



The Legacy of the Lisa: An Outsider's View

Chapter XXXXXX The People Behind the Lisa's Development

- X.1 INTRODUCTION
- X.2 SOFTWARE PEOPLE
- X.3 HARDWARE PEOPLE
- X.4 TECHNICAL ORG CHART OF OCTOBER 1982
- X.5 TECHNICAL MANAGEMENT PEOPLE
- X.6 NON-TECHNICAL MANAGEMENT PEOPLE
- X.7 WRITERS
- X.8 EXECUTIVE ASSISTANTS
- X.9 MANUFACTURING PEOPLE
- X.10 UNRELEASED FUTURE HARDWARE AND SOFTWARE
- X.11 WHO CAME FROM XEROX?
- X.12 WHERE ARE THEY NOW?
- X.13 PRE-GUI LISA PEOPLE
- X.14 THE FACES BEHIND THE LISA

FINAL DRAFT COPY

UPDATED 26 AUG 97

If you have any comments or corrections to this list I would very much like to hear them.
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X.1 INTRODUCTION

This chapter contains a list of the people who developed the Lisa computer. The names and titles that appear in this chapter are based on Apple documents and the generous feedback from various people. At various times, different people held different positions so the following titles for the listed people were correct at only one point in time. This chapter does not attempt to list each person's different titles.

The Lisa development effort began in October 1978 and ended in November 1983. On 18 Oct 1978 Steve Jobs and Trip Hawkins produced the one page memo "LISA Proposal #1" which began Apple's Lisa efforts. In November 1983 the Lisa division, Personal Office Systems (POS), was merged into the Macintosh division and this new entity was named the Apple 32 SuperMicro division.

From a hardware perspective there appears to have been four different Lisa computers:

<u>LISA</u>	<u>ARCHITECTURE</u>	<u>DATE/ARCHITECT</u>	<u>RELEASED?</u>
A	Custom bit-sliced CPU, executed Pascal p-code	1979/Steve Wozniak	No
B	68000 CPU, text-based	1979-80/Ken Rothmuller	No
C	68000 CPU, GUI-based (Lisa 1 and 2 models)	1980-82/Paul Baker	Yes
D	68020 CPU, GUI-based, color output (Lisa 3)	1983/Ken Okin, Dave Stewart	No

???

I'm not 100% certain about KO and DS working on D, either 1 or both worked on it. The 68020 CPU may also have not been used since I've heard from Apple engineers that no 68020 CPU was ever in a Lisa.

???

The reason for this list is the same as stated by Dan Allen, a Macintosh software engineer, who said in his wonderful book **On Macintosh Programming: Advanced Techniques** about the inclusion of historical information for the Macintosh's development (Addison-Wesley Publishing Company, 1st edition, 1990, Preface):

I feel it is important to record the names of these people here, as no other history has been written documenting their achievements.

In addition to Dan's reasons I think this list is important because it shows the human dimension behind the Lisa development effort. Without these people there would have been no Lisa.

These names originated in various books, magazines, or personal letters. The names of most of the top POS executives came from Apple's wonderful **Lisa Product Introduction Plan** (14 January 1983).

X.2 SOFTWARE PEOPLE

Lisa Office System

LisaDraw	Mark Cutter
LisaWrite	Tom Malloy, Brad Silverberg, John MacMillan, Rudi Sherry, Rick Tiberi (some for only part of the development period)
LisaProject	Debra Willrett (on contract)
LisaCalc	Janis Baron, Rod Perkins, Richard Moore
LisaTerminal	Dan Venolia (version 1.0), Priscilla Worland (version 7/7)



LisaGraph	Steve Young
LisaList	Ed Birss, Mark Deppe, Chris Franklin, Marian Catelain Cauwet, Larry Rosenstein (provided international support in version 2)
LisaGuide	Geoff Brown (design by Phyllis Cole)
Desktop Manager	Dan Smith (aka Dan Keller), Frank Ludolph, Bill Atkinson Ken Krugler (or Kruegler) took over the DM for Lisa 7/7
Calculator	Rod Perkins
Clock	Frank Ludolph
Preferences	???

