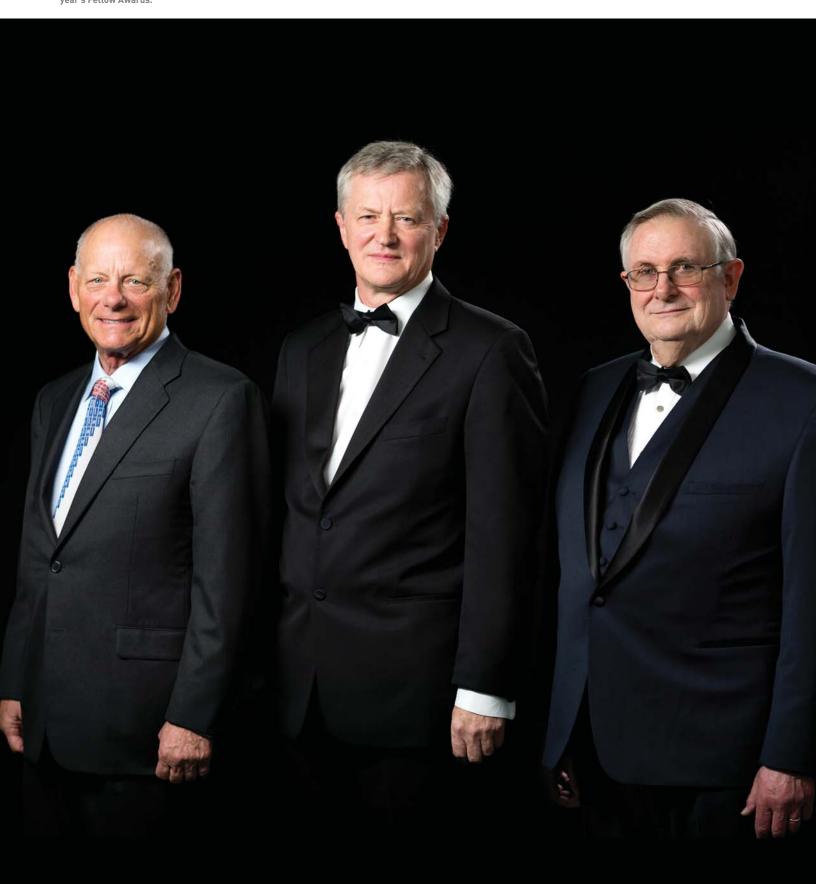
Rich and Susan Redelfs

Stephen S. and Paula K.

Smith



CHM proudly honored David Cutler, Philip Moorby, and Lee Felsenstein at this year's Fellow Awards.



# FELLOW AWARDS

# On Saturday, April 16,

2016, CHM celebrated three extraordinary technology pioneers for their contributions to the advancement of computing. CHM is proud to highlight and preserve the stories of these esteemed technology heroes for future generations.

# The 2016 Fellow Award Honorees

**David Cutler**, for his fundamental contributions to computer architecture, compilers, operating systems, and software engineering.

Lee Felsenstein, for his influence on the technical and social environment of the early personal computing era.

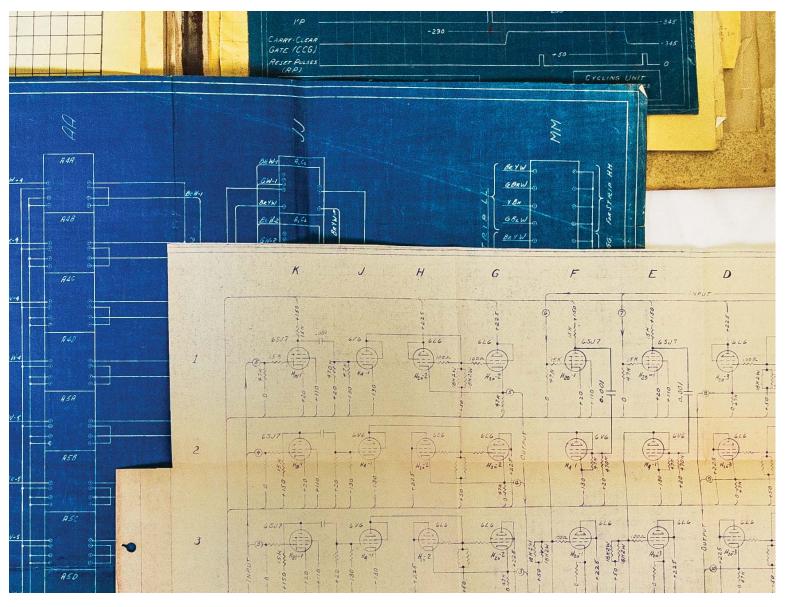
**Philip Moorby**, for his invention and promotion of the Verilog hardware description language.



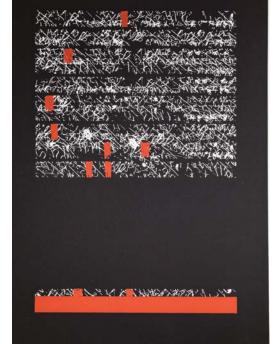


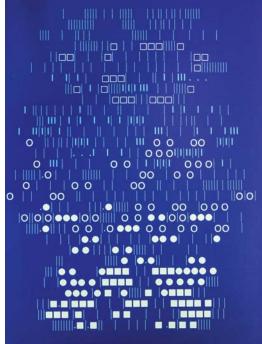


Fellow Awards' signature gala ceremony on April 16, 2016.



Above: Contents from the 1948 ENIAC drawing set, donated by Joseph F. Cherney. Right: Selections from the Aaron Marcus collection.





# TOP 10 ARTIFACTS

# ENIAC drawing set, US, 1948

X7776.2016 Gift of Joseph F. Cherney

The ENIAC, completed in 1946, was the world's earliest large-scale programmable computer system. Engineer Joe Cherney worked on ENIAC from 1950 to 1953, during which time he led the maintenance team that kept the machine's 18,000 vacuum tubes operating reliably. In 2016, 70 years after ENIAC's birth, Cherney donated an extensive drawing set of ENIAC to the Museum, documents of extreme rarity. Besides showing the circuitry of ENIAC via schematic diagrams, it includes tabular listings of how problems were set up on ENIAC and a drawing set of the magnetic core memory upgrade to ENIAC (1952), an improvement that transformed ENIAC into a truly stored-program machine—the hallmark of computers today.

Remarkably, Cherney came to the attention of the Museum when CHM docent Jeff Katz overheard visitors in Revolution: The First 2000 Years of Computing describing how a man in a period ENIAC photo was their relative, Joe Cherney. The Museum invited Cherney to participate in a series of oral history interviews on his career and the history of ENIAC, which eventually led to this extraordinary donation.

# Marshall Kirk McKusick BSD UNIX Collection, US, 1998–2016

X7878.2017 Gift of Kirk McKusick

Marshall Kirk McKusick is a key figure in the development of BSD UNIX and continues to teach the design, implementation, and history of UNIX. McKusick's 2016 donation to the Museum includes source code releases from the Berkeley Computer Systems Research Group and teaching materials, including notes and assignments from his introductory (1998, 2006, 2015) and advanced code-reading (1998, 2000, 2006, 2009, 2016) courses. Also included are two books, Open Sources: Voices from the Open Source Revolution (1999) and The Design and Implementation of the Free-BSD Operating System, 2nd edition (2015), and a video lecture on the history of BSD.

