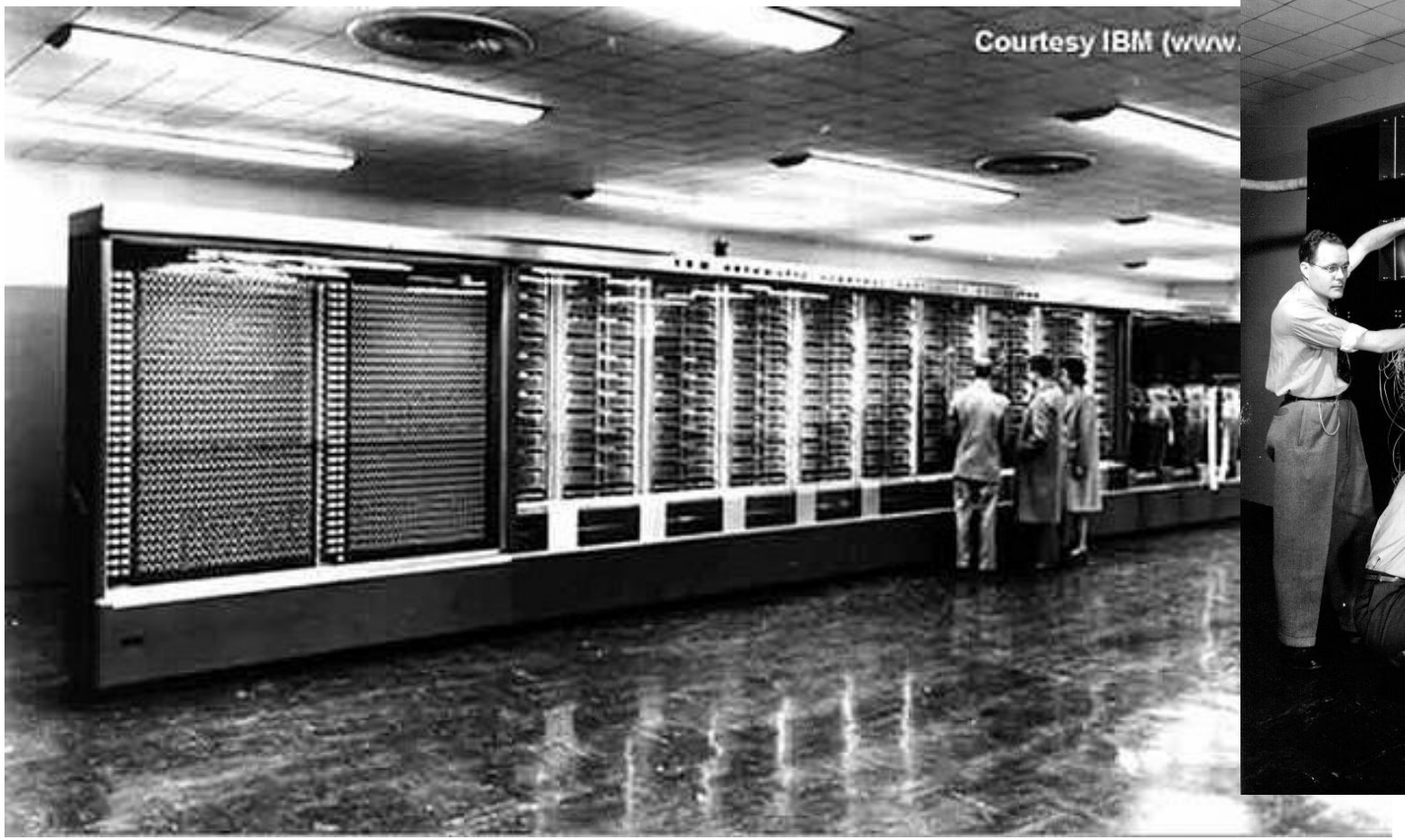

CAN'T YOU DO ANYTHING RIGHT?
GASBERGEN

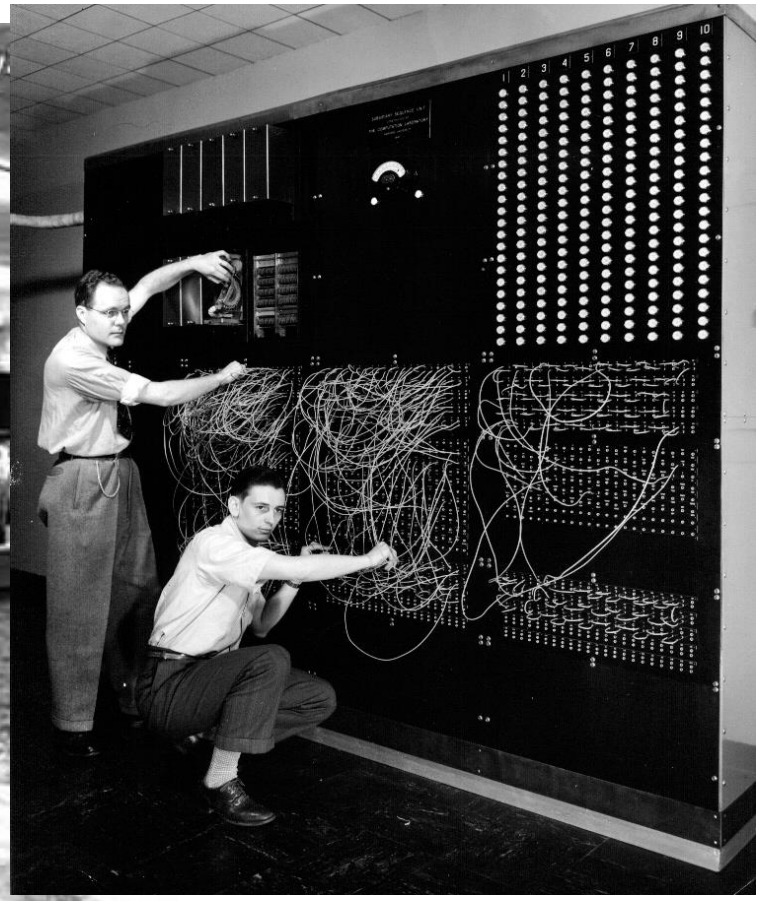
Pensamiento de diseño, Diseño Centrado en los Usuarios y Métodos Ágiles

