INF03 User Experience Design

1. Introduction

Aurélien Tabard

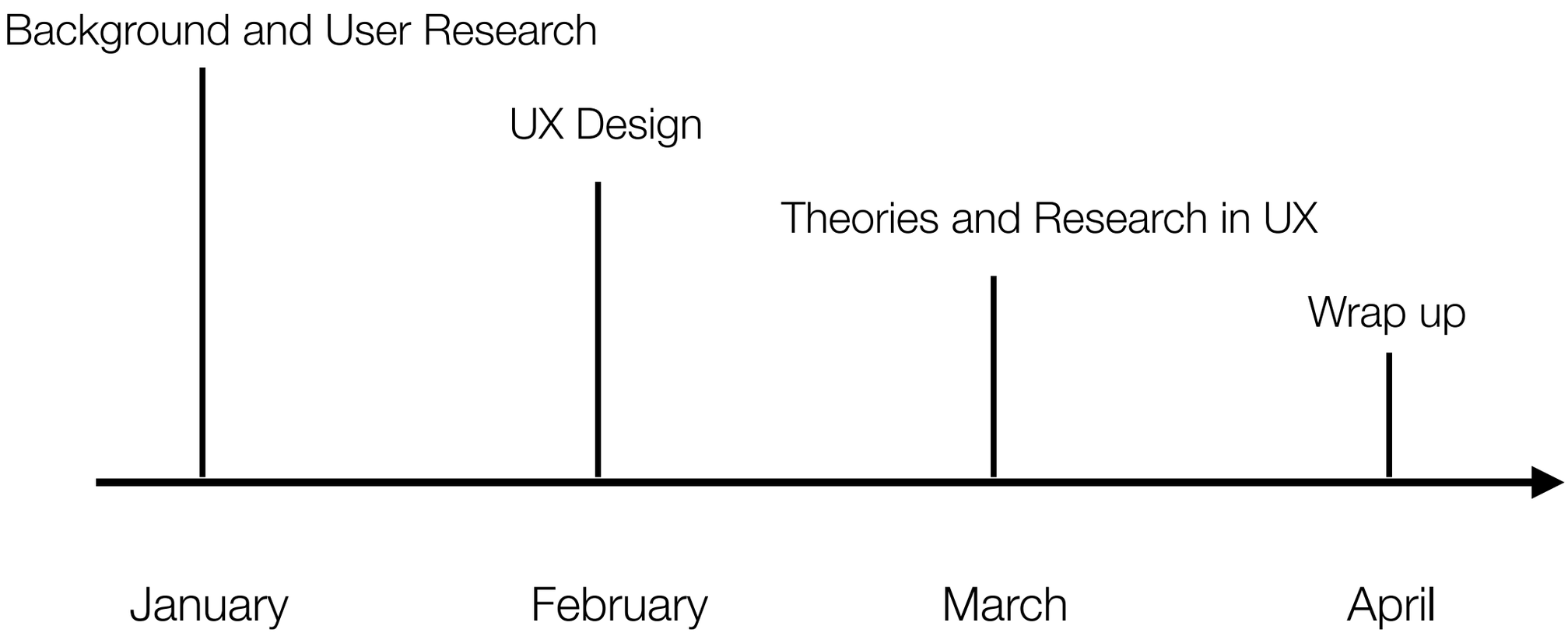
- Practical matters
- A quick history of UX
- What is UX Design?

- Project presentation
- Group formation

Learning goals

- Articuler les principaux éléments méthodologiques du design d'expériences
  - Objectifs "spécifiques" associés [2]
- Etudier des situations d'usage, comprendre les pratiques des utilisateurs
  - Objectifs "spécifiques" associés [2]
- Prototyper des solutions répondant à des problématiques précédemment identifiées
  - Objectifs "spécifiques" associés [3]
- Évaluer des prototypes en regard de situations d'usages
  - Objectifs "spécifiques" associés [3]

Course outline



About the course

- Project centered
- Lecture + application in the same session
- Homework after some sessions (~50%)

Background and User Research

- 10/01/2016
  - Lecture: Introduction to UX
  - Activity: Reflections on UX as a discipline, project and group set-up
- 17/01/2016
  - Lecture: User research – Interviews
  - Activity: Create interview structures, test interviews
- 24/01/2016
  - Lecture: User research – Alternative methods
  - Activity: Status on interviews progress + use of complementary methods
- 31/01/2017
  - Lecture: User research – Qualitative analysis methods
  - Activity: Affinity Diagram (analyzing and developing concepts from field research)

UX Design and Qualitative Evaluation

- 07/02/2016
  - Lecture: Sketching and prototyping UX
  - Activity: Brainstorming and Scenario
- 14/02/2016
  - Lecture: Approaches to UX
  - Activity: Storyboarding and Video prototyping
- 23/02/2016
  - Congés
- 28/02/2016
  - Qualitative evaluation methods and data analysis
  - Activity: Design Walkthrough

Theory and Quantitative Evaluation

- 07/03/2016
  - Hands-on session: iteration on the prototypes
- 14/03/2016
  - Lecture: Quantitative evaluation methods and analysis
  - Activity: Quantitative comparison of Mobile Keyboards
- 21/03/2016
  - Theories, models and laws of UI and UX design
  - Activity: More on evaluation
- 28/03/2016
  - Visual Design and UX
  - Activity: project wrap up

Wrap-up

- 04/04/2016
  - Guest lecture : Cross Channel UX
- 11/04/2016
  - Project presentations
- 25/04/2016
  - Exam

Evaluation

Project work (40%)

- 35 % Project
- 5 % Interview outlines

Individual work (25%)

- 10 % Heuristic evaluation
- 10 % Quantitative evaluation
- 5 % Class participation + qualitative evaluation

Final exam (35%)

Projects

Two organizations:

- Lyon Métropole Habitat: Digital services for public housing
- Museopic: Personal Visit Assistants and Augmented Reality in Museums

Presentations at 11.00

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Why should we look into the past ?

“Great design is as much about prospecting in the past as it is about inventing the future.”