# Peter Jennings Collection, US, 1976-1990s

X7876.2017 Gift of Peter Jennings

Throughout the 1970s, Peter Jennings created programs in financial planning, computer security, and chess. In 1976, Jennings, along with Dan Fylstra, co-founded Personal Software, with their first product being Jenning's Microchess, one of the earliest chess programs for personal computers. Personal Software next published the influential spreadsheet program VisiCalc, developed by Dan Bricklin and Bob Frankston. Based on the success of VisiCalc. Personal Software became VisiCorp, which published many important pieces of personal computing software, including the IBM graphical user interface VisiOn.

The Peter Jennings donation features documentation, software, and ephemera from Personal Software and VisiCorp, as well as companies like early laptop producer Gavilan. The donation includes marketing materials, examples of Personal Software's programs, corporate communications, org charts, positioning memos, and even a folder labeled "propaganda," which contains only positive press coverage of VisiCorp. Most of the material dates from the late 1970s and early '80s, but extends into the early 1990s.

# Aaron Marcus Collection, US, 1967-1990

X7629.2016 Gift of Aaron Marcus

Bell Labs in New Jersey attracted some of the most innovative voices in technology and the arts. Personalities such as Ken Knowlton, Michael Noll, and Lillian Schwartz, helped define the use of computers in the arts in the early and mid-1960s. In 1967, Aaron Marcus, a Yale University graduate student, came to Bell Labs and began experimenting with computers for graphic design. Marcus would then go on to teach at Princeton University, serve as Staff Scientist at Lawrence Berkeley Labs, and found Aaron Marcus + Associates. He was later named to the Graphic Design Hall of Fame for his long career.

The donation includes personal computer drawing devices, documentation, software, and several photographs and artworks. The works include a series of typographical and visual poetry works created at Bell Labs and Princeton, as well as screen captures of one of the early 3-D virtual reality environments, several diazo prints, and early versions of works that appear in museums like the San Francisco Museum of Modern Art and London's Victoria & Albert Museum.

# Paracel GeneMatcher, US, 1998

X7829.2016 Gift of Michael M. Hansen

At the turn of the millennium, the Human Genome Project was in full swing and two competing teams, one a private company, the other a government agency, were racing to decode the entire human genome. To accomplish this, the GeneMatcher, a special computer known as a systolic array, was created.

The GeneMatcher started as a classified project, called the Fast Data Finder (FDF), at defense contractor TRW. The FDF was originally designed for the US National Security Agency for fast text pattern matching, similar to matching gene sequences with their four letters, A, C, T, and G. The technical lead of the FDF project left TRW and, with colleagues, founded the company Paracel.

The GeneMatcher compares a gene or nucleotide sequence against a known set of sequences stored in a large database. For example, researchers using the GeneMatcher could submit a snippet of mouse DNA and see if humans and mice shared that part of their DNA. The GeneMatcher is a unique, special-purpose computer that played a key role in one of humanity's most important scientific advances.

Early advertisement for the Apple II personal computer (ca. 1979), from a recent donation by Regis McKenna.

# Regis McKenna Apple advertisements, US, 1977–1981

X7839.2016 Gift of Regis McKenna

Regis McKenna was born and raised in Pittsburgh, Pennsylvania, and attended Duquesne University. He started work in 1962 in the marketing department of Silicon Valley company General Microelectronics, then moved to National Semiconductor, where he remained until 1969. In 1970 he founded his own marketing and public relations firm, Regis McKenna Inc., and soon was involved in marketing, advertising, and PR for what would become some of America's most successful technology companies.

McKenna's most transformative work was probably the Apple Computer account. Right from the start of their company in 1976, McKenna was advising the very young Steve Jobs and Steve Wozniak about how to promote their first massproduced personal computer, the Apple II. This collection of period advertisements from McKenna's agency are evocative, informative, beautiful, easy to appreciate, and give great insight about who Apple thought its customers might be and how to entice them into buying their first personal computer.

# Cray CX1 personal supercomputer, US, 2008

X7838.2016 Gift of Cray Inc.

The CX1 personal supercomputer brought high-performance computing power to the desktop. Architecturally a cluster, it was a highly configurable system based on thin, modular circuit cards, or "blades." Depending on the particular problems CX1 users, typically scientists and engineers, were attempting to solve, customers could configure their own systems to match their problems by choosing from different storage, processing, and visualization blades.

In market terms, the CX1 represented a new low price point for high-performance computing, which it accomplished by basing its design on industry standard components, such as Intel microprocessors (Xeon) and Nvidia graphics processing units. The CX1 was the first Cray supercomputer to use Intel microprocessors and the first Windows-based supercomputer.

# D-Wave Two quantum computing processor and software, Canada, ca. 2013 (processor) and 2016 (software)

X7877.2017 Gift of D-Wave Systems Inc.

In 2010 the Canadian company D-Wave Systems was the first firm to offer a quantum computer as a commercial product. Its D-Wave One, D-Wave Two, and D-Wave 2X systems are analog computers that model and solve a particular class of mathematical equations by the configuration and action of a set of quantum bits, "qbits," formed on their processor's integrated circuit. Quantum behavior among the gbits affords the solution to an equation. The gbits, in turn, are formed of superconducting electronic devices based on Josephson junctions. To operate, the processor must be cooled to 0.015 Kelvin, as cold as interstellar space. The donated processor is from the D-Wave Two system installed at NASA Ames Research Center, containing 512 qbits, and operated from 2013 to 2015.

D-Wave Systems also generously donated a D-Wave Two program that they created and ran for the Museum. A very famous problem from the history of mathematics, known as the Königsberg Bridge Problem, was solved by Leonhard Euler in the 18th century and marked the beginning of graph theory, central to today's computer science. The donated program expresses the Königsberg Bridge problem as an equation the D-Wave Two can solve and is written in the language Python.

# Davidson and Hemmendinger COMIC (Colorant Mixture Computer), US, ca. 1958

102733482 Gift of Richard and Malorie Ingalls

Color matching can be challenging across different materials. For example, a piece of red plastic may react differently in bright sunlight than under fluorescent lights or even a similar shade printed on fabric. Material and color properties of objects are also based on how humans perceive colors. These properties are well understood and can be expressed as a series of linear equations. The COMIC (COlorant Mixture Computer) matched colors by using these equations to calculate the proportions of different colors and other optical properties of color samples.

The COMIC was an analog computer that allowed users to test the properties of colors and study how those colors behaved under different conditions. The profile for a color was created using a small, connected box that contained various electronic elements. The box was then inserted into the computer, which would operate on the profile, putting a series of dots onto an oscilloscope screen. The idea was to get a result that fell as close to the "zero line" as possible, which meant fine-tuning the amounts and concentrations of dyes and pigments, and then updating the module to represent those changes.

# Apple Macintosh with Avid Media Composer System, US, ca. 1992

X7597.2016 Gift of Hugh Kinniburgh

The introduction of nonlinear editing allowed film editors to work with video in chunks, so they could reorganize and test different edits without costly film duplication and recutting. This sped up the editing process, which had not changed much over the last hundred years, and over time would eliminate many of the traditional tools (for example, light tables, razor blades, and sticky tape) of the film editor. Avid was an early innovator in digital, nonlinear video editing and introduced its first system in 1988. It was used for commercials and industrial productions, but it wasn't until the 1992 film *Let's Kill* All the Lawyers that a feature film was edited using Avid.