User Interface

Many parents, some claiming more or less credit than due, varying by application and time period. Primary responsibility was:

Version 1	Larry Tesler and Bill Atkinson with Dave O'Connor in Product Marketing
Version 3 (7/7)	Mei Hu (sp?)

Other people that I've read as having a helping hand in the user interface design were:

Bruce Daniels, Dan Smith, ???

Desktop Libraries

Most were written as needed by the application programmers.

QuickDraw	Bill Atkinson (development preceded all Lisa tools except for LisaWrite)
Event Manager	LisaWrite team wrote the first Event Manager, Bill Atkinson wrote the second, Larry Tesler integrated the second with LisaWrite one Christmas vacation because the LisaWrite team wouldn't, MacMillan of the LisaWrite team reintegrated it to their liking.
Alert Manager	Larry Tesler (same Christmas vacation as Event Manager)
Menu Manager	Bill Atkinson
Window Manager	Bill Atkinson
Dialog Manager	Rod Perkins (first DM), Larry Tesler (wrote the final DM, LisaWrite group may have written the final DM)
Print Manager	Original printing work was done by Owen Densmore, Steve Capps, and Jeff Parrish. Further efforts were by Bayles Holt, Dave Casseres, and Eric Zarakov. Annette Wagner and one or two contractors designed screen typefaces.
Clipboard/Scrap Manager	Bruce Daniels, Steve Young (may have implemented SM streams)
Font Manager	Jeff Parrish
Single Line Text Editor	Marian Catelain
SANE	David Hough, Clayton Lewis, Jim Thomas, Jerome Coonen (Coonen was involved with SANE testing, worked mostly on Macintosh SANE)



Office System Graphic Images (e.g., icons, windows)

Annette Wagner

Office System User Testers

Larry Tesler, Greg Stikeleather, Ellen Nold, Mary Diehle

Monitor Development Environment (pre-Workshop)

Mouse editor	Bruce Daniels
Non-window shell	Barry Haynes
Monitor (interim OS)	Rich Page
Pascal compiler	Silicon Valley Software/SVS (outside contractor)

Workshop Development Environment

Manager	Ron Johnston
Linker	Yu-Ying Chow, later maybe Ken Friedenbach
Numerics, Standard Unit	Fred Forsman
Shell	Barry Haynes
Editors	Barry Haynes, Marianne Hsiung

Development Languages

Pascal Compiler	Barry Haynes, Al Hoffman, Ira Rubin, Chris Franklin, Rich Page (originally created by an outside company, Silicon Valley Software [SVS])
Clascal Compiler; design	Larry Tesler, Chris Franklin, Larry Rosenstein
Clascal Compiler; extensions	Chris Franklin, later Ira Rubin and Al Hoffman
68000 Assembler	??? (most likely in-house and based on UCSD's TLA assembler)
BASIC Interpreter	Marianne Hsiung (maintained language, originally created by outside contractor)
C Compiler	Rick Meyers (originally created by an outside company, Green Hills)
COBOL	CIS (KIS?) COBOL (outside contractor)

Toolkit

Larry Tesler (design and debugger implementation), Larry Rosenstein, Scott Wallace, Pete Young (worked on early prototypes), Barry Haynes (debugger implementation)

Lisa-to-Macintosh tool and Macintosh conversion applications

Lisa-to-Macintosh Lisa tool	Larry Rosenstein, Steve Young
LisaWrite to MacWrite	Larry Rosenstein
LisaWrite to MicroSoft Word	Microsoft (Ruth Adlhoch, John Hopper, Mike Koss, Frank Liang, David Luebert, David Palmer, Charles Simonyi, Ken Shapiro)
LisaCalc to Jazz	D-K Research
LisaCalc to SYLK	Microsoft ?



LisaProject to MacProject Debra Willrett ?