Bill Buxton

http://www.businessweek.com/innovate/next/archives/2008/12/what_apple_lear.html

(pre-) history of UX

Several timelines from various disciplines

- Design
- Computer Science
- Information Science
- Social Sciences
- Psychology


STAATLICHES BAUHAUS-WEIMAR
BAUHAUS

Le Corbusier and modernism

Braun, Dieter Rams and Functionnalism

From Alexander Wiethoff

Braun Radio

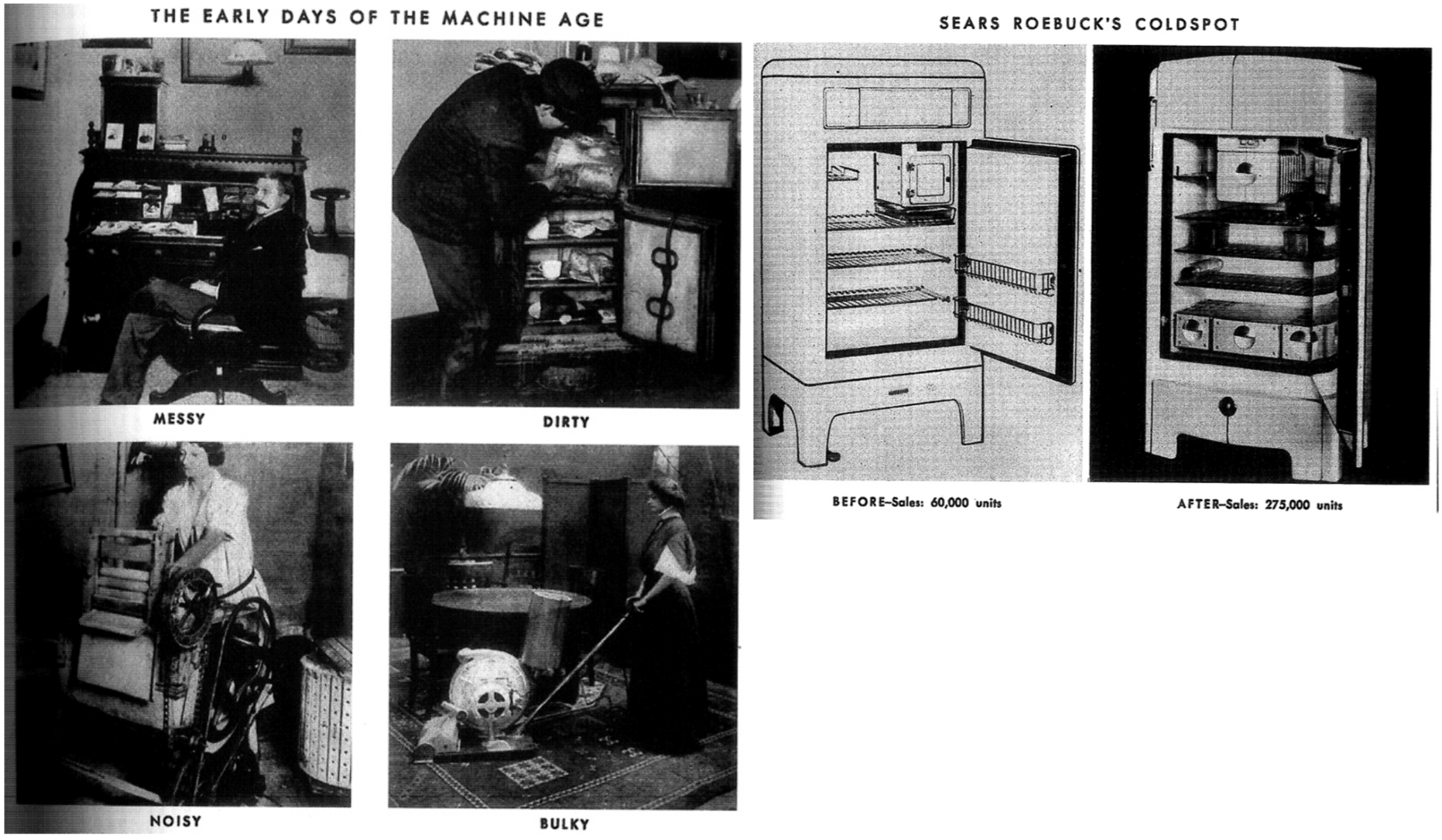
iPod

iPhone Calculator

Braun Calculator

http://blogs.telegraph.co.uk/technology/files/2011/04/iphone-braun2.jpg

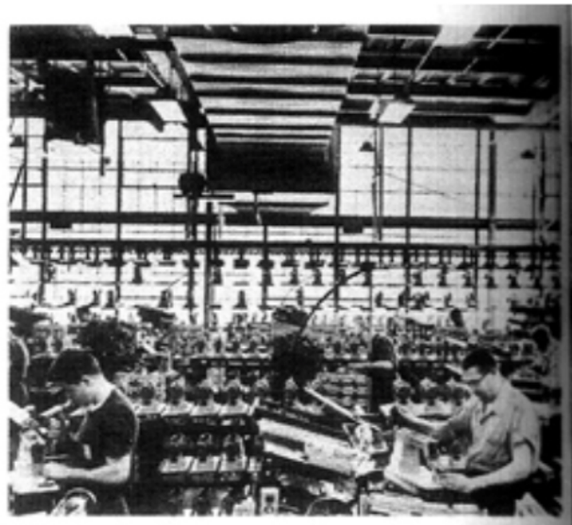
Raymond Loewy, the father of Industrial Design



Henry Dreyfuss

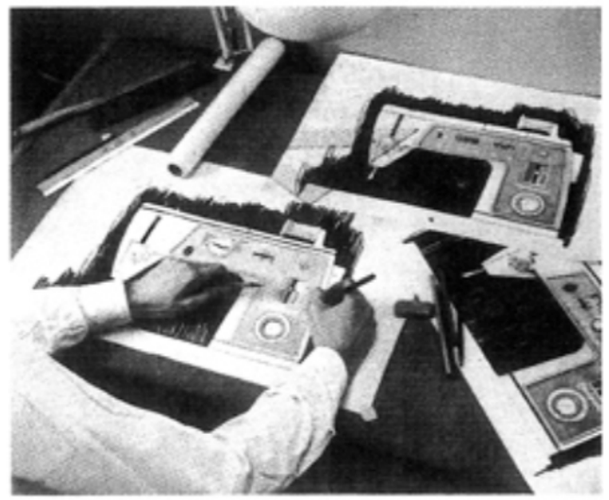
The distance between drawing board and assembly line is not one inspired leap for the industrial designer but rather a series of careful and patient steps. Our development of Singer's Model 600 sewing machine is typical. Although there is an infinity of steps in between, the eight shown here are fundamental to our approach to a client's problem.

1 We start by studying the competition. We analyze models and illustrations of other companies' merchandise, both here and from abroad.

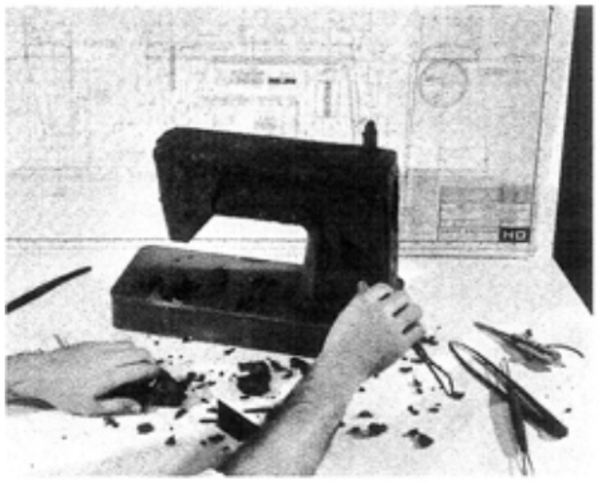


2 We familiarize ourselves with the client's manufacturing facilities. We like to know the limitations as well as the potentials of his plants.

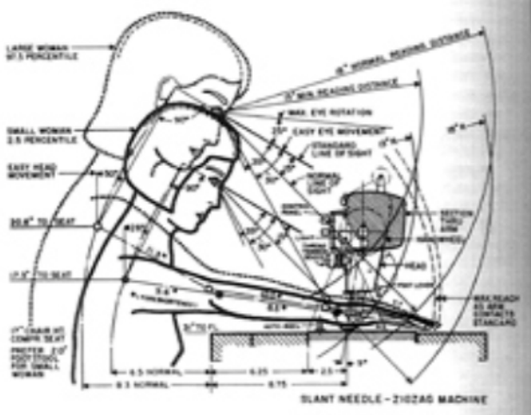
3 We learn how the product will be used. In developing Model 600, our designers took a Singer sewing course, Singer zig-zag stitching and all.



4 After consultations with top management, sales executives and engineers, we develop a variety of idea sketches.

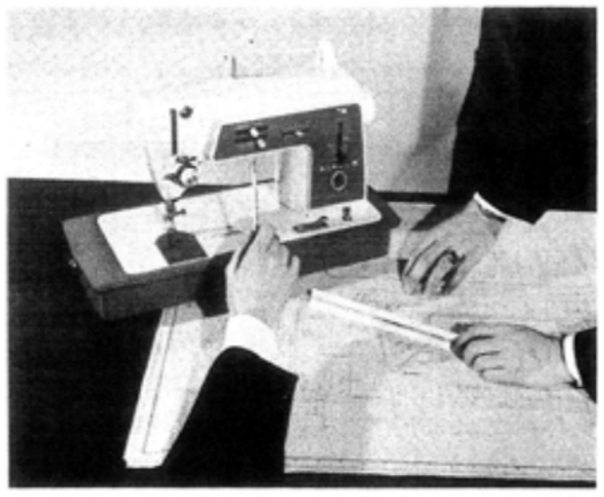


5 Now we're ready to study the design in three dimensions. We start this phase of the work with a rough clay model.



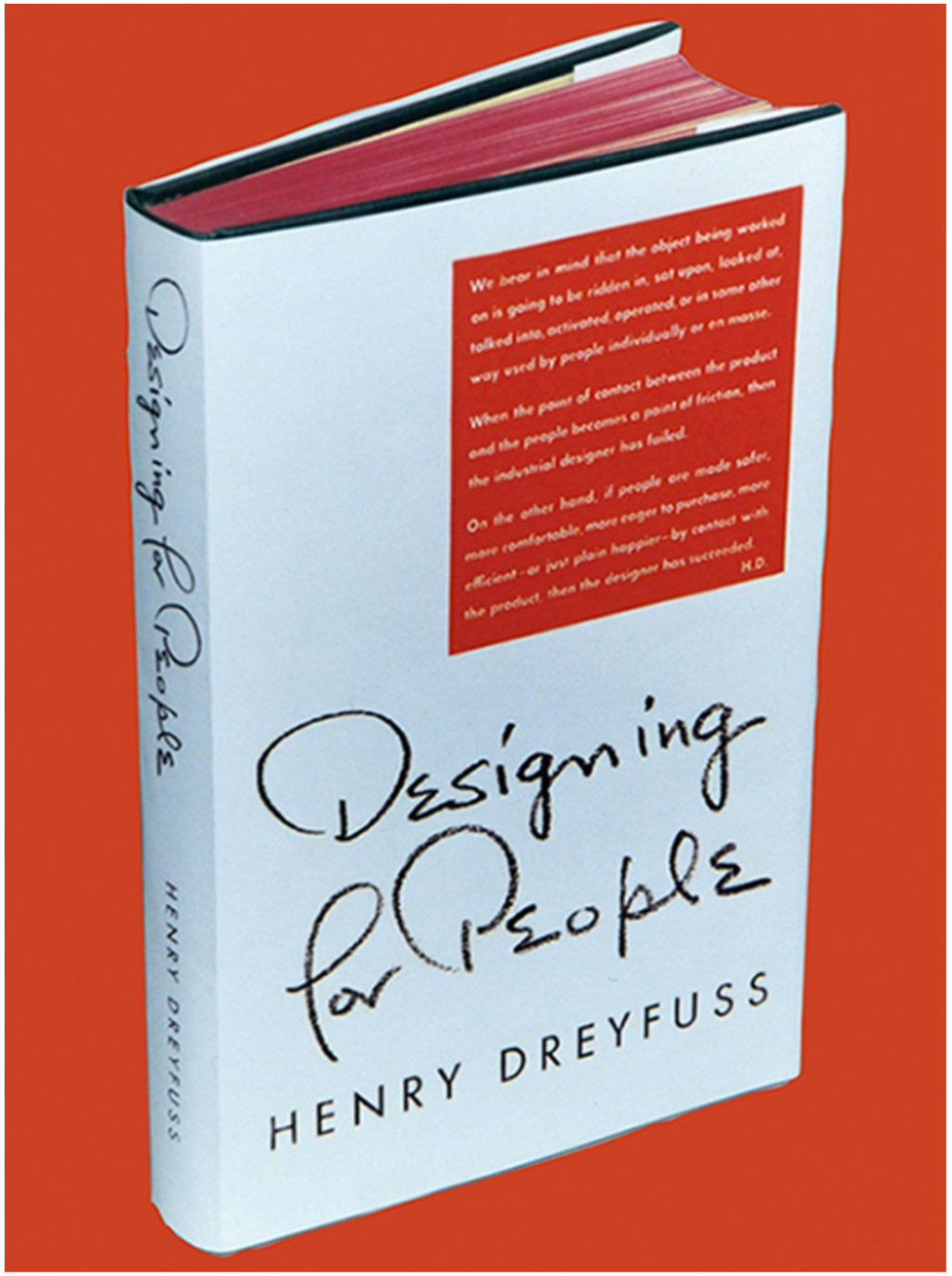
6 Using the anthropometric techniques we originated, we turn to human engineering. We see how a mother and daughter will use the machine.