This Avid system is integrated into a Power Macintosh 9600 and includes Film Composer, an editing suite used to edit films, including *Emerson Park* (1994) and *The English Patient* (1996)—the first film edited with nonlinear editing software to win an Oscar. Today, most Hollywood films are edited using systems that have descended from or been influenced by Avid's systems.



# TOP 10 ORAL HISTORIES

# Gil Shwed

# Interviewed by Marguerite Gong Hancock

July 28, 2015 X7553.2016

Gil Shwed is best known as the co-founder, CEO, and chairman of the board of Check Point Software Technologies Ltd., one of Israel's largest technology companies. He was born in Jerusalem, began programming at the age of 13, and later studied computer sciences at Hebrew University while he was still in high school. After his military service, he joined Orbotech, an Israeli startup, where he worked as a software developer. After founding Check Point in 1993 (along with Shlomo Kramer and Marcus Nacht), Shwed invented and patented Stateful packet inspection, which served as the basis for the first version of FireWall-1 (released by Check Point in 1994). Stateful packet inspection is widely used in network firewalls today. Shwed is currently a member of the board of trustees of Tel Aviv University and chairman of the board of trustees of the Youth University of Tel Aviv University.

Left to right: Admiral Henry G. Chiles Jr., David Cutler, Gil Shwed, and Severo Ornstein.

# **Art Astrin**

# Interviewed by Marc Weber and Rich Redelfs

October 2, 2015 X7613.2016

Art Astrin, "Supreme Commander of Wireless Engineering" for Apple Computer, was hired by Steve Jobs to introduce Wi-Fi connected computing into the Apple product line. In this CHM oral history, Marc Weber and Rich Redelfs interview Astrin, starting with his childhood in Poland, where as a teenager he built radios from discarded components to listen to Elvis Presley on Voice of America broadcasts. Astrin's fondness for Elvis changed his life when the music was banned by the Soviets who controlled Poland at the time. This set Astrin on a life course to the United States—he was educated in mathematics and radio frequency engineering-including working for computer pioneer Grace Hopper on sonar technology for the navy and helping turn around struggling computer peripherals and media company Memorex, all before his seminal role in making Wi-Fi the tremendous success that it has become. Astrin passed away in March 24, 2016.

# 3480 Tape Panel Series

# **Moderated by Tom Gardner**

October 12–15, 2015 X7553.2016

This series is composed of four panels held in Tucson, Arizona, regarding IBM's magnetic tape storage history. IBM Tucson was responsible for a number of tape innovations, including the highly successful IBM 3480 drive and cartridge system and the consortium that led to the now widely used LTO standard. Employment at IBM Tucson peaked in the mid-1980s at more than 5,000 people though production ended in 1988. As of 2016, IBM Tucson continues to participate in magnetic tape standards development as a part of the LTO Consortium. Those interviewed include Ric Bradshaw, Ed Childers, Andy Gaudet, Brad Johns, Bruce Masters, Joel Levine, Bill Phillips, Al Rizzi, John Teale, and Dan Winarski. This series also features a supplementary interview with Ric Bradshaw about the recovery of data from the magnetic tapes used during the Challenger Shuttle Disaster.

# John Chambers

# Interviewed by John Hollar and Marc Weber

October 19, 2015 X7553.2016

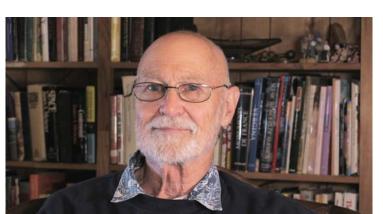
John Thomas Chambers joined Cisco in 1991 as senior vice president of Worldwide Sales and Operations. He became president and CEO in 1995 and chairman of the board in 2006. In the time since Chambers assumed the role of CEO, Cisco has grown from \$70 million in annual revenues to approximately \$46 billion. Chambers presided over the massive build-out of networking infrastructure among the world's internet service providers and communications companies during 1990s, momentum Cisco has kept by aggressive acquisitions of technology companies and intellectual property. In this important oral history, Chambers discusses Cisco's evolving strategic initiatives over his long career at the company and possible paths for the future of networking.

# Admiral Henry G. Chiles Jr.

# Interviewed by David C. Brock

October 25, 2015 X7642.2016

Henry G. Chiles Jr. is a retired United States Navy admiral who served as the commander in chief of the United States Strategic Command (USCINCSTRAT), from 1994 to 1996, making him the first naval officer to command all of the strategic nuclear forces of the United States This interview covers the computerization of the US Navy, beginning with analog computers such as gun directors, to the deployment of computer systems in US Navy submarines and missile systems. A second avenue pursued was an investigation into the culture of presentations in the navyhow tools such as Microsoft PowerPoint are used to plan, revise, and document new projects and military procurements.





# Ray Stata

# Interviewed by Gardner Hendrie

November 16, 2015 X7680.2016

Ray Stata is a 1957 graduate of MIT who said he always wanted to be his own boss. He started his first company in 1962 but sold it after a year. In 1965 he started Analog Devices with a fellow MIT graduate using the proceeds from the sale of the first company but without any venture capital. The new company would specialize in high-performance, prepackaged analog circuits and systems—such as operational amplifiers, then used in special applications such as space and military systems-and test and measuring equipment. From their first product, the Model 101 amplifier in 1965, Stata grew Analog Devices into a major semiconductor company with thousands of products and annual revenues today of \$3.5 billion.

# Severo Ornstein

# Interviewed by Bruce Damer and Marc Weber

November 20, 2015 X7681 2016

Severo Ornstein's career in computing includes early work on the USAF SAGE air defense system and its predecessor, Whirlwind, at MIT Lincoln Laboratory. He then joined the MIT TX-2 computer team, led by computer designer Wesley Clark. Ornstein soon moved into a central role designing and delivering the hardware of Clark's innovative Laboratory Instrument Computer (LINC), considered by some to be the first personal workstation. In the late 1960s, Ornstein was a lead engineer on the Interface Message Processor (IMP) project and other key hardware and software for the ARPANET. In later years, Ornstein co-founded Computer Professionals for Social Responsibility (CPSR) to address the threat of nuclear weapons, Severo Ornstein is one of the leading hardware designers of his generation and is the son of composer and pianist Leo Ornstein.

# **David Cutler**

# Interviewed by Grant Saviers

February 25, 2016 X7733.2016

Honored at CHM's 2016 Fellows Awards, David Cutler is a software engineer, architect, and software developer, best known for his work on the Microsoft Windows NT operating system (1993). Cutler attended Olivet College on a football scholarship, but injuries cut his playing career short. After graduating, Cutler went to work for DuPont and received his first exposure to computers there. He eventually accepted a position with Digital Equipment Corporation, where he created three important operating systems: RSX-11, OpenVMS, and VAXELN. So foundational was Cutler's NT work that it has formed the kernel for most new Microsoft operating systems for the past 25 years.