Operating System

OS Services, Drivers	Wendell Henry	team leader, MMU code
	Art Benjamin	file system, first version
	Chris McFall	file system, second version
	Yu-Ying Chow	(lady) process manager
	Chris Moeller	process manager
	Dave Offen	device drivers, twiggy/profile drivers
	Jay Walton	startup code
	Paul Williams	???
LisaBug	Rich Page	
Environments Window	Marianne Hsiung	

Boot ROM and Hardware-related Software (a.k.a. Diagnostics and Firmware group)

Rich Castro	Boot ROM: Technical leader
Ken Schmal	Boot ROM: Video PROM serial number reading
Ron Hochsprung	Boot ROM: Video PROM serial number reading
Rick Meyers	Boot ROM: Mouse & cursor I/O, keyboard, clock, calendar
Mike Urquhart	Boot ROM: Mini-graphics package

Others ...	Larry Kenyon	Susanna Lam	Gary Phillips
	Paul van Keuren	Frank Jones	Allen Johnson

Smalltalk

Rick Meyers	Started Apple's Smalltalk-80 project in October 1980
David Casseres	Technical writer for Rick Meyers

Dan Ingalls, Barry Haynes, Yu-Ying Chow, Mark Lentczner
(worked on ST-80 that was officially released March 1985 for the Macintosh XL)

Misc. Software

MacWorks	Jeff Parrish, Rich Castro, Steve Capps may have collaborated with Parrish on the first version
Lisa Unix	Ron Johnston
LisaPaint	Bill Atkinson's testbed for QuickDraw, influenced MacPaint
LisaBalls	Standard test bed for various system components, e.g., multitasking in the OS
LisaTest	Rich Castro

Product Support Engineers

Elizabeth Shannon Patti Blair



X.3 HARDWARE PEOPLE

Paul Baker	Managed Hardware Engineering up to 1982, MMU
Ken Okin	Managed Hardware Engineering in 1982-83
Rich Page	Turned h/w from bit-sliced p-machine to 68000, overall h/w design
Mark Baumwell	???
John Vennard	Twiggy floppy drive, head of Apple's Peripherals Division
Richard Jordan	Twiggy disk drive
William Bull	Twiggy disk drive
Robert L. Ciardella	Twiggy disk drive
Robert Taggart	Twiggy disk drive
Frederick "Rod" Holt	Twiggy disk drive
John Moon	Twiggy disk drive
William (Bill) D. Atkinson	Mouse
William F. Lapson	Mouse
William F. Dresselhaus	Twiggy floppy disk drive front panel, Lisa case
Kenneth S. Campbell	Lisa case
Clive R. Twyman	Lisa case
Douglas C. Dayton	Lisa case
Gary L. Marten	MMU
Glenn Edens	Brought 1st mouse into Apple at Trip Hawkins' request in early 1980
Dean Hovey	Designed Apple's 1st mouse at Trip Hawkins' request, member of the Hovey-Kelley design company

The Lisa Hardware group as of August 1981 consisted of:

Paul Baker (supervisor)	Gary Baker	Elmer Baum
Ron Christner	Al Estrella	Jon Fitch
Nelson Klinek	Gary Marten	Ravi Shah
Mari Storer	Rich Wicker	John Turnbach (lead tech)
Teresa Mahler	Vic Bull (supervisor)	Bruce Lee
Dave Stewart	Bob Paratore (tech lead)	Mike Dhuey
Ron Hochsprung	Greg Justice	Bob Lashley

By late 1982, Ken Okin was managing Hardware Engineering and the group composition was quite different.

Product Design Group (August 1981)

Bill Dresselhaus (manager)	Steve Balog	Barbara Cribbs	Clive Twyman
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X.4 TECHNICAL ORG CHART OF OCTOBER 1982

Here's the Lisa technical org chart from October 1982. Each section lists the section name with the manager of the section immediately following. Then follows the names of the people in the section. Positions are indicated by the following chart:

M: Acting manager	PS: Project supervisor	T: Technical leader
A: E.P. Analyst (E.P. = ???)	C: Consultant	I: Intern



L: Software librarian

P: Part time

S: Summer hire

ENGINEERING DIRECTOR

Wayne Rosing (executive assistant Judy Rusciano)