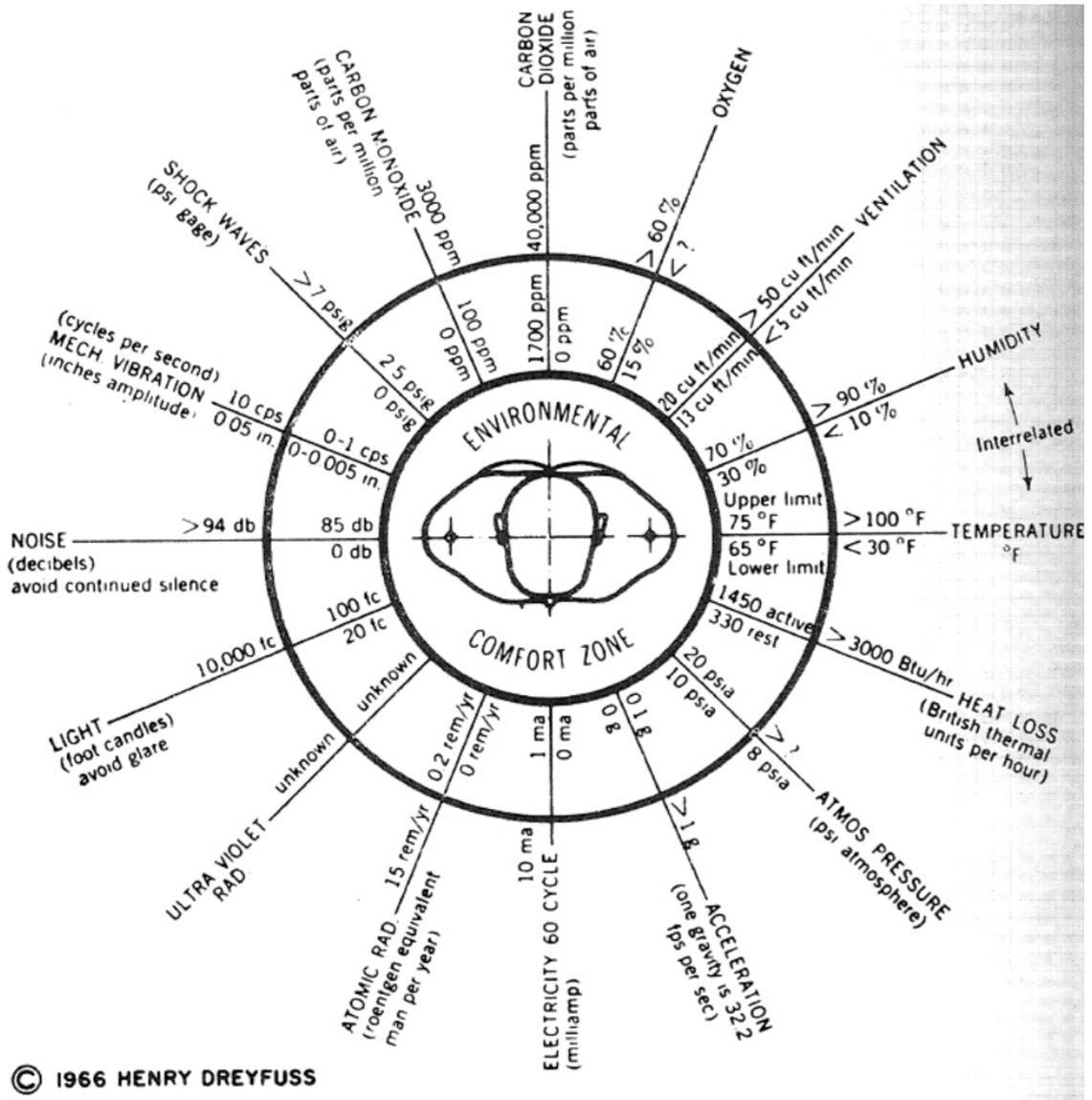
7 Through each step there is close collaboration with our client's engineers. Working drawings are made and checked against their pilot model.



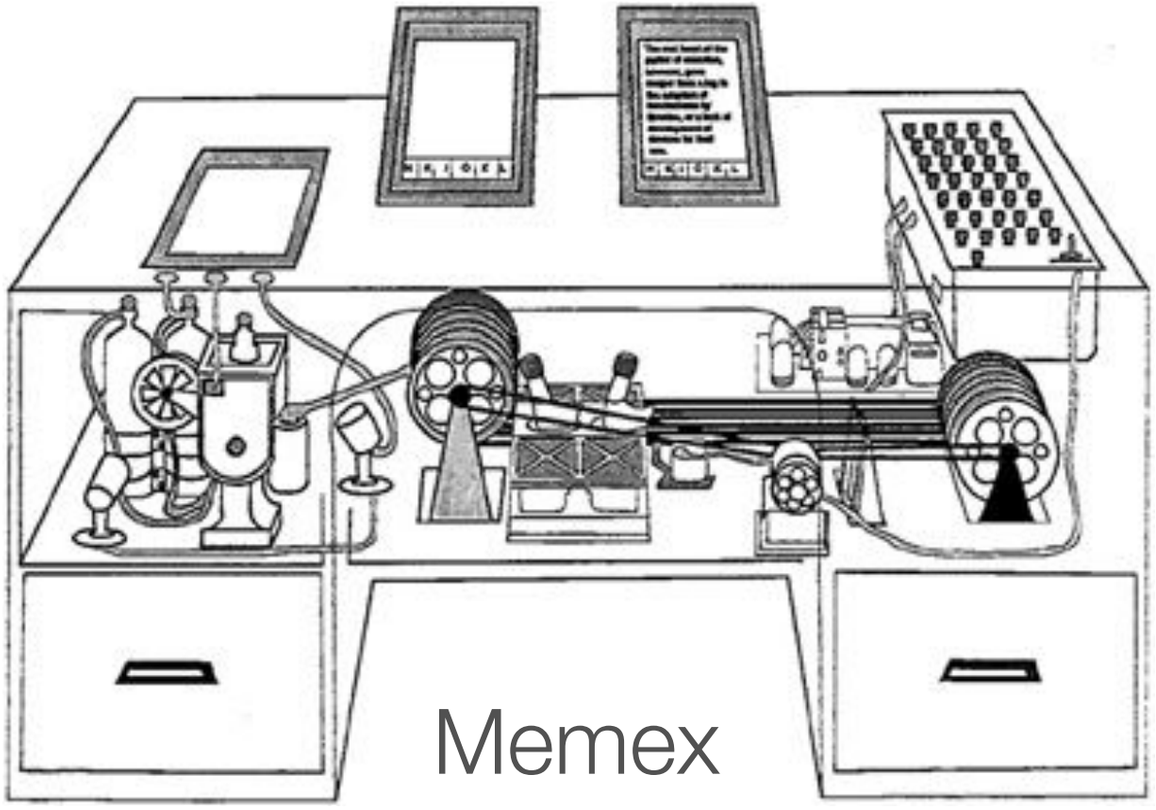
8 A prototype model—identical to the production-line product in every detail—completes the project. Exit designer. Enter sales team.