# Pradeep Sindhu

# Interviewed by Marguerite Gong Hancock and Marc Weber

April 25, 2016 X7781.2016

Co-founder (along with Dennis Ferguson and Bjorn Liencres) and current chief technical officer and vice-chairman of the board of directors of Juniper Networks Inc., Sindhu served as CEO of the company until 1996. He was instrumental in the architecture, design, and development of the highly successful and innovative Juniper M40 network "edge" router (1998) for enterprise and service provider networks. The M40 was capable of processing network packets at 100 times the speed of alternative approaches at the time. Prior to founding Juniper, Sindhu worked at the Computer Science Lab of Xerox PARC for 11 years, building design tools for very-large-scale integration (VLSI) integrated circuits and high-speed interconnects for shared memory multiprocessors. Juniper Networks is today one of the world's top networking companies.

# Japanese Oral History Series

# Interviewed by Douglas Fairbairn

June 20–23, 2016 X7645.2016–X7653.2016, X7575 2016

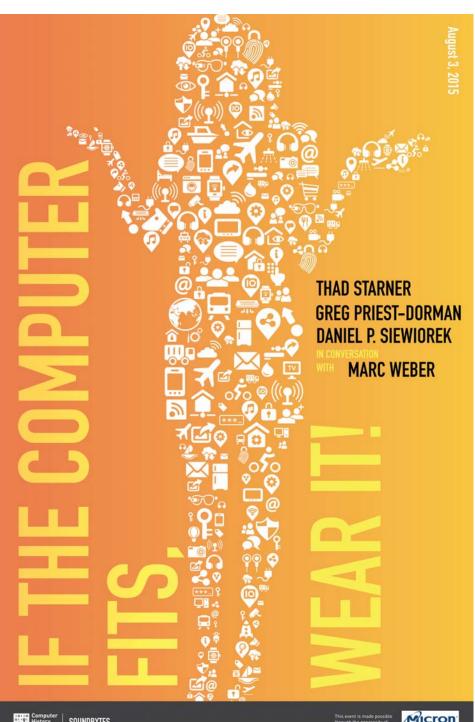
In late June 2016, Doug Fairbairn, staff director of CHM's Semiconductor Special Interest Group, traveled to Japan to interview 10 former engineering executives from key Japanese semiconductor companies, which were industry leaders in the 1980s and 1990s. Companies represented include Hitachi, Fujitsu, Toshiba, Nikon, Sony, and others. These leaders played important roles in the development of critical products and technologies and had personal impact on the success of the Japanese semiconductor industry in the late 20th century. These interviews offer important insights into how the Japanese developed their expertise, company and product development challenges, internal company decision-making processes, the industry's competitive work environment, and explanations for Japan's subsequent loss of leadership in more recent times.







# **EVENTFUL** YEAR



# 08.03.15

# **CHM Soundbytes**

If the Computer Fits, Wear it!

# Moderator

Marc Weber Founder Internet History Program Computer History Museum

# Speakers

Thad Starner Professor Georgia Institute of Technology Technical Lead Manager Google Glass

Greg Priest-Dorman Wearable Computer Pioneer

Daniel P. Siewiorek Professor of Electrical & Computer Engineering **Buhl University** Professor of Computer Science Carnegie Mellon University

# 08.27.15

# **CHM Presents** Revolutionaries

Machines of Loving Grace author John Markoff in Conversation with Museum CEO John Hollar

# Speaker

John Markoff Author

# Moderator

John Hollar President & CEO Computer History Museum

# 09.17.15

# CHM Presents Revolutionaries

Medium's Evan Williams & Steven Levy in Conversation with Museum CEO John Hollar

# Speakers

Evan Williams Chief Executive Officer Medium

Steve Levy Editor-in-Chief Backchannel, Medium

# Moderator

John Hollar President & CEO Computer History Museum

# 09.22.15

# CHM Presents Revolutionaries

SuperBetter Author Jane McGonigal in Conversation with NPR's Laura Sydell

# Speaker

Jane McGonigal Author

# Moderator

Laura Sydell Digital Culture Reporter NPR

# 09.24.15

# CHM Presents Revolutionaries

MIT's Cynthia Breazeal & Microsoft Research's Eric Horvitz with the BBC's Rory Cellan-Jones

# Speakers

Dr. Eric Horvitz Managing Director Microsoft Research Dr. Cynthia Breazeal Founder & Chief Scientist Jibo Associate Professor of Media Arts & Sciences MIT's Media Lab

# Moderator

Rory Cellan-Jones Technology Correspondent BBC

# 10.21.15

# CHM Presents Revolutionaries

How We Got To Now Author Steven Johnson with Museum CEO John Hollar

# Speaker

Steven Johnson Author

# Moderator

John Hollar President & CEO Computer History Museum

# 11.04.15

# **CHM Soundbytes**

The Antikythera Mechanism: Decoding the World's First Computer

# Speakers

Tony Freeth
Founding Member
Antikythera Mechanism
Research Project
Honorary Senior Research
Associate
University College, London

Tom Malzbender Research Scientist & Independent Technology Consultant

# 11.16.15 CHM Presents

The Father of Digital Logic

## Speakers

Dr. Michael Murphy President University College Cork, Ireland

Ms. Virginia Teehan Director of Cultural Projects University College Cork, Ireland

Dr. Kieran Drain Chief Executive Officer Tyndall National Institute, Cork, Ireland

## Moderator

John Hollar President & CEO Computer History Museum

# 12.10.15

# **CHM Presents**

Thinking Big with YouTube CEO Susan Wojcicki & Computer Pioneer Ada Lovelace

# Speaker

Susan Wojcicki Chief Executive Officer YouTube

# Moderator

John Hollar President & CEO Computer History Museum

# 01.14.16

# CHM Presents Revolutionaries

An Evening with the US Digital Service Team

# Speakers

Mikey Dickerson Administrator US Digital Service

Lisa Gelobter Chief Digital Service Officer US Department of Education Hillary Hartley Co-founder and Deputy Executive Director 18F

Todd Park Tech advisor White House based in Silicon Valley

Haley Van Dyck Deputy Administrator US Digital Service

## Moderator

John Hollar President & CEO Computer History Museum

# 01.19.16

# CHM Live

Thinking Big—Ada Lovelace: Mathematician and Visionary

# Speakers

Dr. Betty Alexandra Toole Ada Lovelace Expert & Researcher

Ursula Martin Professor of Mathematics & Computer Science University of Oxford

Tim Robinson Charles Babbage Engine Expert & Engineer

# 02.23.16

# **CHM Live**

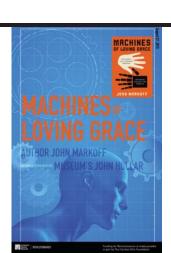
Originals
Author Adam Grant in
Conversation with Facebook's Sheryl Sandberg

# Speaker

Adam Grant Author

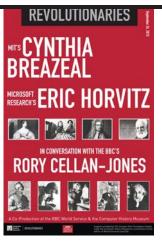
# Moderator

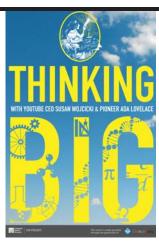
Sheryl Sandberg Chief Operating Officer Facebook

















# 03.04.16

# **CHM Live**

Just ʃdu It: How Mathematica, Wolfram|Alpha & the Wolfram Language Came to Be

# Speaker

Stephen Wolfram Creator of Mathematica, Wolfram|Alpha, and the Wolfram Language Founder and CEO Wolfram Research

# 03.30.16

# **CHM Screens**

Growing the 8 Bit Generation

# Speakers

Bruno Grampa Executive Producer & Marketing Director Growing the 8bit Generation

Bill Herd Video Producer Hackaday.com

# Moderator

John Hollar President & CEO Computer History Museum

# 04.21.16

# **CHM Live**

The Technological Indian Author Ross Bassett in Conversation with Museum CEO John Hollar