MÉTODOS ÁGILES PARA APLICACIONES WEB

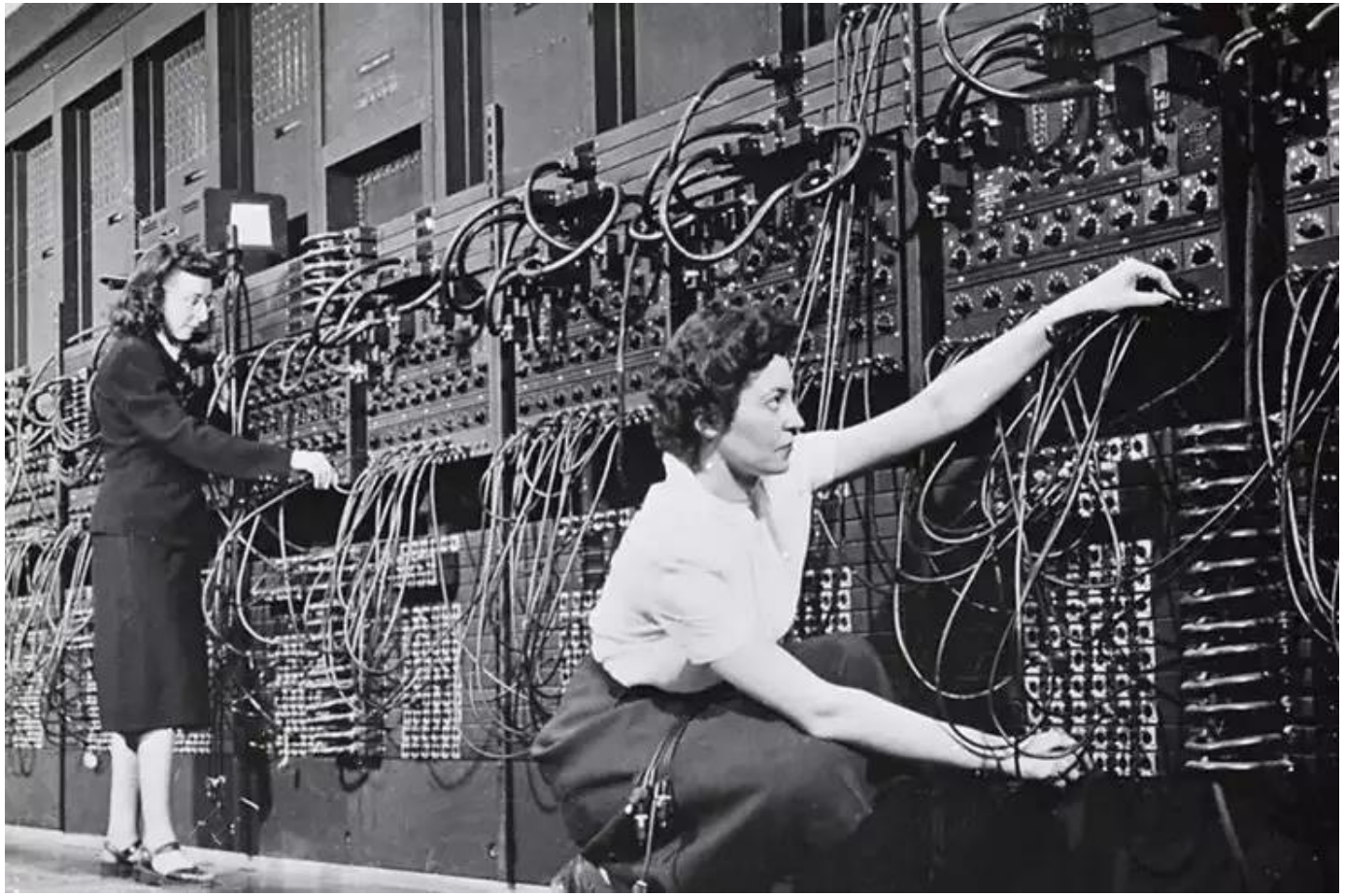
FACULTAD DE INFORMÁTICA UNLP 2019

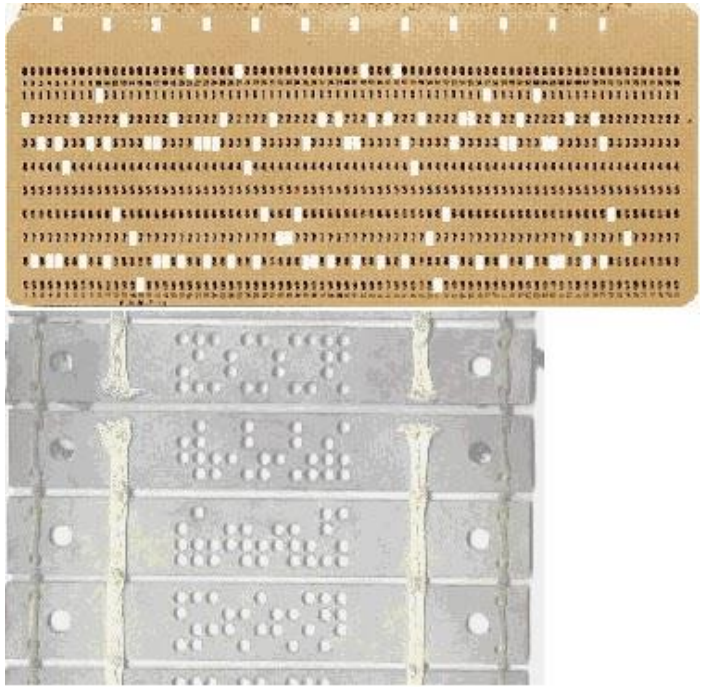
1945





1945





Vannevar Bush.

As we may think

- Publicado en Atlantic Monthly, Julio de 1945

Visión del futuro

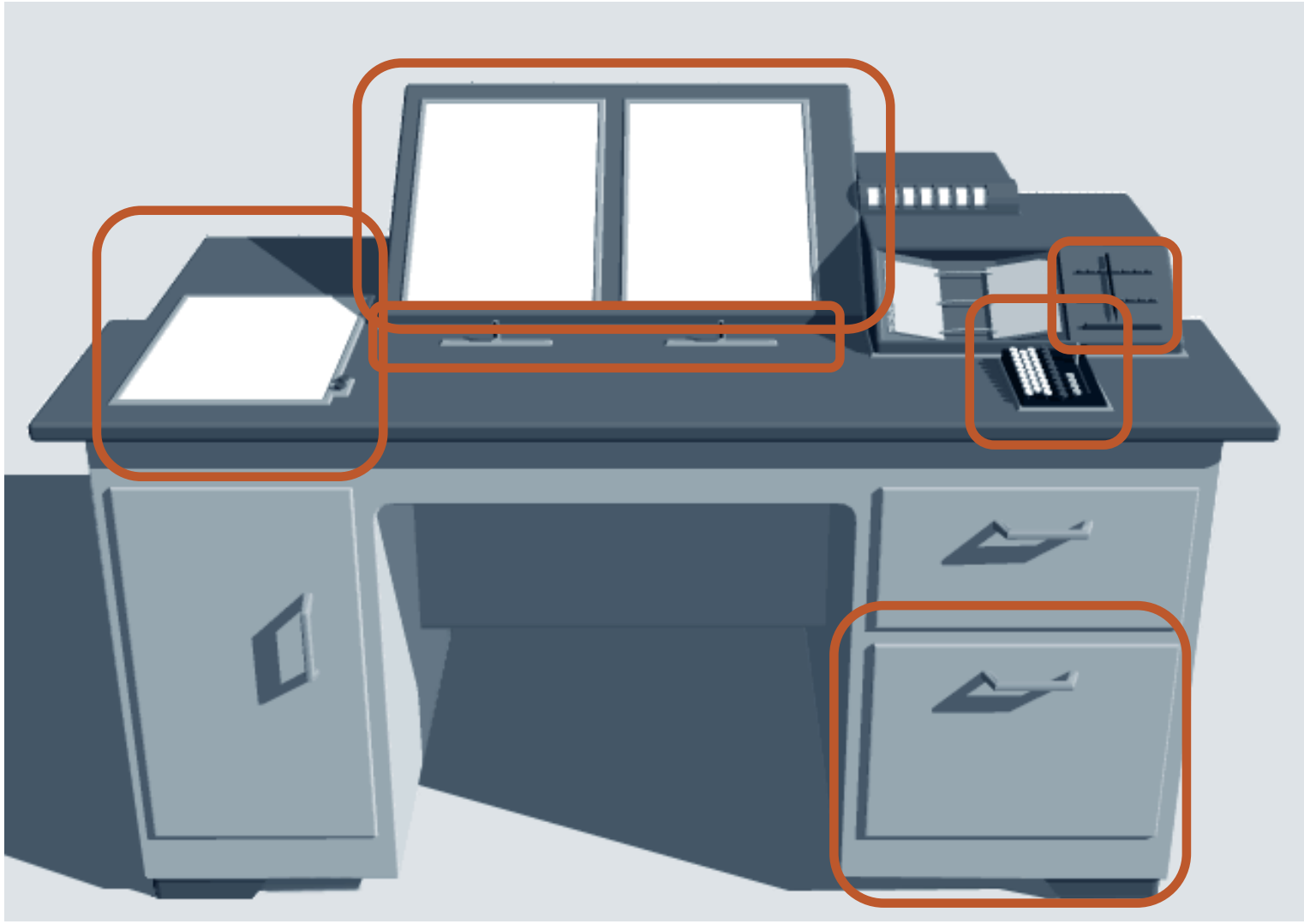
Máquinas que piensan


AS WE MAY THINK

A TOP U. S. SCIENTIST FORESEES A POSSIBLE FUTURE WORLI
IN WHICH MAN-MADE MACHINES WILL START TO THINI

by VANNEVAR BUSH

「LIFE」1945年9月10日号に特集された「AS WE MAY THINK」のページ
「LIFE」1945年9月10日号より引用
"AS WE MAY THINK," From the Atlantic Monthly, July 1945