HARDWARE & SYSTEMS ADVANCED DEVELOPMENT

Alan Oakes (Karen Cabral)

John Levy

Todd MacMillan Don North

SOFTWARE ADVANCED DEVELOPMENT AND RESEARCH

Bill Atkinson

Bruce Daniels

Rich Page

DEVELOPMENT HARDWARE

Ken Okin (Sheri Martinez)

Diagnostics:

Mike Urquhart (PS)

Rich Castro (T) George Cossey Allen Johnson

Frank Jones

Gary Phillips Paul van Keuren

Networks:

Ron Hochsprung (T)

Eric Boettcher

Mike Dhuey

Greg Justice

Ralph Pastor

Power Supply:

Ron Christner (PS)

Elmer Baum

Microframes:

Paul Baker (PS)

Jon Fitch

Nelson Klinek

Bruce Lee

Teresa Mahler

Gary Marten

Ann Nunziata

Dave Stewart

Mari Stober

John Turnbach

Product Design:

Steve Balog

Ken Campbell

Barbara Cribbs Mel Phillips

Clive Twyman (M)

OS DEVELOPMENT SOFTWARE

Wendell Henry

Operating System:

Art Benjamin (PS)

Chris McFall

Chris Moeller

Dave Offen

Jay Walton

Development Tools:

Ron Johnston (PS)

Yu-Ying Chow

Fred Forsman

Ken Friedenbach

Barry Haynes

David Hough

Marianne Hsiung

Susanna Lam

Jim Merritt (S)

Rick Meyers

Ralph Sahn

Dan Venolia

Printing:

Owen Densmore (T)

Steve Capps



NETWORKS

Steve Butterfield Jim Nichols

Tom Malloy

Brad Silverberg Phil Spira

APPLICATION SOFTWARE

Marian Catelain (Karen Pereira)

Data Management (LisaList, LisaCalc, LisaGraph):

Marian Catelain (PS)	Janis Baron (P)	Ed Birss	Mark Deppe
Richard Moore (P)	Rod Perkins	Larry Rosenstein	Scott Wallace
Peter Young	Steve Young		

Graphics (LisaDraw):

Geoff Brown Mark Cutter Jeff Parrish

Word Processor (LisaWrite):

Tom Malloy (T) Craig Carper John MacMillan

ISAM (indexed sequential access method):

Chris Franklin

OEM Toolkit:

Larry Tesler

Filer (Desktop Manager):

Frank Ludolph Dan Smith

ENGINEERING OPERATIONS

Jeff Davis

Lorraine Daniels (L) Peggie Stanford (A)

PUBLICATIONS

Nellie Connors (Eileen Crawford)

Applications:

Andy Averill	Judy Bligh	Sandy Miranda
Gail Pilkington	Sue Luttner	

Systems:

Dave Casseres Larry Roth

X.5 TECHNICAL MANAGEMENT PEOPLE

Wayne Rosing	Manager of Hardware development, then overall director of Lisa engineering
Bruce Daniels	Manager of all software development during 1980, worked on Macintosh for a bit, then served as Lisa system architect, led the early user interface investigation meetings

Larry Tesler	Manager of Application Software development, including user interface, and Desktop Libraries, worked on the user interface design and implementation, worked on Clascal and the Toolkit, left Xerox for Apple in July 1980,
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	left Apple in August 1997
Eric Harslem	Last manager of Lisa software group
Pete Cressman	Manager of Software Quality Assurance (aka New Product Review)
Randy Battat	Product manager
Tim McNally	Product manager
Bruce Blumberg	Third-Party Products and Development Tools Manager
Burt Cummings	Tech Support Manager, Third-Party Program Manager
Dan Cochran	Third-Party Product Manager
Leslie Myers	Third-Party Program Coordinator
Bill Libby	Language product manager
Tom Whitney	VP of Engineering when Apple began the Lisa project, asked Trip Hawkins to prepare the Lisa MRD
Ken Rothmuller	First project leader, replaced by John Couch, now works (again) for HP, wrote "Review of LISA Objectives" (13 Feb 1979)

X.6 NON-TECHNICAL MANAGEMENT PEOPLE

The following list is valid for early 1983 when the Lisa was introduced. Between 1980 and 1983 the composition of this group was somewhat different.