# Speaker

Ross Bassett Author

# Moderator

John Hollar President & CEO Computer History Museum

# 04.26.16

# **CHM Live**

Alibaba and Jack Ma: Beyond E-commerce and China— Implications for Silicon Valley

Author Duncan Clark in Conversation with the Museum's Marguerite Gong Hancock

# Speaker

Duncan Clark Author Alibaba: The House That Jack Ma Built

# Moderator

Marguerite Gong Hancock Executive Director Exponential Center Computer History Museum

# 04.29.16

# **CHM Live**

The History (and the Future) of Software: A Lecture by IBM Thomas J. Watson Research Center's Grady Booch

# Speaker

Grady Booch Chief Scientist for Software Engineering IBM Research

# 06.03.16

# **Exponential Center**

1 to 1 Billion: Creating Exponential Impact in Silicon Valley

Pioneers John Doerr, Albert Lee, Mike Lee, Regis McKenna, Jay Last, and Gordon Moore

# Speakers

John Doerr Chair Kleiner Perkins Caufield & Byers

Jay Last Co-founder Fairchild Semiconductor Albert Lee VP of Product Connected Fitness North America Under Armour

Mike Lee Chief Digital Officer Under Armour Co-founder MyFitnessPal

Regis McKenna Founder Regis McKenna Inc.

Gordon Moore Co-founder Fairchild Semiconductor Co-founder Intel Corporation

# Moderators

David C. Brock Director Center for Software History Computer History Museum

Marguerite Gong Hancock Executive Director Exponential Center Computer History Museum

# 07.07.16

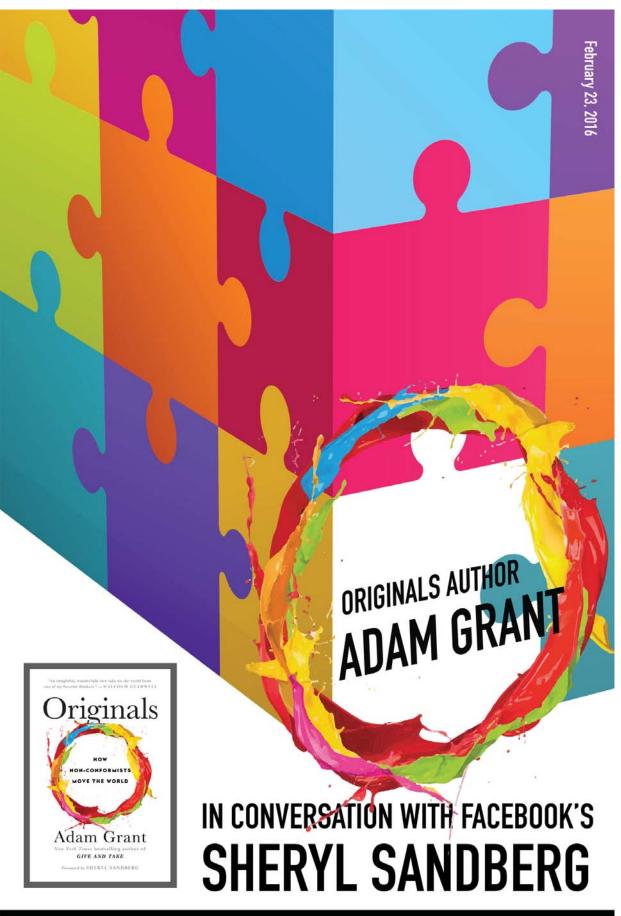
# **CHM Live**

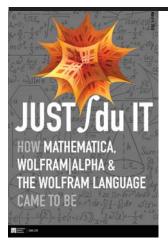
How to Spy on 600 Million People: Hidden Vulnerabilities in Chinese IT

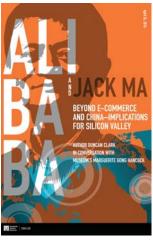
# Speaker

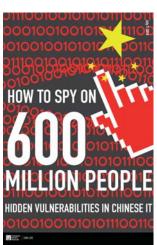
Thomas Mullaney Associate Professor of Chinese History Stanford University

Major Funding for Revolutionaries and CHM Live is generously provided by The Carsten-Ellis Foundation.









# **EDUCATION**



Top: Middle school students work together to prepare and present a culminating project during Design\_Code\_Build Intermediate Level.

Bottom: Students play with a modern simulation of Pong (left) and have fun with wearable technology (right) during Google Field Trip Days.







Top: Google employee Calvin Johnson explores the Where To? exhibit with students during Google Field Trip Days.
Bottom: Educators work in teams to learn the basics of computer science with Raspberry Pi kits during Picademy.



# 07.10.15

# Design\_Code\_Build

Featuring Google Glass Technical Lead Thad Starner

# 07.25.15

# Design\_Code\_Build

Featuring Google Liftware Technical Lead Anupam Pathak

# 08.09.15

# Design\_Code\_Build

Featuring SRI International Chief Information Security Officer Jeff Klaben

Level 1: Introductory

# 09.26.15

# Design\_Code\_Build Educators' Edition

Featuring Google My Maps Software Engineer Sargun Kaur

# 09.27.15

# Design\_Code\_Build

Featuring IBM Almaden Research Center Senior Engineer Rudy J. Wojtecki

# 10.12.15

# Google Field Trip Days

# Schools

Willow Oaks Elementary
Cesar Chavez Academy

# 10.17.15

# Design\_Code\_Build Girls' Edition

Featuring Nitro Senior UX Designer Jenn Tran

# 10.22.16

# Talking to the Future Industry Rock Stars

Kim Du VP of Corporate Development, Emotiv

Jamie Sherman Research Scientist, Intel Corporation

Aubrey Shick UX Researcher for wearables and robotic technologies

# 10.20.15

# Google Field Trip Days

# Schools

Cornerstone Academy Preparatory

Ramblewood Elementary KIPP Prize Preparatory Academy

# 11.10.15

# Google Field Trip Days

# Schools

Parkside Intermediate

Selby Lane

Ida Jew Academy

## 11.14.15

# Design\_Code\_Build

Featuring Broadcom Senior Technical Director Stephen Palm

Level 1: Introductory

# 11.17.15

# **Google Field Trip Days**

# Schools

Willow Oaks Elementary

Monroe Middle School

Connect Community Charter School

# 12.9.15 Computer History Museum and Embark Labs Present Hour of Code and Beyond

# 02.20.16

# Design\_Code\_Build

Featuring Broadcom Senior Principal Design Engineer Mark Castruita

# 02.21.16

# Design\_Code\_Build

Featuring Lockheed Martin Space Systems Advanced Technology Center Senior Project Engineer Myra Nawabi

