

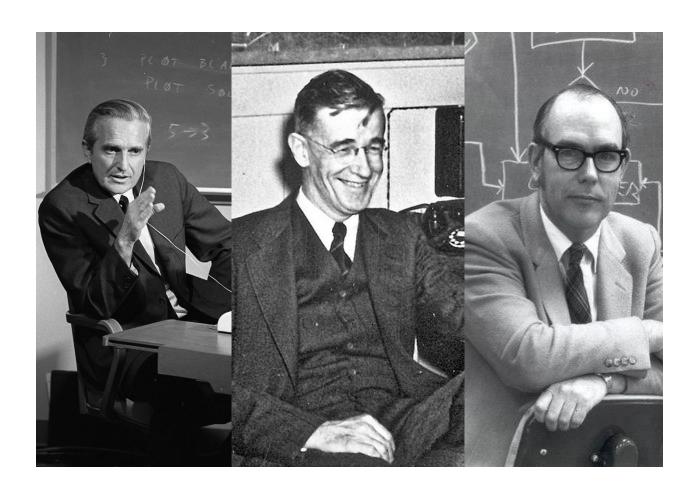


Chapter 2:

History of Human Computer Interaction

Overview

- 1 Interactive Computing: People and Inventions
- 2 Timelines
- 3 The Evolution of Graphical User Interfaces







Interactive Computing: People and Inventions



Before we start with this chapter: What were central innovations in Human Computer interaction in the last 50 years?

Many people shaped the early stages of Human Computer Interaction. Please watch the following video and find out more about important inventions and milestones of Vannevar Bush, Douglas Engelbart, Ivan Sutherland and many more.



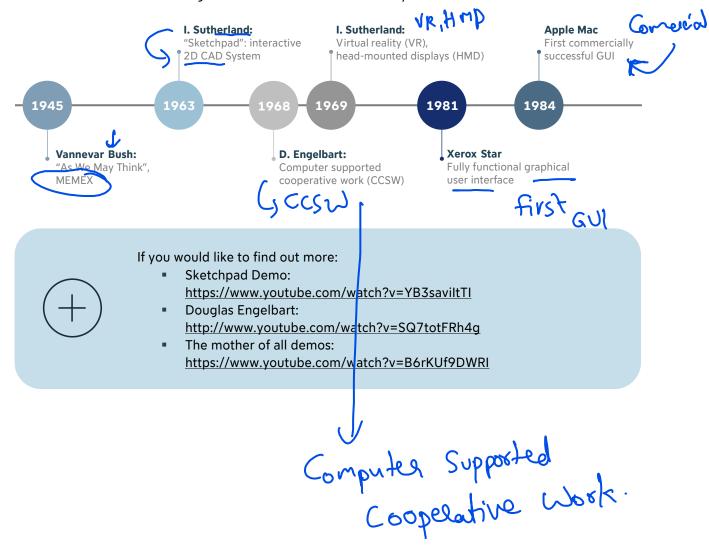
History of HCI: Interactive Computing: https://www.fau.tv/clip/id/41600





Timeline

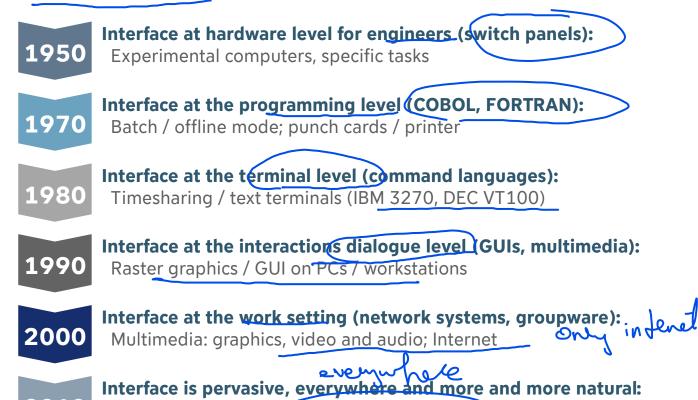
In the video you just watched, you learned a lot about the most important people and inventions that shaped the beginning of Human Computer Interaction. Here you can see a summary of the most important milestones of related technological inventions in the 20th century.







When we now change the perspective, from the technological side to the actual user, we can see how the interaction of humans with computers has changed over time.



As you probably know, today we have computers everywhere. The standard and closed form of a computer we had for quite long time. So modern engineers will have to think about new concepts for displays and interaction technology in all kinds of settings.

Mobile, wearable, embedded, ubiquitous



Historic visions of the future:

- Home computer and tele-shopping: https://www.youtube.com/watch?v=EC5sbdvnvQM
- View of the future at&t (ad): https://www.youtube.com/watch?v=sYNUcFMCIzw
- Arthur C. Clarke- Predicting the Future (more general): http://www.youtube.com/watch?v=FxYgdX2PxyQ





The Evolution of Graphical User Interfaces (GUI)

In the early days of Human Computer Interaction, the research was scattered and many institutions created their own island solutions. In the book *Pioneers and Settlers: Methods Used in Successful User Interface Design from 1995* the authors tried to analyse and summarize success stories, emerging methods and the real-world context of the research that has been conducted so far.

As shown in the following figure, in the evolution of GUIs, the interfaces came from this scattered exploratory research to a development of a series of classic systems like the Xerox PARC. Based on that, initial products were created (Apple Lisa 1983) that finally went into standardization.

1964: First mouse FIGURE 1 1950s: SAGE Air Defense System concept sketched Menus SRI International, 1960s: MIT, 1962: Sketchpad On-line system ("NLS") Two tiled windows Menus Two tiled windows Stage 1: Scattered Icons for contraints (wheeled, analog) Research University of Utah, 1967: Flex SRI International, Multiple tiled windows
 Icons for tiles 1969: NLS • Multiple tiled windows Xerox PARC, early 1970s: Alto Overlapping windows 也 Menus (pop up)
 Mouse (wheeled, digital) Stage 2: Xerox PARC, 1972: Ball mouse Definition Xèrox PARC, 1976: 맙 to on-screen desktop Xerox Corp., 1981: Star • Both tiled and Apple Computer Inc. 1983: Lisa overlapping windows

• Menu bar for each 딘 Menus (pull down) window Stage 3: Initial Products Ball mouse whole screer Apple Computer Inc Late 1980s: Xerox 1984: Macintosh ViewPoint

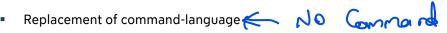
AT&T Co./

Sun Micro

Digital search Inc

While different GUIs evolved over time, they have specific characteristics in common:

Microsoft



- Direct manipulation of the objects of interest
- Continuous visibility of object and actions of interest

Stage 4: Standardization

- Graphical metaphors (desktop, trash can)
- Windows, icons, menus and pointers
- Rapid, reversible, incremental actions

metaphors.

NeXT Inc.:

Open Software

Motif

Spaversible, rapid





References

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- 2. Image of Vannevar Bush: https://mondediplo.com/outsidein/vannevar-bush-prophet-of-high-tech
- 3. Image of Ivan Sutherland: https://ethw.org/Ivan_E._Sutherland
- 4. Jef Raskin, The Humane Interface, ACM Press 2000
- 5. Brad A. Myers. "A Brief History of Human Computer Interaction Technology." ACM interactions. Vol. 5, no. 2, March, 1998. pp. 44-54. http://www.cs.cmu.edu/~amulet/papers/uihistory.tr.html