

# An Idiosyncratic History of Tech Threads + Inventions

## A caution:

This deck is provincial — focused on Silicon Valley — broadly interpreted as the San Francisco Bay Area.

Of course, technology (and design) are richly connected around the world.

That means a lot of important things are not included, e.g., IBM, DEC, Microsoft, Amazon, Tencent, Seedance.

# Tech Threads

Key developments in the information revolution  
(that occurred in Silicon Valley).

These deeply entwined events form the context  
of much design work in the Valley.

And they gave rise to the tools and materials  
of emerging design practices.

## **Bell Labs / Shockley / Fairchild to Intel**

- Bardeen, Brattain, + Shockley: transistors, 1947
- Shockley moved to Mountain View, 1956
- Fairchild founded, 1957 (NB Arthur Rock)
- Intel founded, 1968

## **SRI + SAIL to PARC**

- Stanford Research Institute founded, 1946, (spun out 1970)
- Stanford AI Lab founded, 1963
- Xerox Palo Alto Research Center founded, 1970

# HP to Atari + Apple

- Hewlett Packard founded, 1939
- Atari founded, 1972
- Apple founded, 1976

# Digital World Builders

- Industrial Light and Magic, 1975
- Electronic Arts, 1982
- Autodesk, 1982
- Pixar spun out of Lucas Film, 1986

# Oracle to Salesforce

- Oracle founded, 1977
- Intuit founded, 1983
- SAP opens Palo Alto office, 1996
- Salesforce founded, 1999
- GE Software, San Ramon, 2011

# University Contributions

- Bill Joy, Berkeley Unix (1BSD), 1978
- Don Knuth, TEX and Metafont, 1979
- Leonard Bosack + Sandy Lerner (Cisco), 1984
- Jerry Yang and David Filo (Yahoo), 1994
- Larry Page (Rank) + Sergey Brin, (Google) 1998
- Fei Fei Li, “Image Generation from Scene Graphs”, 2018

## **SGI + Sun to Netscape**

- Silicon Graphics founded, 1981
- Sun Microsystems founded, 1982
- Java released, 1995
- NSCP IPO, August 1995
- Purchased by AOL, March 1999
- AOL then bought Time-Warner, January 2001

# **Newton + Palm to iPod + iPhone**

- Newton released, 1993
- Palm Pilot released, 1996
- General Magic (Cap) released, 1994
- iPod released, 2001
- iPhone released, 2007
- iPad released, 2010

# **The Well to Facebook + Twitter**

- The Well founded, 1985
- Napster founded, 1999
- Friendster founded, 2002
- Facebook moves to California, 2004
- Twitter founded, 2006
- Instagram founded, 2010

# Democratized Publishing

- Wikipedia, 2001
- WordPress, 2003
- Reddit moves to California, 2006
- Medium, 2012

# Gig Economy

- eBay, 1995
- Craigslist, 1995
- Airbnb, 2007
- Uber, 2009
- Lyft, 2012
- DoorDash, 2013

# **Nvidia to ChatGPT + Claude**

- Nvidia founded, 1993
- Transformer architecture (Google) introduced, 2017  
“Attention Is All You Need”
- Waymo (Google) released, 2018
- ChatGPT (OpenAI) released, 2022
- Claude (Anthropic) released, 2023
- Gemini (Google) released, 2023

# Key Inventions

Tools, interaction paradigms, and concepts that emerged from Silicon Valley and affected design practice worldwide.

Doug Engelbart,  
**“Mother of All Demos,”**  
Joint Computer Conference,  
1968

Alan Kay,  
**Dynabook concept,**  
“A Personal Computer for Children of All Ages,”  
1972

## **Xerox Alto workstation, 1973**

- Graphics, Bob Sproull
  - Bravo (word processing), Charles Simonyi
  - Ethernet, Bob Metcalfe
  - EARS (later Dover) Printers, Gary Starkweather
- 
- Digital frame buffer, Richard Shoup, 1972
  - Smalltalk language, Alan Kay, Dan Ingalls, + Adele Goldberg, 1972
  - NB: Stu Card, Tom Moran, Allen Newell, ~1974 onwards
  - Star workstation, Bill Verplank et al., 1981
  - Trillium, Austin Henderson, 1983

Larry Tessler, Bill Atkinson, Susan Kare, et al.,  
**Macintosh Graphical User Interface (GUI),**  
1984

See also:

- **Mass-produced mouse project**, David Kelley, 1980
- **Snow White project**, Hartmut Esslinger/frog design, 1982
- **ATG HIG**, Joy Mountford, Gitta Salomon, Yin Yin Wong, et al., 1986 onwards
- ***Making It Macintosh***, Lauralee Alben, 1993
- **iPhone UI**, Greg Christie, et al., 2007

John Warnock

**PostScript** released, 1984

**Laserwriter** released, 1986

**Adobe Illustrator** released, 1987

# Thomas Knoll and John Knoll, From Industrial Light and Magic to Adobe **Photoshop, 1987**

# Bill Atkinson

## **HyperCard**, 1987

# Bret Victor

## **DynamicLand**, 2014

# Dylan Field and Evan Wallace

## **Figma** released, 2016

## **Contributions to design discourse**

- *Communication Arts*, Richard Coyne, 1959
- TED conferences, Ricky Wurman, started 1984
- *Critique*, Marty Neumeier, 1996

# Concepts in design theory

- Design Rationale (IBIS), Horst Rittel, 1970
- Pattern Languages, Christopher Alexander, 1977
- Plans and Situated Actions, Lucy Suchman, 1985
- Ontological Design, Terry Winograd + Fernando Flores, 1987
- Affordances, Don Norman (from JJ Gibson), 1988
- Computers as Theatre, Brenda Laurel, 1991
- Pace Layers, Stewart Brand, 1999
- Design Thinking Movement, David Kelley et al., 1999

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