Henry Dreyfuss



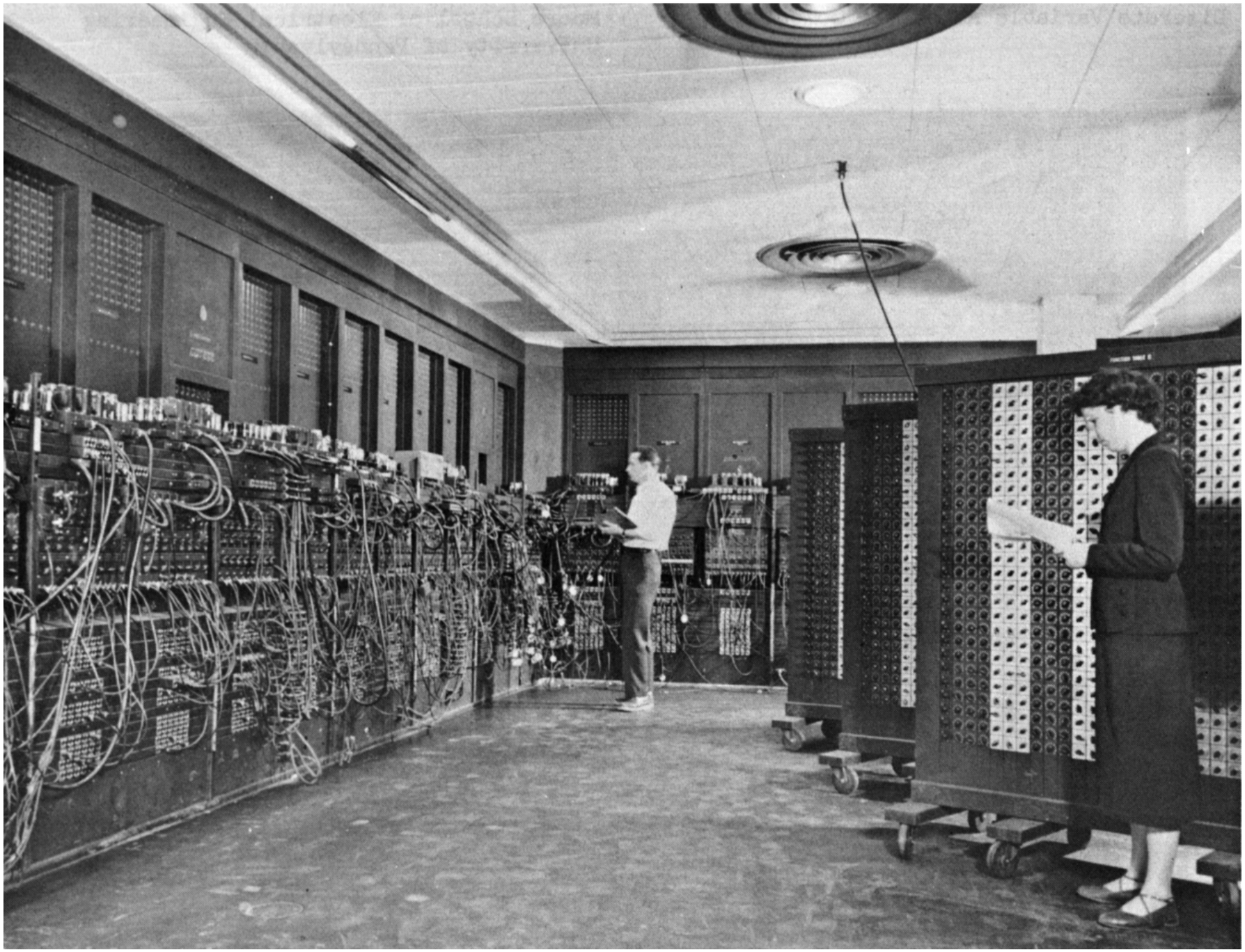


Vannevar Bush, As We May Think (1945)



“publication has been extended far beyond our present ability to make real use of the record.”

Computer science

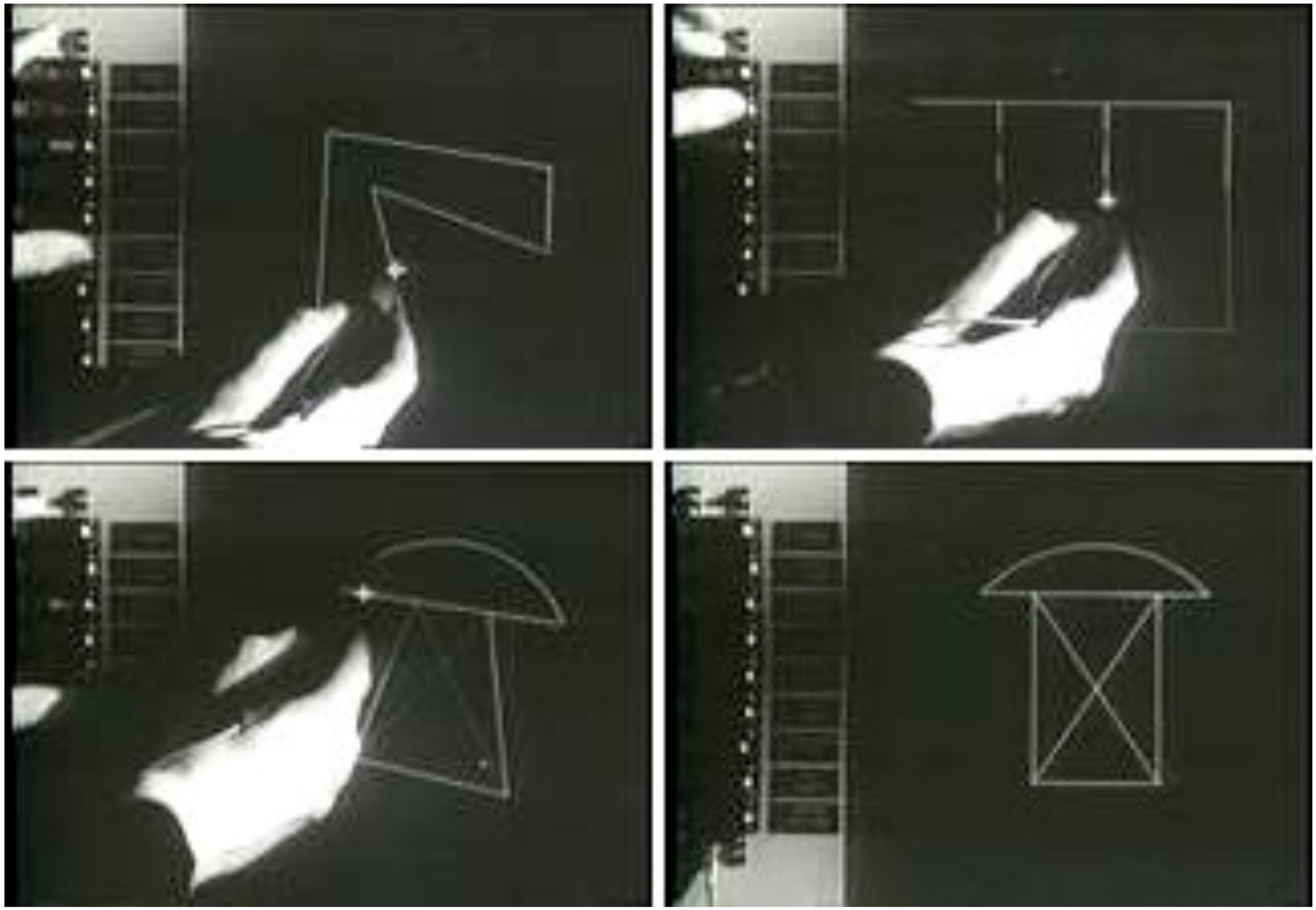


"*I think there is a world market for maybe five computers.*"