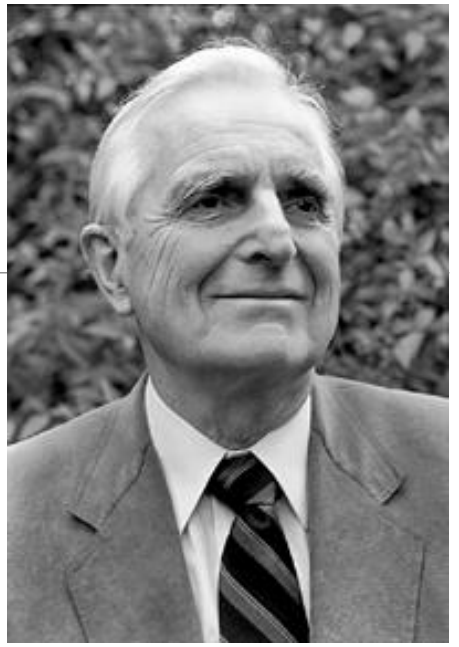


1965

S Bild-F038812-0014 / Schaack,

1965

Douglas Engelbart



Stanford Research Institute (SRI)
Proyecto Aumentar el intelecto humano

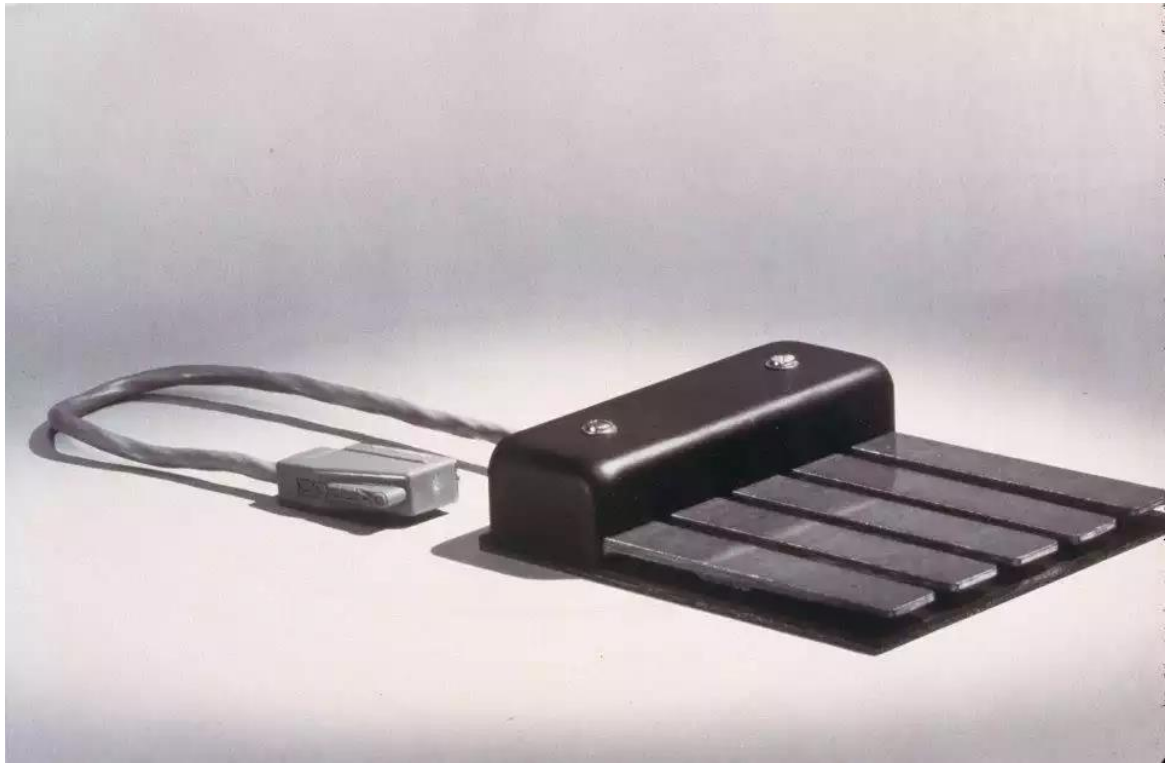
1962 “Conceptual Model for Augmenting Human Intellect”

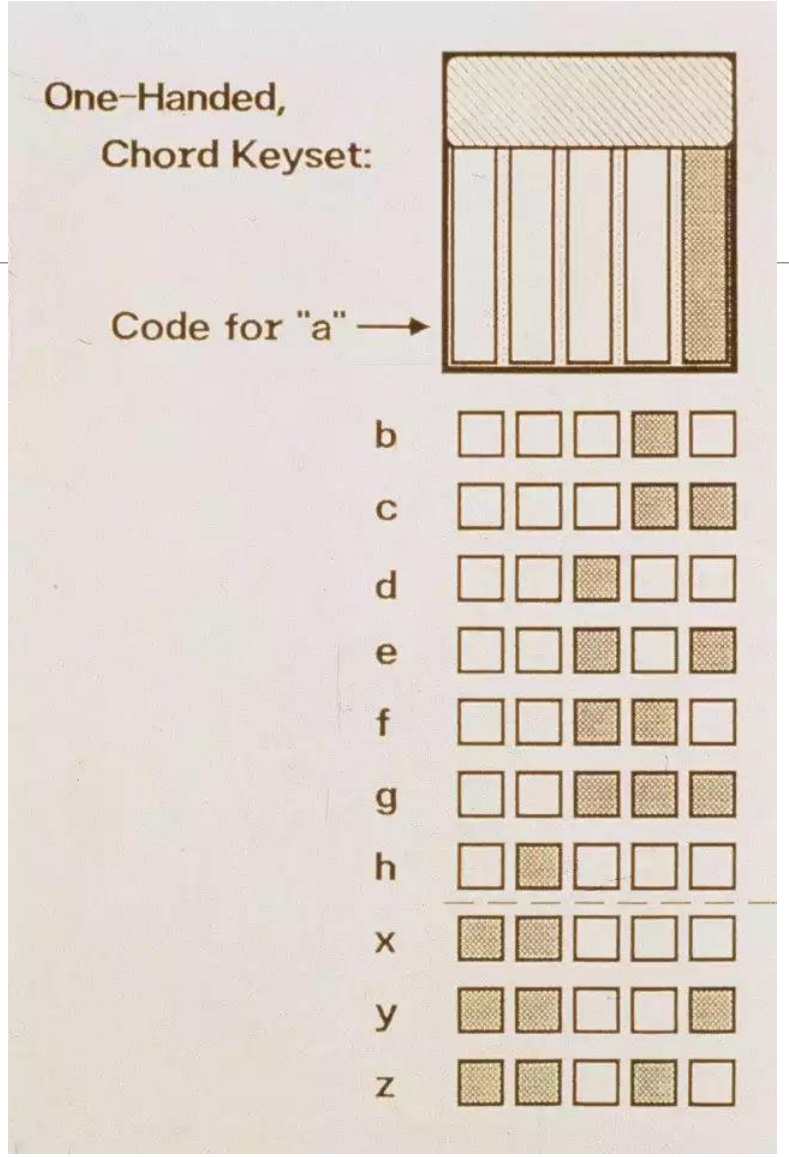
- La respuesta a la creciente complejidad de los problemas es la creación de nuevas herramientas para resolverlos