Level 2: Intermediate

## 02.23.16

# Google Field Trip Days Schools

Fischer Middle School
Christopher Elementary

# 02.27.16 and 02.28.16

# Picademy

# 03.05.16

# Design\_Code\_Build Girls' Edition

Featuring Salesforce Senior Solution Engineer Ayori Selassie

# 03.06.16

# Design\_Code\_Build

Featuring SRI International Senior Web Architect Yasmina Chitti

Level 2: Intermediate

# 03.13.16

# Design\_Code\_Build Girls' Edition

Featuring Autodesk Product Manager Tatjana Dzambazova

Level 2: Intermediate

# 03.15.16

# Google Field Trip Days

# Schools

KIPP Summit Academy KIPP San Francisco Bay Academy

Frick Impact Academy

## 04.09.16

# Design\_Code\_Build

Featuring Google Verily Life Sciences' Associate Director Vicky Demas

Level 1: Introductory

# 04.10.16

# **Design Code Build**

Featuring Google Cloud Platform Product Manager Lorne Kligerman

Level 2: Intermediate

# 04.19.16

# Google Field Trip Days

# Schools

Pollicita Middle School
Campbell Middle School

# 4.30.2016 and 5.1.2016

Picademy

# 05.07.16

# Design\_Code\_Build Mother's Day Special Edition

Featuring Google Developer Advocate Katherine Kuan

With special guest from Munster, Indiana: Wilur Wright Middle School, Youth Inventor Annie Ostojic

Level 1: Introductory

## 05.14.16

# Design\_Code\_Build

Featuring Electrical Engineer Alvaro Prieto

Level 2: Intermediate

# 05.17.16

# Google Field Trip Days

# Schools

Roosevelt Middle School

Los Robles Magnet Academy

PA Walsh STEAM Academy

Sunrise Middle School

# 06.04.16

# Design\_Code\_Build

Featuring NASA Aerospace System and Quality Engineer Ali Guarneros Luna

Level 1: Introductory

# 06.05.16

# Design\_Code\_Build

Featuring Planet Labs Electrical Engineer Patrick Yeon

Level 2: Intermediate

# 06.18.16

# Design\_Code\_Build Father's Day Special Edition

Featuring Google Self-Driving Car Reliability Engineer Arda Akman

Level 1: Introductory

Major funding for Design\_Code\_Build is provided by:



FOUNDATION

Design\_Code\_Build is also made possible through the generosity of:





# ORACLE®

# SanDisk\*

Google Field Trip Days are made possible through the generosity of:



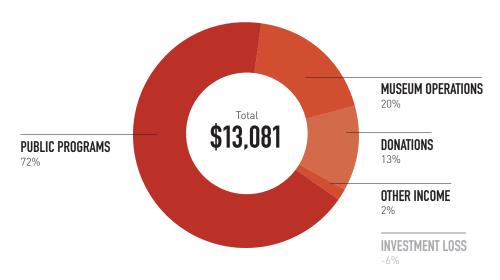
Picademy is presented by the Raspberry Pi Foundation in partnership with CHM.



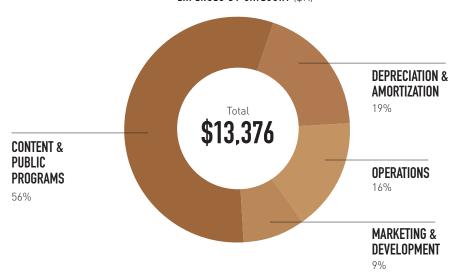
# FINANCIAL SUMMARY

INCOME STATEMENT (\$K)	FY 2016	FY 2015	FY 201
Total Revenue	\$13,081	\$14,240	\$11,01
Total Expenses	\$13,376	\$12,076	\$10,40
Changes in Net Assets	(295)	\$2,164	\$610
REVENUE CATEGORIES (\$K)			
Unrestricted Donations	\$1,644	\$1,597	\$1,499
Public Programs	\$9,459	\$9,184	\$3,81
Museum Operations	\$2,610	\$2,310	\$1,946
Investment Gain (Loss)	(847)	\$1,162	\$3,718
Other Income	215	\$184	\$241
	\$13,081	\$14,240	\$11,016
EXPENSE CATEGORIES (\$K)			
Operations	\$2,117	\$2,184	\$1,873
Content & Public Programs	\$7,439	\$6,120	\$4,910
Marketing & Development	\$1,259	\$1,122	\$1,031
Depreciation & Amortization	\$2,561	\$2,649	\$2,593
	\$13,376	\$12,076	\$10,406
ASSETS (\$K)			
Net Assets	\$64,322	\$64,617	\$62,453

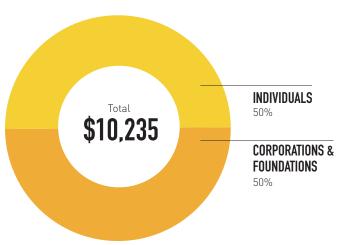
# REVENUE BY CATEGORY (\$K)



# EXPENSES BY CATEGORY (\$K)



# DONATIONS BY TYPE OF DONOR (\$K)



# HONOR ROLL OF MUSEUM DONORS

# Museum Campaign

(Through January 2011)