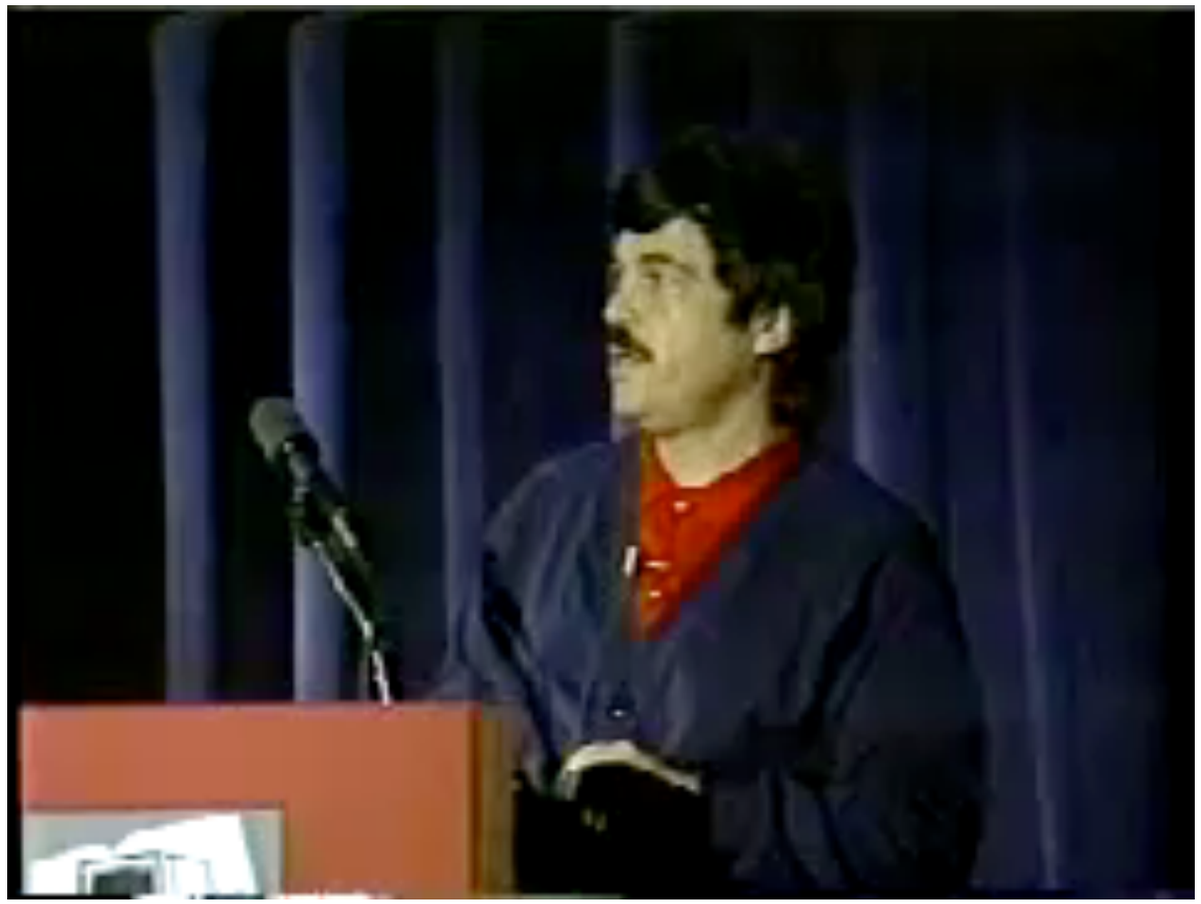
Thomas Watson, chairman of IBM, 1943

Grace Hopper and compilers

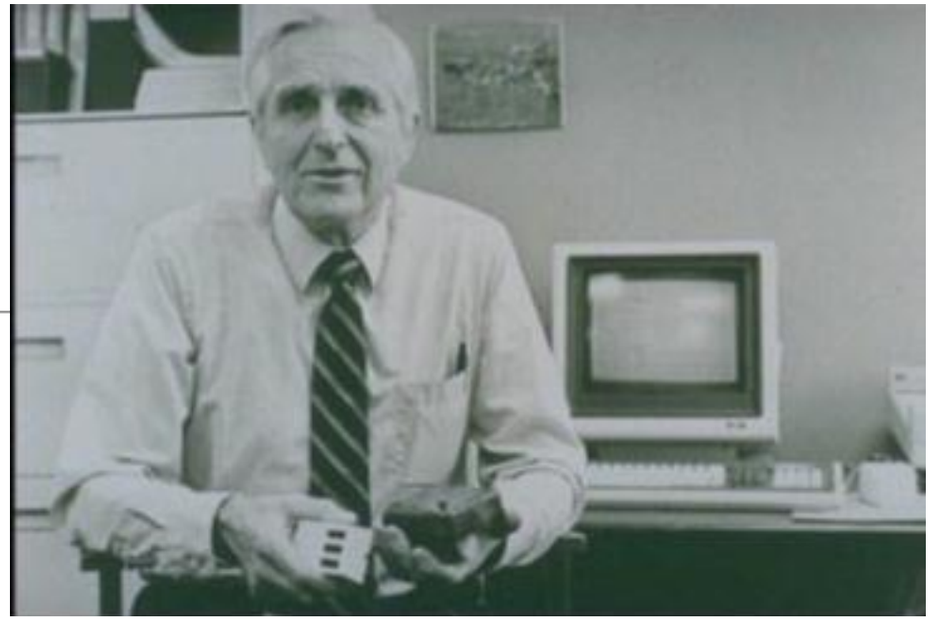
Ivan Sutherland: Sketchpad



Sketchpad



Douglas Engelbart

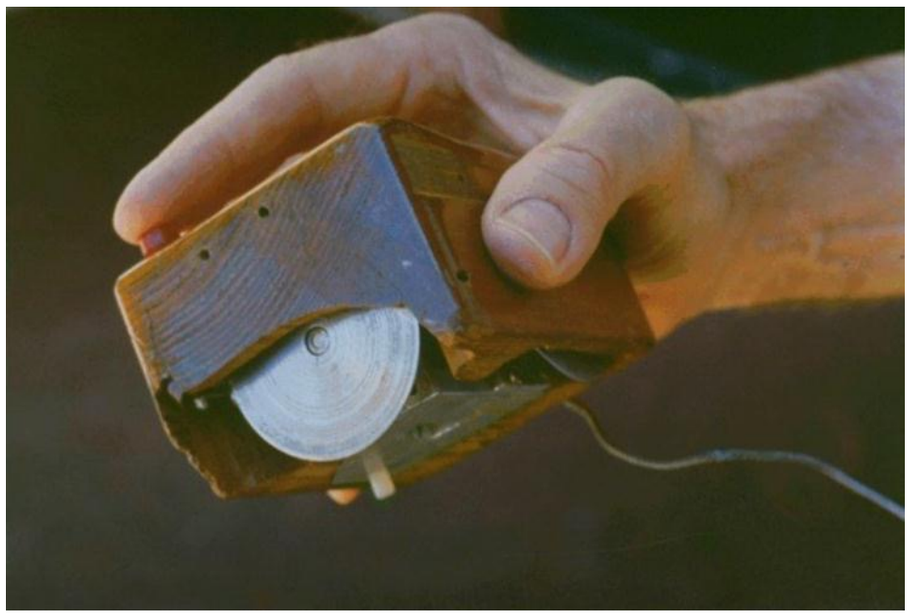


Projet NSL / Augment :

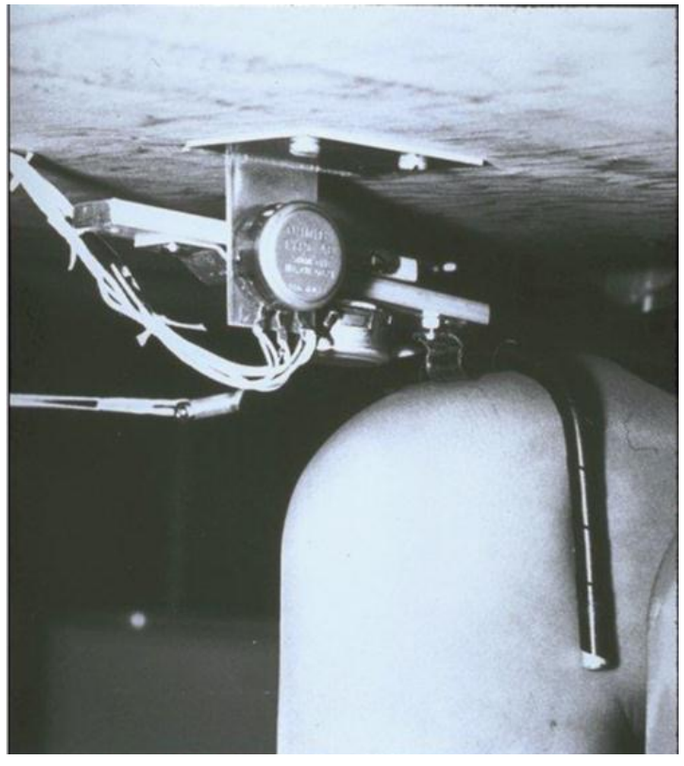
“By augmenting man’s intellect we mean increasing the capability of a man to approach a complex problem situation, gain comprehension to suit his particular needs, and to derive solutions to problems”

NSL / Augment, Douglas Engelbart

- text editing
- hypertext and hypermedia
- mouse (1963)



- high resolution display
- messaging
- visio conference
- groupware ...



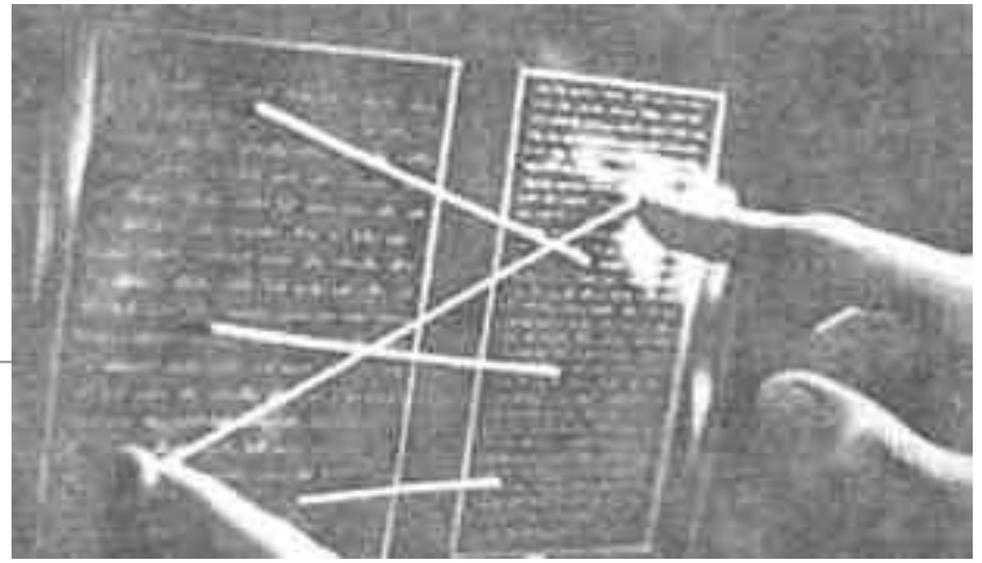
1968: the mother of all demos

https://www.youtube.com/watch?v=yJDv-zdhzMY

http://www.dougengelbart.org/firsts/dougs-1968-demo.html

http://web.stanford.edu/dept/SUL/library/extra4/sloan/MouseSite/1968Demo.html#player12

Ted Nelson



https://www.youtube.com/watch?v=KdnGPQaICjk

- Inventor of terms like hypertext and hypermedia (1968)
- Develops the ideas of V. Bush with Xanadu, a document publication system at the world scale
- Transclusion: inclusion of a fragment of document into another without any copy.
- ZigZag: for multi-dimensional data structures
- Many ideas were not understood
- An influence nonetheless

Xerox PARC (Palo Alto Research Center)

Research center created in 1970.