1968 La madre de todas las demos
NLS (oNLine System)


Applications

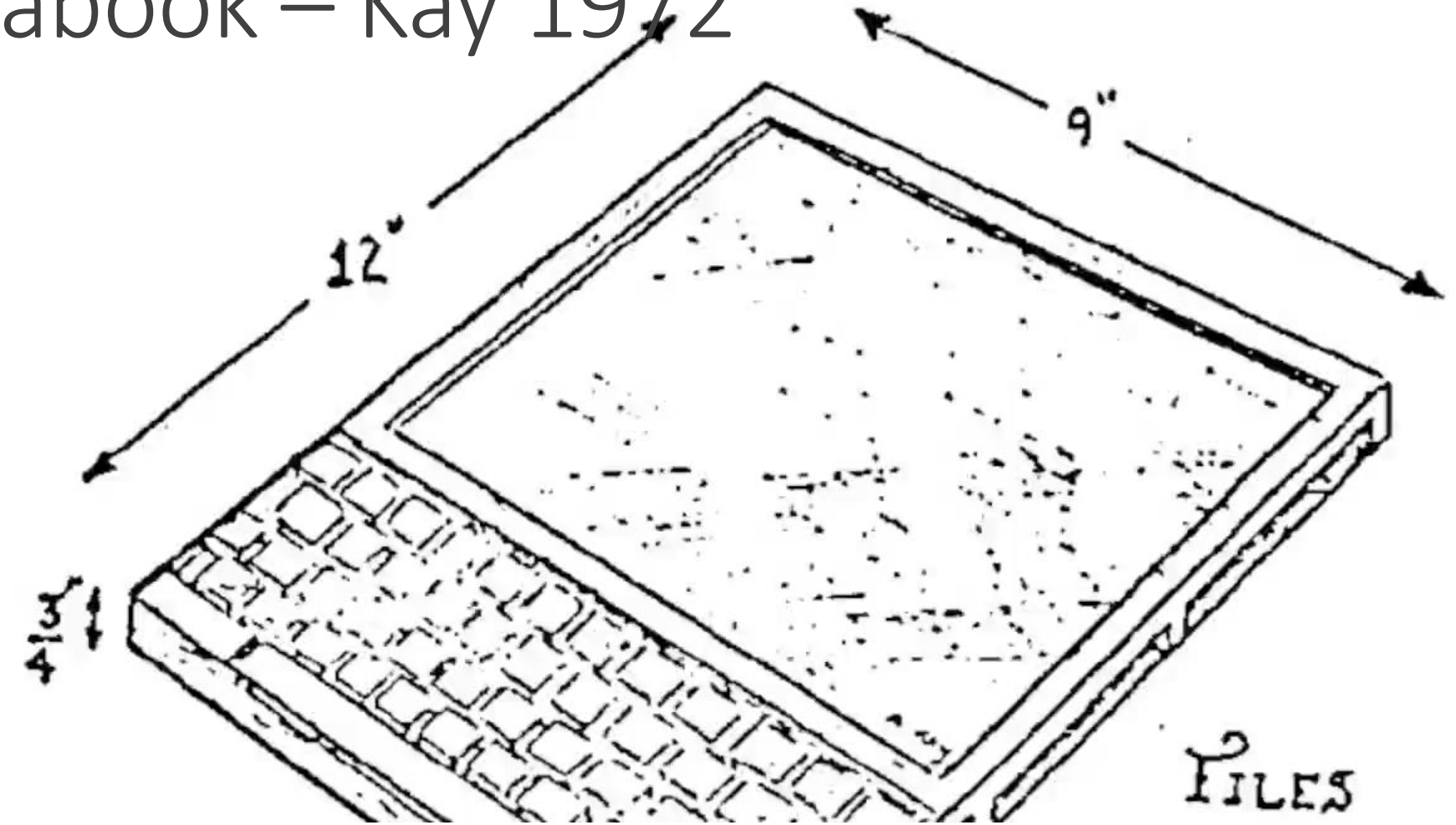
Teclado de acordes



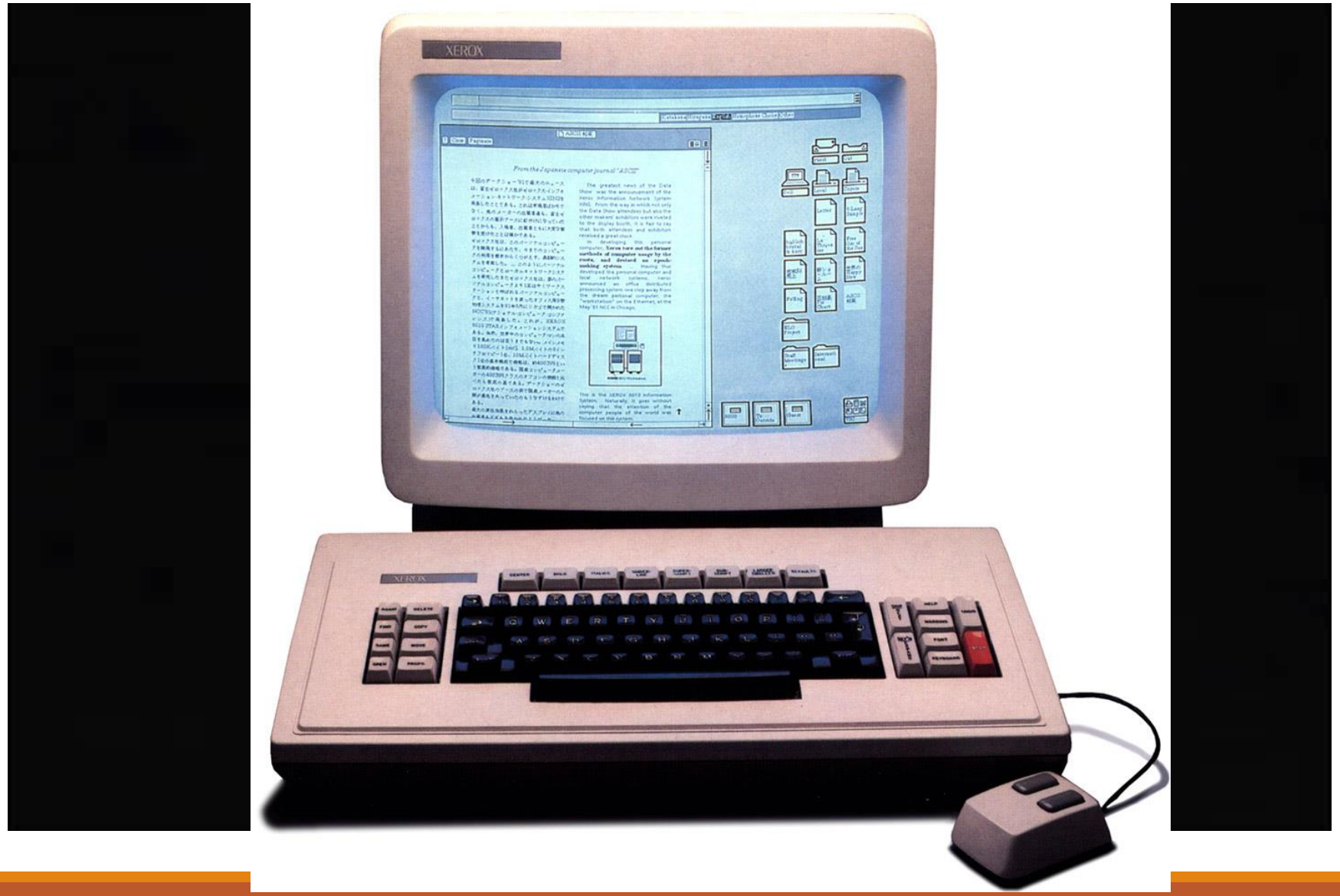