John D. Couch	VP & General Manager of POS, started at Apple as VP Apple s/w where he created a plan for a 16-bit system to succeed Apple 2, now with FISK Communications in San Diego, CA
Deme Clainos	Director of Marketing
Dave Craft	Director of Manufacturing
Ed Unkart	Financial Controller
Joy McCully	Office Market Manager
Ellen Nold	Marketing Support Manager
Rick Tompane	Hardware Product Marketing
Doug Pollack	Hardware Product Marketing
Trip Hawkins	Co-wrote initial Lisa spec with Steve Jobs, co-wrote the Lisa Marketing Requirements Document (MRD) (80%), left Apple in 1982
Glenn Edens	Co-wrote the MRD with Trip Hawkins (15%), left Apple in July 1980
Barry Margerum	Co-wrote the MRD with Trip Hawkins (5%), left Apple in late 1980
Pat Marriott	She was the Product Marketing Manager for system software (to Fall 82)
Barry Smith	Software Product Marketing (82+)
Jay Weil (sp?)	Font and Printing Product Manager
Dave Evans	Product Marketing Manager for Peripherals
Steve Jobs	Critiqued everything done by everyone, but wouldn't claim authorship of anything, wrote initial Lisa spec with Hawkins ("LISA Proposal #1", 18 Oct 1978)

X.7 WRITERS

Stephen Chernicoff	Editor-in-Chief of Publications (1980-83)
Nellie Connors	Manager of all Lisa documentation

Developer manuals group:



Larry Roth	Monitor User's Guide (ca. 1981)
Bill Schottstaedt	Lisa OS Reference Manual (until April 1982)
Bill Schottstaedt	Pascal Development System Manual (February 1982)
Bill Schottstaedt	Lisa Hardware Reference Manual (July 1981)
D. Berry	Lisa Hardware Reference Manual (September 1982)
Gail Pilkington	Lisa Hardware Reference Manual (June 1983)
Amy Davidson, David Offen	Lisa Device Driver's Manual (David Offen was part of OS team)
Susan Keohan	An Introduction to Clascal
Jonathan D. Simonoff	The Lisa Applications ToolKit Reference Manual

User manuals group:

Sandra Miranda, Sue Luttner	Lisa 1 User's Guide (writing)
Karen Huth	Lisa 1 User's Guide (graphics)
Lynnea Johnson	Using the Macintosh XL Migration Kit (1985)

Others ... Andy Averill Judy Bligh David Casseres

X.8 EXECUTIVE ASSISTANTS

Here's a list of several people who assisted the top managers. Most of these names are from the Apple software org chart of early to mid 1980 and the Apple Lisa division org chart of October 1982.

<u>Assistant</u>	<u>Manager</u>	<u>Manager's Position</u>
Susan Wells	John Couch	VP Software, GM POS
Sandra Kane	Bruce Daniels	Software manager
Judy Rusciano	Wayne Rosing	Hardware director
Karen Cabral	Alan Oakes	Hardware and systems advanced development
Sheri Martinez	Ken Okin	Development hardware
Karen Pereira	Marian Catelain	Application software
Eileen Crawford	Nellie Connors	Publications
Peggie Stanford	Larry Tesler	Application software

X.9 MANUFACTURING PEOPLE

Here's a list of the people who physically manufactured the Lisa. Most of these names are from Apple's factory in Carrollton, Texas (just north of Dallas). The Texas team in May 1984 wrote their names on the inside of the last Lisa's top. (I need to get these names from Darryl Burrows of Dallas who owns this lid and bought most of the Lisa materials from the Carrollton factory)

???

X.10 UNRELEASED FUTURE HARDWARE AND SOFTWARE

Lisa 3 (When Apple started work on the successor to the Lisa 2, there were many hardware engineers)

Dave Stewart (lead) ? others ???