Amazing collection of talents researching the impact of computing on office work, learning, information management, etc.

Some inventions of PARC before 1975:

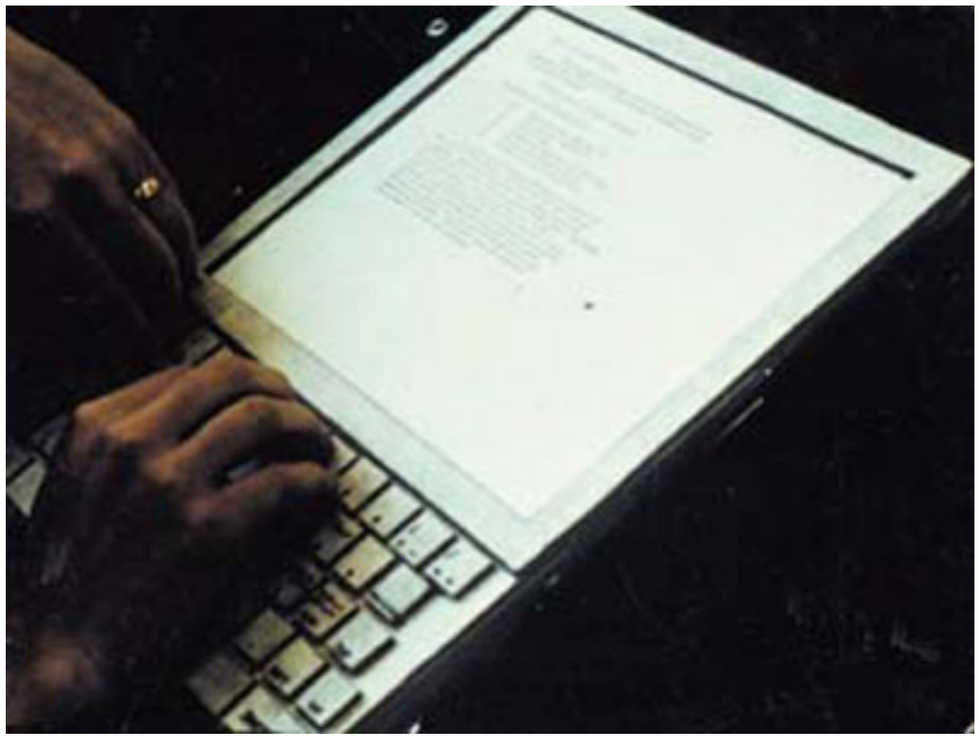
- The Alto, a work station with bitmap screen and mouse
- Copy/paste
- Windowing systems
- Laster printing
- Ethernet and local networks

Alan Kay

“The best way to predict the future is to invent it”

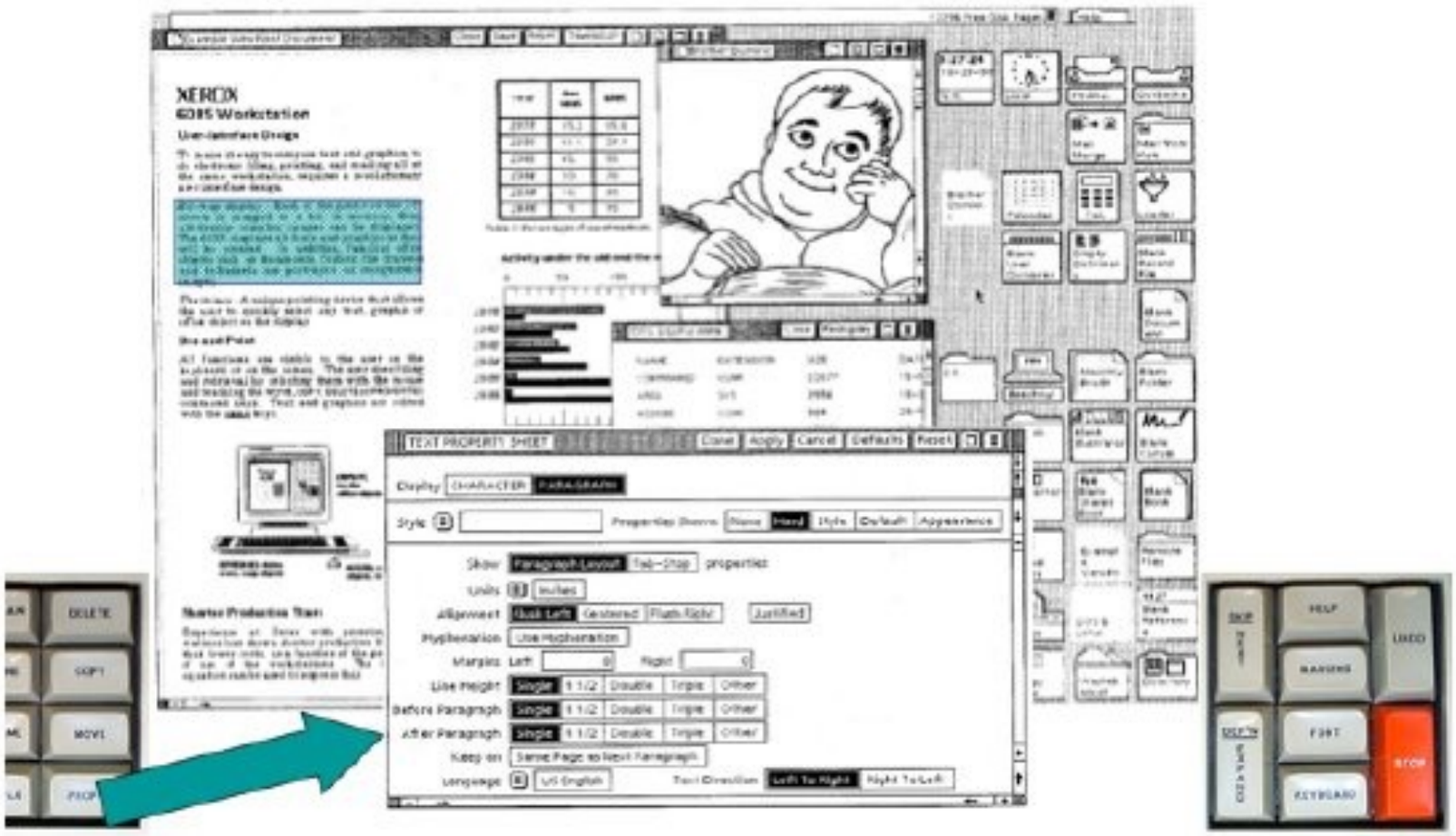
“Simple things should be simple, complex things should be possible”

- One of the founder of Xerox PARC
- The father of personal computer, inventor of the laptop (Dynabook)
- One of the father of graphical interaction and oriented object programming (Smalltalk)



The Xerox Star

- Project launched in 1975, commercialized in 1981
- 30 human-years of work for a system dedicated to ”business professionals”



Xerox Star

- Hardware design driven by software needs (task analysis, scenarios, 600-700 hours of video)
- Networked from day 1
- User Interface based on the desktop metaphor
- Windows and Icons + WYSIWYG concept
- System centered on documents (users saw no applications)
- A set of generic commands (edit, copy, paste) reachable with dedicated hotkeys.

Xerox Star

- Ethernet Connection
- Storage peripherals :
  - 10 to 40 Mo Hard drive
  - 8” disk reader
- Interaction peripherals
  - Black and white screen of 17”
  - mouse with two buttons
  - keyboard with dedicated hotkeys

Xerox Star

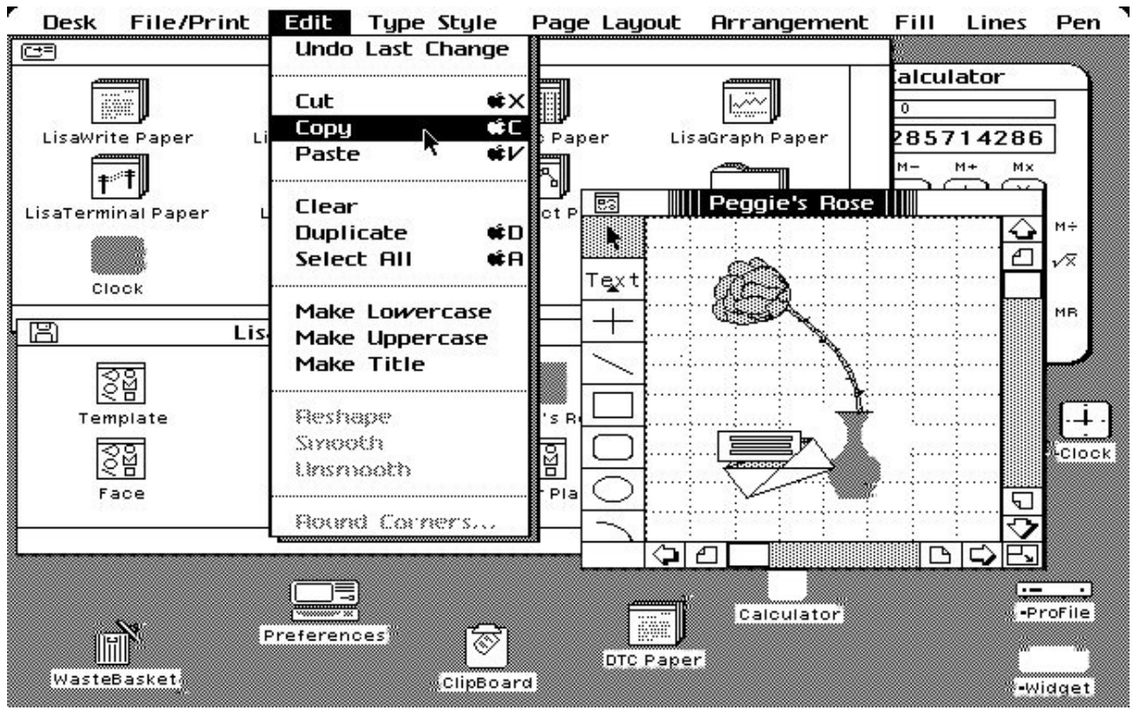
A commercial failure...