# EXA / \$10M+

Donna Dubinsky and Leonard Shustek

Bill and Melinda Gates

Elaine and Eric Hahn

Gardner Hendrie and Karen Johansen

## PETA / \$5M-\$9.99M

L. John Doerr and Ann Doerr

Jeff Hawkins and Janet Strauss

House Family Foundation

Intel Corporation

Intuit, in honor of founder Scott Cook

# TERA / \$1M-\$4.99M

Anonymous

Gwen and C. Gordon Bell

Michael and Kristina Homer

Burgess and Elizabeth Jamieson

Gloria Miner

Max and Jodie Palevsky

John and Sheree Shoch

Charles Simonyi Fund for Arts & Sciences

# GIGA / \$500K-\$999K

Bill Campbell

Lawrence and Janice Finch

Fry's Electronics

Sheldon Laube and Nancy Laube, MD

Gordon and Betty Moore Foundation

Grant and Dorrit Saviers

Edward and Pamela Taft

Pierluigi Zappacosta and Enrica D'Ettorre

# MEGA / \$100K-\$499K

Applied Materials

Steve Blank and Alison Elliott

Campbell Fund

Patricia and Gene Carter

David R. Cheriton

Yogen and Peggy Dalal

Dunlevie Family

Fairchild Semiconductor

Robert Garner and Robin Beresford

Harvey Family

John and Andrea Hennessy

Hitz Foundation

Mark Horowitz and Jody Buckley

The Joan and Irwin Jacobs Fund of the Jewish Community Foundation

The Dirk and Charlene Kabcenell Foundation

John Mashey and Angela Hey

Burton and Deedee McMurtry

Ike and Ronee Nassi

National Semiconductor

The David and Lucille Packard Foundation

Bernard L. Peuto and Anne Bertaud-Peuto

The Harry and Carol Saal Family Foundation

Daniel and Charmaine Warmenhoven

# KILO / \$10K-\$100K

Sally M. Abel and Mogens Lauritzen

David and Robin Anderson

David Babcock

Peggy Burke and Dennis Boyle

Jack and Casey Carsten

Lori Kulvin Crawford

Andrea Cunningham and Rand Siegfried

David Emerson

Carol and Chris Espinosa

Judy Estrin

Samuel H. Fuller

Terry and Dotty Hayes

Peter Hirshberg

Jennifer and Chuck House

Christine Hughes and Abe Ostrovsky

Pitch and Cathie Johnson

Peter and Beth Karpas

Steven and Michele Kirsch Foundation

KLA-Tencor

Lam Research

Linear Technology

Pierre and Pam Omidyar

Stephen Squires and

Ann Marmor-Squires

Karen and Mark Tucker

Xilinx

Peter and Cindy Ziebelman

# Individual Annual Donors (2015–2016)

# FOUNDING INVESTORS (\$450,000-\$1,000,000+)

William K. Bowes, Jr. Foundation

Donna Dubinsky and Leonard Shustek\*

Gardner C. Hendrie\* and Karen Johansen

House Family Foundation\*

Franklin "Pitch" and Catherine H. Johnson

Pam and Dick Kramlich

Mark and Debra Leslie

Meredith and Ray Rothrock

# SUPPORTERS CIRCLE (\$125,000-\$449,999)

Yogen and Peggy Dalal

Tom\* and Carolyn Friel

Elaine and Eric Hahn\*

Regis and Dianne McKenna

John\* and Sheree Shoch

Raymond P. Stata\*

Susan Wojcicki and Dennis Troper

# BENEFACTORS CIRCLE (\$65,536-\$124,999)

Bell Family Foundation\*

Carsten-Ellis Foundation

Paul R. Daugherty\*

Vinod (Vin) and Dolly Dham

Nan and Chuck Geschke

Harry and Carol Saal

Grant\* and Dorrit Saviers

Wendy and Eric Schmidt

Stephen S. \* and Paula K.

Smith

Barbara and Larry Sonsini\*

Carrie and Bob Zeidman

# FOUNDERS CIRCLE (\$25,000-\$65,535)

David N. Cutler

Burton Grad and Carol Anne Ances

Margo and Bill Harding\*

Dotty\* and Terry Hayes

Burt and Deedee McMurtry

Gordon and Betty Moore

Gary and Eileen Morgenthaler

Dave Rossetti\* and Jan Avent

Jon Rubinstein and Karen Richardson

John and Donna Shoemaker

Laurence L. Spitters

L. Curtis Widdoes, Jr.\*

Laurie Yoler\* and Ben LeNail

# PIONEERS CIRCLE (\$16,384-\$24,999)

David Bohnett Foundation

Dave and Cheryl Duffield

Urs Hoelzle and Geeske Joel

Ike\* and Ronee Nassi

Donald R. Proctor\*

Rich\* and Susan Redelfs

# VISIONARIES CIRCLE (\$8,192-\$16,383)

Ron and Penny Blake

Judy\* and Michael Bruner

William N. Carrico Judith L. Estrin

Paul\* R. and Judith Gray

Diane Greene and Mendel

Hitz Foundation

Rosenblum

John and Mindy Hollar Jim and Paula Kaval Jay T. Last Chris\* A. and Melody Malachowsky

Debby Meredith\* and Curtis Cole

Paul and Antje Newhagen
Bernard L. Peuto\* and Anne
Bertaud-Peuto

Arthur and Toni Rembe Rock John and Gail Squires

The Vadasz Family Foundation

# INVESTORS CIRCLE (\$4,096-\$8,191)

Al and Katie Alcorn Jeanne Astrin-Ichnowski Paul Baran

Craig and Barbara Barrett George Cogan and Fannie Allen

Robert E. Davoli and Eileen L. McDonagh Charitable Foundation

Stephen Donaldson

Martin Duursma\*

Michael and Judith Gaulke

Jay and Mary Goldberg

Gregory C. and Caroline H. Gretsch

Eli and Britt Harari Jon Iwata, IBM Corp.

loan and Irwin Jacobs

Joan and II will Jacobs

Peter\* and Beth Karpas

Rudi and Jeff Katz

Lee and Nancy Keet

Sandra L. Kurtzig

Sofia and Jan Laskowski

The Long Family Charitable Foundation

James and Patricia Markevitch Linda and Mike Markkula
John R. Mashey\*
Craig J. Mathias
Philip McKinney\*
James and Rebecca Morgan
Stanley and Joan Myers
Karen Appleton Page\*
Gregory M. Papadopoulos\*
William Pollock
Kanwal S. Rekhi
Jean E. Sammet
Charles and Karen Thacker

Charles and Karen Thacke Richard W. Thatcher, Jr. Paul Winalski

Wade and Brenda Woodson

# INNOVATORS CIRCLE (\$2,048-\$4,095)

Gil Amelio

Mary Anne Nyburg Baker and G. Leonard Baker Jr.

Chitra Balasubramanian and Sunil V. Rajaraman

Allen Baum and Donya White

Evelyn Berezin

Brian Berg and Joyce Avery Ralph and Leah Bernstein

Barry and Sharla Boehm

Charles E. Branscomb

Jarred and Amy Capellman

Cohan-Jacobs Family Fund

Aart de Geus and Esther John

David desJardins and Nancy Blachman

Edward Feigenbaum\* and Penny Nii

Robert Garner and Robin Beresford

John Gustafson

Marcian and Judith Hoff

Mike Johnson

Derry and Charlene Kabcenell

Niemasik Kaufman Family Fund

Lucio L. Lanza

Loewenstern Foundation

David\* and Roben Martin

Larry and Carol Masinter

Donald and Helen Nielson

William and Joan Pratt

Frank and Denise Quattrone Foundation

Richard Sites and Lucey Bowen

Robert and Lee Sproull
Kirsten and Todor Tashev

Jan\* and Sylvia Uddenfeldt
Peter and Deborah Wexler

Anthony Wood

Enrica D'Ettorre and Pierluigi Zappacosta

# PARTNERS CIRCLE (\$1,024-\$2,047)

Anonymous-3

Agarwal Foundation

Marian Amdahl

The Amidon and Menon Family

David L. Anderson\*

Charles W. Bachman

Eric and Sue Baelen

Life and Sue Daeler

Molly and Rick Bahr

Paul and Debbie Baker

John and Sheila Banning

Debasis and Bertha Baral

Luc O. Bauer

John and Maggie Best

Lyle Bickley

Janie Boone

Charles P. Bourne

Nathan Brookwood and Patricia Hendriks

Leo Broukhis

Peggy Burke and Dennis Boyle

Gene P. and Patricia Carter

Tu Chen

Joseph Cherney

Harry Chesley & Suzana Seban

Wilfred J. Corrigan

Marshall G. Cox

John and Norma Crawford

Peter Cunningham

William and Sonja Davidow

Anand and Sonali Deshpande

Lloyd and Eleanor Dickman

John and Wynne Dobyns

Peter and Janet Dong

Ray Duncan

Eric and Susan Dunn

Lester D. Earnest

John R. Ehrman

David\* and Han Emerson

David and Sarah Epstein

Fusun Ertemalp

The Roller-Esslinger Family

Guy C. Fedorkow

William Ferry

Norman Fogelsong

Werner and Phoebe Frank

Bob Frankston

Bill and Peri Frantz

Nancy W. Frisch

Dov Frohman

Samuel H. and Carol W. Fuller

David and Jennifer Gillespie

Stephen L. Smith and Diana T. Go

Martin Goetz

Bernard Goldstein

Venture Capital Roundtable

David B. and Deanna L.