SketchPad Sutherland 1963

Dynabook – Kay 1972



Xerox Star Primera GUI comercial 1981

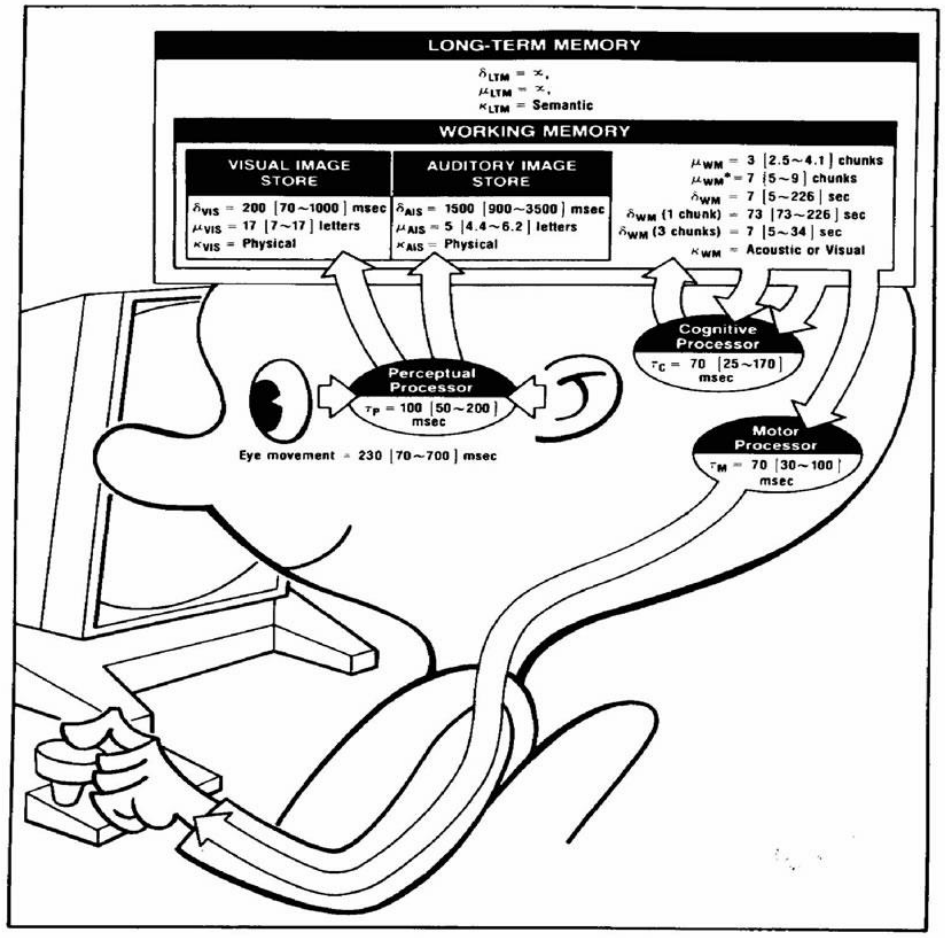