- Too new, too powerful, too different...
- Ill evaluated marketing target, e.g., no spreadsheet.
- Too expensive ($16,500)
- A closed architecture (impossible to develop application without Xerox)
- little political will to get out of the photocopy business

... but a major influence on existing systems

Apple Lisa (1983)

- Inspired from the Star, but a little cheaper ($10,000)
- Targeted at the broader public
- Another commercial failure...



Apple Macintosh (1984-)

A menu bar, modal dialog boxes, and visible applications inherited from Apple II

Reasons of success:

- mature ideas, market ready to accept them
- a much cheaper price ($2,500) to reach the public
- a toolkit to support external development
- detailed style guides to push for consistency across applications

1. Professional tools
   Video gaming
2. Work or
   specific use at home

1. Varied audiences
2. Multiple contexts of use
   work, school, home,
   free time…

25 years ago

Today

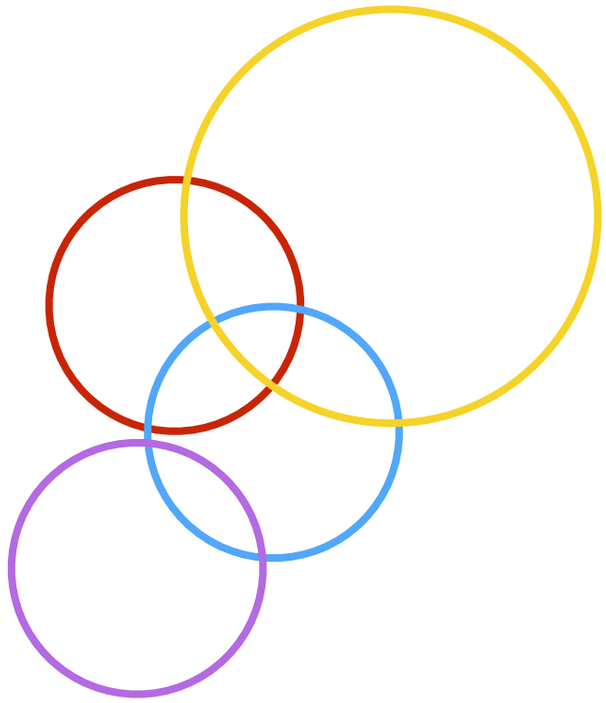
Outline

- Practical matters
- A quick history of UX
- What is UX Design?

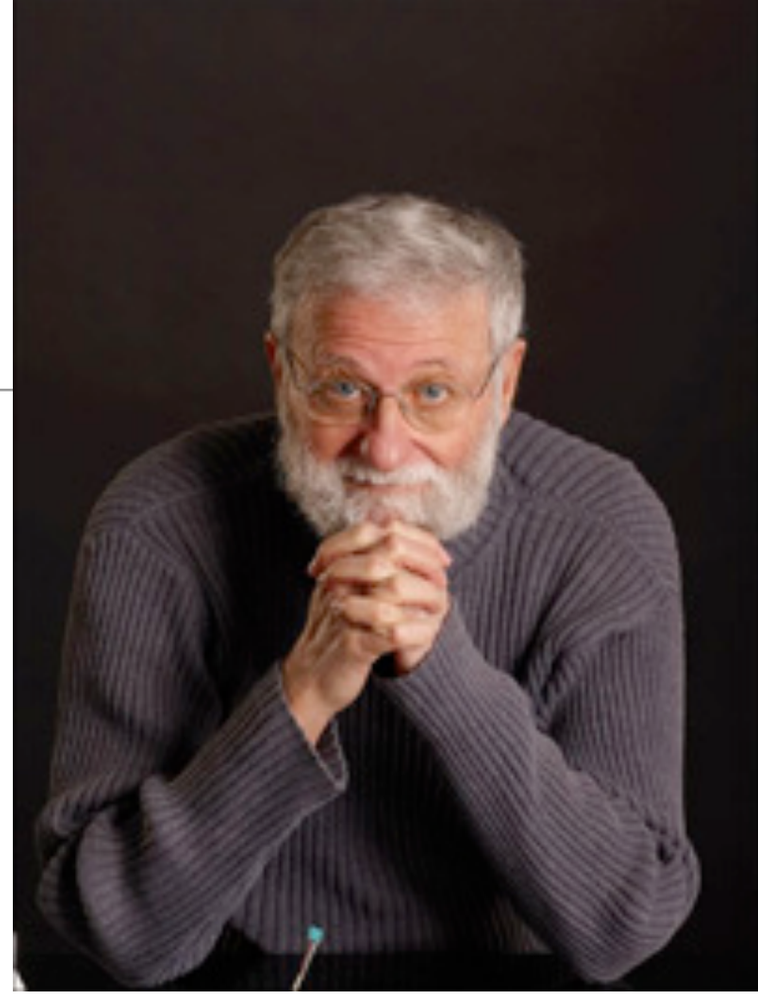
- Project presentation
- Group formation

For next week

- Réfléchir aux disciplines qui se rapportent à l'expérience utilisateur.
  - Architecture de l'Information, Design, Psychologie…
- Présenter votre vision/synthèse sous forme de diagramme de Venn arrangé
- De quoi démarrer : http://www.slideshare.net/Hienadz.Drahun/50-visual-definitions-of-user-experience
- Utiliser draw.io
- Discussion en classe la semaine prochaine



Don Norman



Academic carrier in Psychology and Cognitive Science

Co-director of the Design Lab at the University of California in San Diego.

Former Vice President at Apple.

First to use User Experience in this job title

Author of *Emotional Design*, *Living with Complexity*, and *Design of Everyday Things*.

A short history of UX as a term

- Appeared in scientific articles in the 70s
- Popularized by Don Norman in the 90s
- Pushes beyond existing terms such as User Interface (UI), usability (ergonomie) or Human Computer Interaction.
- Clarifies emerging names, e.g., digital design, interaction design, etc.
- Puts the overall outcome above the product or its interface -> hence the Design process

Norman on UX

http://www.peterme.com/index112498.html

“I invented the term because I thought Human Interface and usability were too narrow: I wanted to cover all aspects of the person's experience with a system, including industrial design, graphics, the interface, the physical interaction, and the manual.

Since then, the term has spread widely, so much so that it is starting to lose its meaning.”