AppleNet LAN protocols (1 megabit/sec., similar to LocalTalk LAP)

Jim Nichols Ron Hochsprung

Mail system using Xerox XNS protocols (it had drag & drop in/out boxes like PowerTalk today)

Jim Nichols Phil Spira Steve Butterfield Dick Tabor

X.11 WHO CAME FROM XEROX?

Here is a list of the people who left Xerox to work for Apple on the Lisa and their area of expertise. Various articles have indicated that around 15 Xerox people worked on the Lisa.

<u>Person</u>	<u>Xerox Division</u>	<u>Expertise</u>
Bob Belleville	???	???
Steve Capps	Xerox Rochester	???
Owen Densmore	Xerox Rochester	Fonts and printing
Glenn Edens	???	???
Barbara Koalkim	???	???
Frank Ludolph	Xerox SDD	???
Tom Malloy	Xerox PARC & SDD	???
Richard Moore	Xerox SDD	???
Gail Pilkington	Xerox SDD	Tech writer
Rudi Sherry	Xerox ASD	???
Larry Tesler	Xerox PARC	User interface design
Rick Tiberi	Xerox ASD	???
Jay Weil (sp?)	???	Fonts and printing ("a real font guru")

X.12 WHERE ARE THEY NOW?

Here are the locations of several of the key Lisa developers in 1994.

John Couch	FISK Communications, San Diego, California
Trip Hawkins	The 3D0 Company, Redwood City, California
Larry Tesler	Apple Computer, Cupertino, California
Wayne Rosing	Sun Microsystems, Mountain View, California
Bruce Daniels	Sun Microsystems, Mountain View, California
Bill Atkinson	General Magic, Mountain View, California
Ken Rothmuller	Hewlett-Packard, Silicon Valley
Eric Harslem	Dell Computers, Austin, Texas
Ken Okin	Sun Microsystems, Mountain View, California
Steve Jobs	NeXT, Inc., Redwood City, CA (trying to sell NEXTSTEP to anyone)

X.13 PRE-GUI LISA PEOPLE

Here are lists of the people who worked on the two pre-GUI Lisa systems. Special thanks to Steve Wozniak and Ken Rothmuller for these names.



BIT-SLICE P-CODE LISA

Steve Wozniak others ?

68000 TEXT-BASED LISA

Ken Rothmuller	Tom Malloy	Chris Franklin	Bill Atkinson
Rod Perkins	Rich Page	Paul Baker	William Dresselhaus
Kenneth Campbell	Gary Baker	Rich Wicker	Bob Paratore
Trip Hawkins			

An Apple software org chart from early to mid 1980 lists the following people as involved in Lisa software development (I've dated this chart to this time frame since the person who gave me this chart said it was for 1980 and given the lack of Larry Tesler's name I knew it had to originate before Tesler's arrival which occurred in July 1980):

John Couch	VP Software
Bruce Daniels	Software manager (his executive assistant was Sandra Kane)

Bill Atkinson	Art Benjamin	Marian Catelain	Chris Franklin
Ron Hochsprung	Thomas Malloy	Richard Page	Rod Perkins
Lew Randall	Phil Spira	Jim Stein	Richard Tiberi
Kurt Shones (summer employee)			

X.14 THE FACES BEHIND THE LISA

Here are scanned images of the faces of several of the people behind the Lisa. These were produced using the Thunderscan digitizer. Please excuse the low resolution, I wanted to keep the size in bytes of each image small.



Steve Jobs - note the Lisa behind him (ca. 1984)



Trip Hawkins (ca. 1994)



John Couch (ca. July 1983)



Apple Software Lab exec team (ca. 1980)

Bruce Daniels, John Couch, Jack MacDonald (managed // & /// systems) , Susan Wells



John Couch, Bruce Daniels, Wayne Rosing, Larry Tesler (ca. February 1983)



Larry Tesler (ca. 1986)



Bill Atkinson (ca. 1984)

--- End of Chapter ---