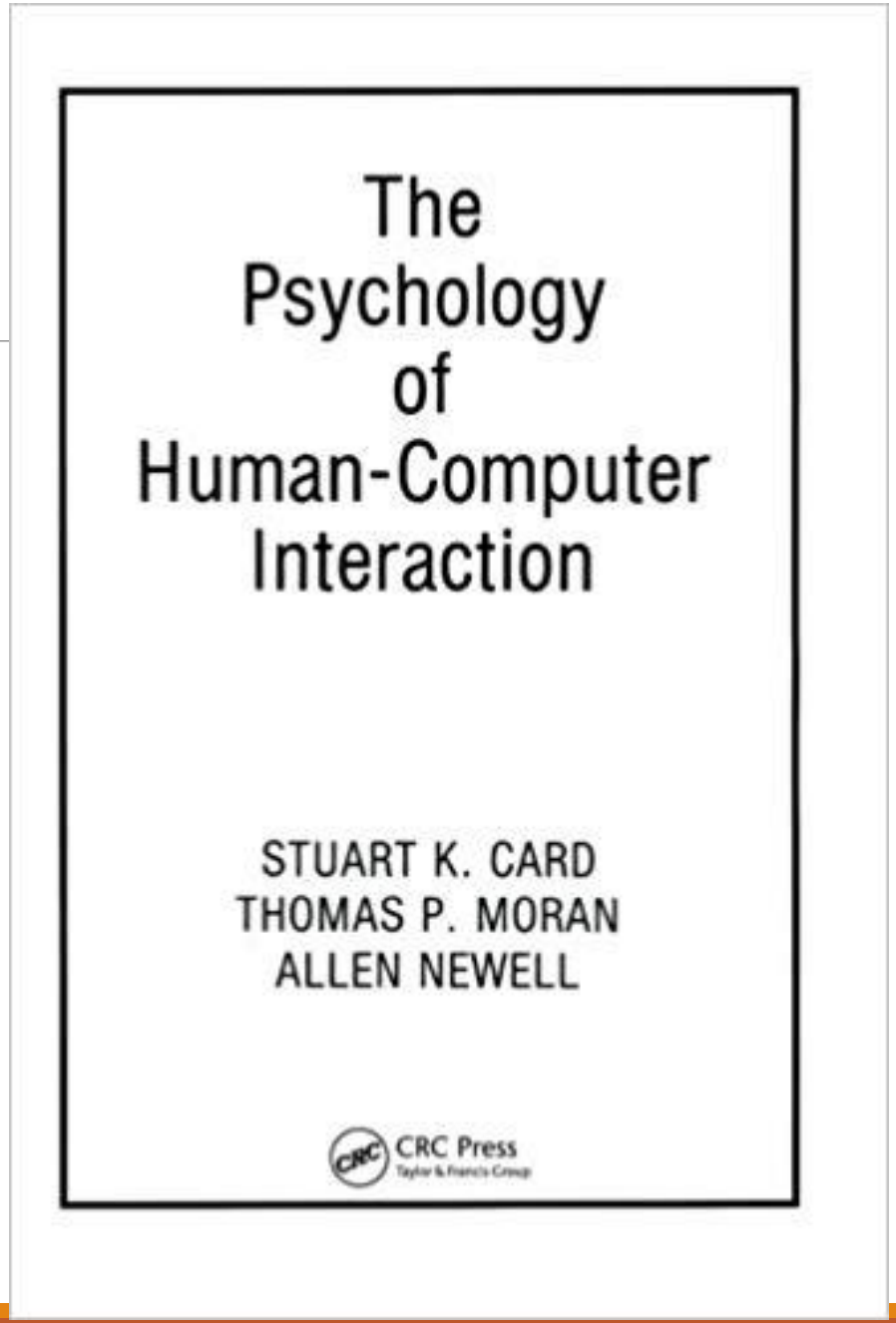
1991 Weiser

1978 Visicalc

https://www.ted.com/talks/dan_bricklin_meet_the_inventor_of_the_electronic_spreadsheet?language=es#t-707911