Gustavson

Allison Hale

Jan Half

John L. Hennessy

Andy Hertzfeld and Joyce

McClure

Leonard G. Hill III

Dr. Ding-Hua Hu

Matthew and Connie Ives

Family Fund

George and Emily Jaquette

Robert and Ginger Jenkins
Robert Kahn and Patrice

Lvons

Ray and Laurel Kaleda

Herbert and Lee Kanner

Mitchell Kapor and Freada

Kapor Klein

Kenyon Family Fund

Steven and Michele Kirsch

Foundation

Jerry and Judy Klein

Dr. and Mrs. Leonard Kleinrock

Donald and Jill Knuth

Kathy Kolder

neiro

Tom Kopec and Leah Car-

Larry and Marian Krummel

Thomas E. Kurtz

Bernard LaCroute

Richard and Ellen Lary

Cathy Lego

TL Trust

Jacqueline Lincoln-Owyang

J.P. London Fund

John and Marion Lowrance

Tom Lyon and JoAnn Kahn

The Jim and Lorraine Mann Foundation

Katherine and Robert Maxfield

May Family Foundation

The McElwee Family

Christina and Harry McKinney

Kirk McKusick and Eric Allman

Mendelsohn Family Fund

The Bill and Dianne Mensch Foundation

Gabriel Meza

Avram Miller

Pamela Gesme Miller

Mooring Family Foundation

Dean O. Morton

Jane and Malachy Moynihan

Nancy S. Mueller

Jami and Stephen Nachtsheim

Jason and Nicole Nemeth

Harold and Juanita Nissley

Jeremy Norman and Patricia Gilbert

Duane Northcutt and Monica Lam

Lorna and Donn Parker

David and Sandra Perloff

J.A. and Mary Lou Piscopo

Raikes Foundation

Bruce Ray and Miriam Ungar

King Rhoton

Oliver Robinson

Tim and Lisa Robinson

Mark Roos and Catherine Rossi-Ross

Lee Ann Rucker

Peter and Valerie Samson

John and Christine Sanguinetti

Paul and Kathleen Severino

Jean Shuler

Sven-Erik Simonsen

Gene and Vilma Sinclair

Elizabeth and Roger Sippl

Alvy Ray Smith and Alison Gopnik

Jerry Snyder

StoryBundle

Charles and Nan Strauch

Jim and Bea Strickland

Bob Supnik

Edward and Pamela Taft

Larry Tesler and Colleen

Barton

Fritz and Nomi Trapnell

Jeanie Nieri Treichel

Marc and Lori Verdiell

Lorna and Duane Wadsworth

Al Whaley

Donald Whittemore

Ann L. Winblad

Bruce Wonnacott

Sandy Wu

George David Zalepa

Jamie Zawinski

Robert L. Zeiher

# Institutional Partners

SUSTAINING \$100K+











# BILL & MELINDA GATES foundation











# TOSHIBA

# FOUNDING LEVEL \$50K+













# **INVESTING LEVEL \$25K+**

1185















# ORACLE!

# SanDisk







# SUPPORTING \$10K+













# studio1500





# ABOUT THE MUSEUM

# The Computer History

Museum is the world's leading institution exploring the history of computing and its ongoing impact on society. The Museum is dedicated to the preservation and celebration of computer history and is home to the largest international collection of computing artifacts in the world, encompassing computer hardware, software, documentation, ephemera, photographs, oral histories, and moving images.

The Museum brings computer history to life through large-scale exhibits, an acclaimed speaker series, a dynamic website, docent-led tours, and an award-winning education program.

# HOURS

Wed, Thurs, Sat & Sun 10 a.m. to 5 p.m.

Friday 10 a.m. to 9 p.m.

# CONTACT

Computer History Museum 1401 N. Shoreline Blvd. Mountain View, CA 94043 info@computerhistory.org 650.810.1010

- Like us on Facebook. com/computerhistory
- Follow us on Twitter @computerhistory
- Follow us on YouTube.
- Follow us on Instagram @computerhistory
- Follow us on Tumblr @computerhistory

# SUPPORT

Generous contributions from individuals like you support our work in collections, exhibit development, and educational programming. We strive to foster greater understanding of the computing revolution's worldwide impact on the human experience. Please help us tell the fascinating stories of the Information Age by making a gift today. Go to computerhistory.org/ contribute/.

# **Board of Trustees**

Leonard J. Shustek Chairman VenCraft, LLC

David Anderson Innovative Capital Ventures

Karen Appleton Page Apple

Chitra Balasubramanian RetailNext

C. Gordon Bell Microsoft Corporation

Grady Booch IBM Thomas J. Watson Research Center

Judy Bruner SanDisk (retired)

Jack Busch Busch International

Paul Daugherty Accenture

Caroline Donahue

Martin Duursma Angel Investor

David Emerson Funzio

Edward Feigenbaum Stanford University

Tom Friel Heidrick & Struggles International, Inc. (retired)

Paul R. Gray University of California, Berkeley

Eric Hahn Inventures Group

Bill Harding VantagePoint Capital Partners Mike Hawley MIT Media Lab

Dotty Hayes Intuit, Inc. (retired)

Gardner Hendrie Sigma Partners

Charles House InnovaScapes Institute

David House Brocade Communications Systems

Peter Karpas First Data Corporation

Chris Malachowsky NVIDIA

Dave Martin 280 Capital Partners

John Mashey Techviser

Phil McKinney CableLabs

Debby Meredith Icon Ventures

Dr. Ike Nassi TidalScale and UC Santa Cruz

Greg Papadopoulos New Enterprise Associates

Bernard L. Peuto Concord Consulting

Donald R. Proctor Cisco Systems, Inc.

Rich Redelfs Foundation Capital

Dave Rossetti Cisco Systems, Inc. (retired)

Grant Saviers Adaptec (retired)

John F. Shoch Alloy Ventures

Stephen S. Smith Arma Partners

Larry Sonsini Wilson Sonsini Goodrich & Rosati

Raymie Stata

Jan Uddenfeldt jUTechnology L. Curtis Widdoes, Jr. Retired from EDA, 2006

Laurie Yoler

Mitchell Zimmerman Fenwick & West, LLP

# **Honorary Council**

Vint Cerf Vice President and Chief Internet Evangelist Google

Paul E. Ceruzzi Curator Aerospace Electronics and Computing National Air and Space Museum of the Smithsonian Institution

Morris Chang Founding Chairman Taiwan Semiconductor Manufacturing Company

Scott Cook Founder and Chairman of the Executive Committee Board Intuit

John Doerr Chair Kleiner Perkins Caufield

& Byers

Bill Gates Co-Chair Bill & Melinda Gates Foundation Chairman Microsoft Corporation

John L. Hennessy President Stanford University

Walter Isaacson Aspen Institute

Floyd Kvamme Partner Emeritus Kleiner Perkins Caufield & Byers

Gordon Moore Co-founder Intel Nathan Myhrvold Co-founder Intellectual Ventures and Former Chief Technology Officer

Samuel J. Palmisano Former Chairman President & Chief Executive Officer

IBM Corporation

Microsoft

Eric Schmidt Executive Chairman Alphabet

Charles Simonyi
Charles Simonyi F

Charles Simonyi Fund for Arts and Sciences

Steve Wozniak Co-founder Apple Inc.

# NextGen Advisory Board

Vishal Arya Margeta

Joel Franusic Okta

Serge Grossman Google

Ching-Yu Hu Google

Dan Kimerling Standard Treasury

Angela Kingyens Version One Ventures

Sunil Nagaraj Bessemer Venture Partners

Veronica Pinchin Google Jason Shah Do.com

Jeremiah Stone

Erin Summers Oculus

Marie Williams Coderella

Stephany Yong Facebook



1401 N. Shoreline Blvd. Mountain View, CA 94043 650.810.1010 computerhistory.org