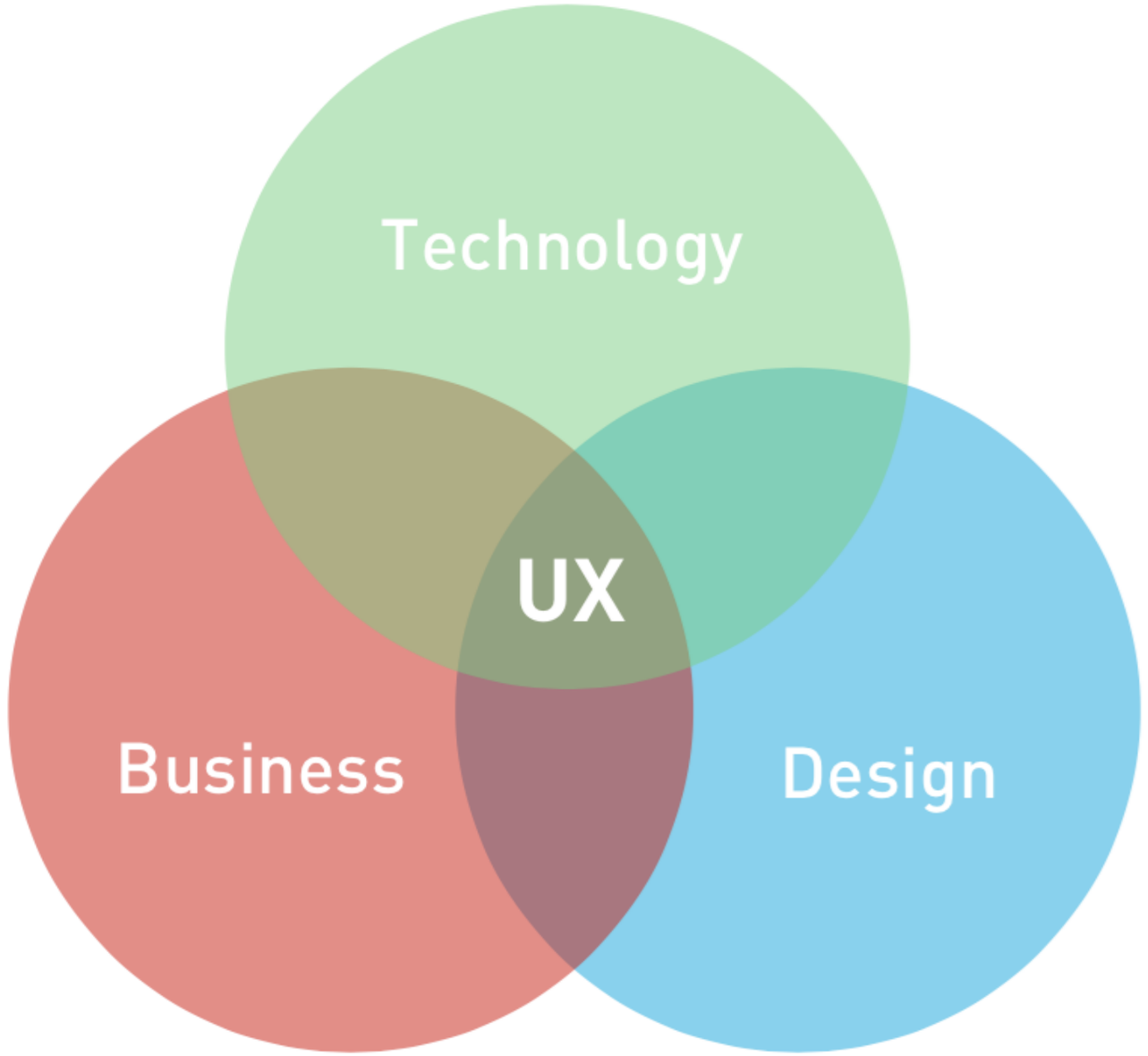
What is UX

A definition (among many) :

- "*All the aspects of how people use an interactive product: the way it feels in their hands, how well they understand how it works, how they feel about it while they're using it, how well it serves their purposes, and how well it fits into the entire context in which they are using it*."
  Alben, L. 1996, Quality of Experience. Interactions, 3 (3), 11-15

- See *Towards a Shared Definition of User Experience* for more definitions

User Experience Design



©Peter Morville
http://semanticstudios.com

The facets of experience design

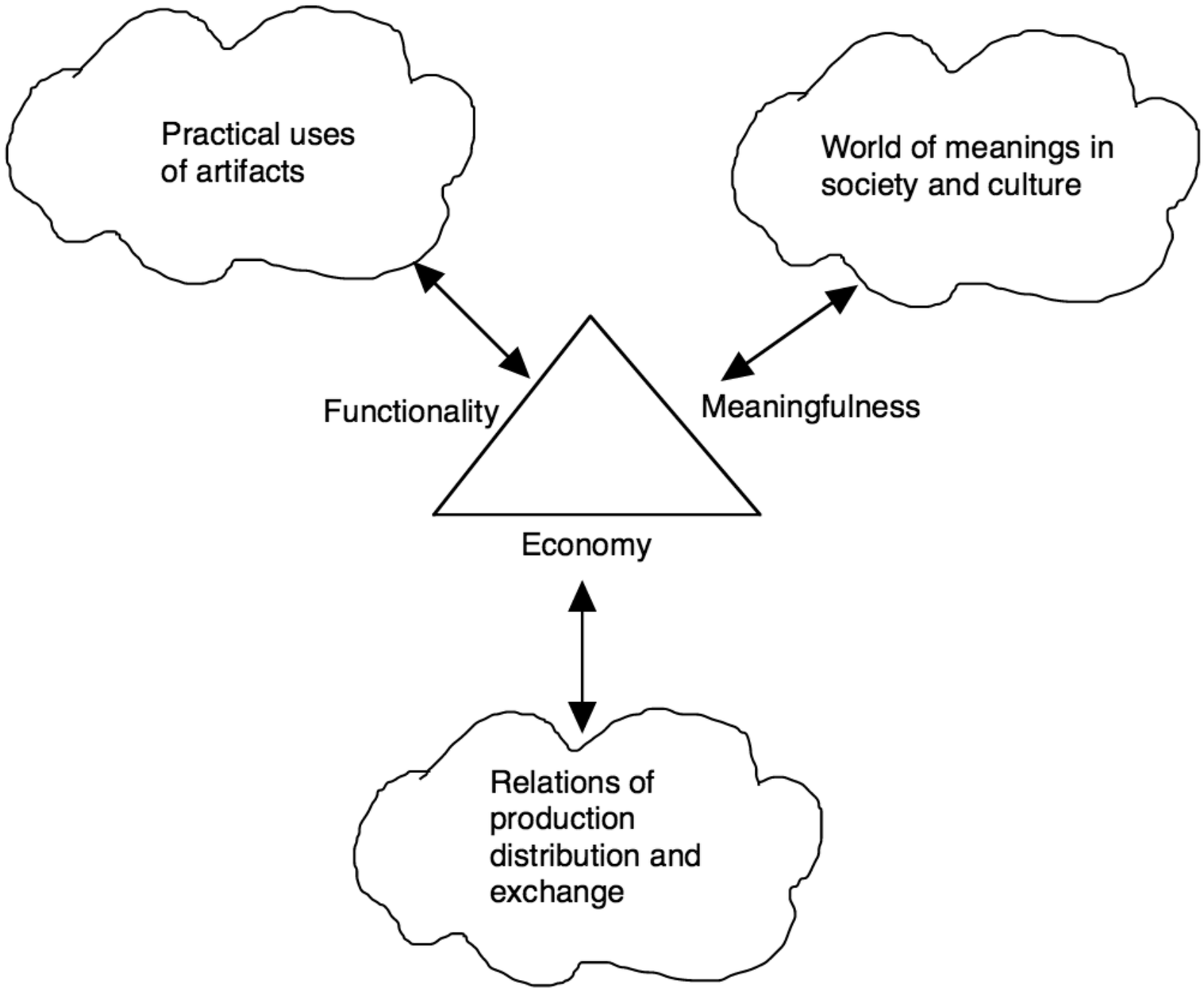


Figure from *Kari Kuutti. "HCI and design: uncomfortable bedfellows."*
In (Re)searching the Digital Bauhaus. Springer, Binder, Löwgren & Malmborg (eds.) (2009): 43-59.

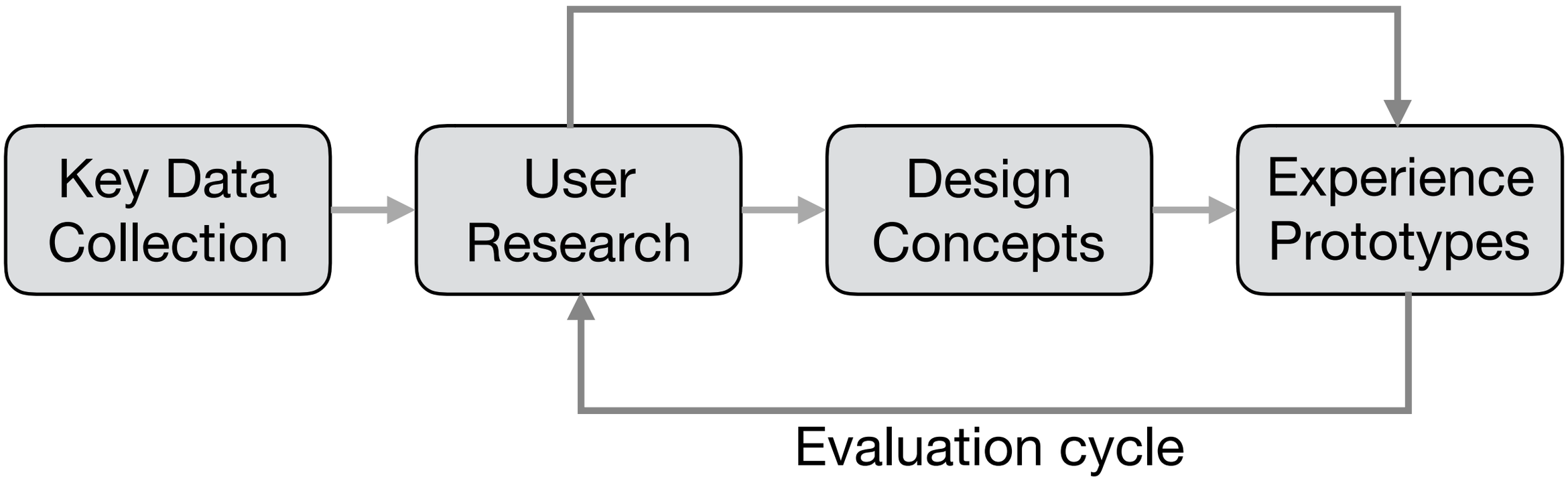
Surtout une approche orientée vers la conception

UX is a *Design* discipline

This implies :

- Reflective stance
- Empathy with people for whom you design
- Unique methods suited to the specific context and problems of the projects tackled

UX design cycle



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