1986

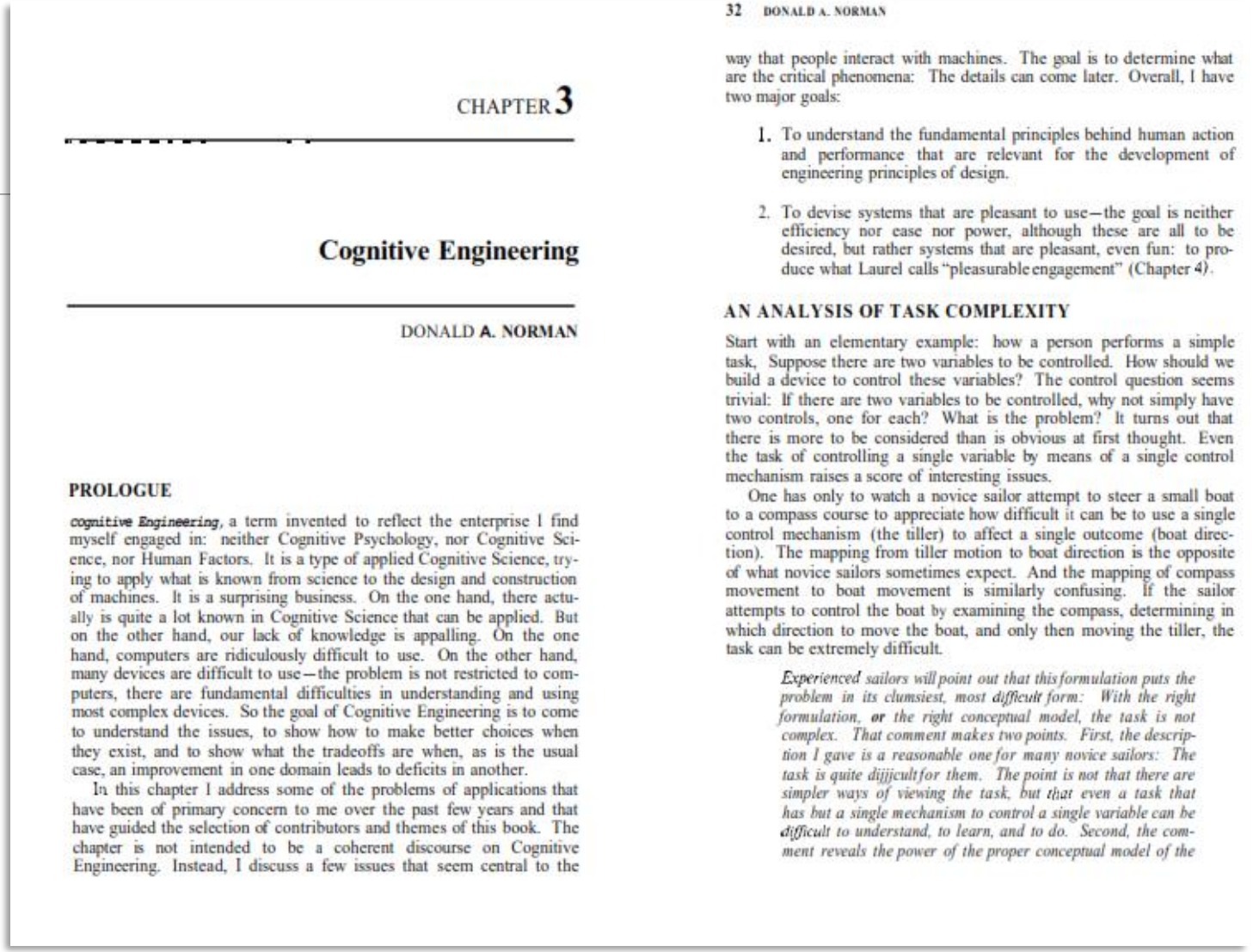

LONG-TERM MEMORY
$\delta_{LTM} = \infty$,
$\mu_{LTM} = \infty$,
κ_{LTM} = Semantic
WORKING MEMORY
VISUAL IMAGE STORE
δ_{VIS} = 200 [70~1000] msec
μ_{VIS} = 17 [7~17] letters
κ_{VIS} = Physical
AUDITORY IMAGE STORE
δ_{AIS} = 1500 [900~3500] msec
μ_{AIS} = 5 [4.4~6.2] letters
κ_{AIS} = Physical
μ_{WM} = 3 [2.5~4.1] chunks
μ_{WM}* = 7 [5~9] chunks
δ_{WM} = 7 [5~226] sec
δ_{WM} (1 chunk) = 73 [73~226] sec
δ_{WM} (3 chunks) = 7 [5~34] sec
κ_{WM} = Acoustic or Visual
Cognitive Processor
τ_C = 70 [25~170] msec
Perceptual Processor
τ_P = 100 [50~200] msec
Motor Processor
τ_M = 70 [30~100] msec
Eye movement = 230 [70~700] msec


The Psychology of Human-Computer Interaction
STUART K. CARD
THOMAS P. MORAN
ALLEN NEWELL
CRC Press

1987

Interfacing thought: cognitive aspects of human-computer interaction

Pages 325-336
MIT Press Cambridge, MA, USA
©1987



CHAPTER 3

Cognitive Engineering

DONALD A. NORMAN

PROLOGUE

cognitive Engineering, a term invented to reflect the enterprise I find myself engaged in: neither Cognitive Psychology, nor Cognitive Science, nor Human Factors. It is a type of applied Cognitive Science, trying to apply what is known from science to the design and construction of machines. It is a surprising business. On the one hand, there actually is quite a lot known in Cognitive Science that can be applied. But on the other hand, our lack of knowledge is appalling. On the one hand, computers are ridiculously difficult to use. On the other hand, many devices are difficult to use—the problem is not restricted to computers, there are fundamental difficulties in understanding and using most complex devices. So the goal of Cognitive Engineering is to come to understand the issues, to show how to make better choices when they exist, and to show what the tradeoffs are when, as is the usual case, an improvement in one domain leads to deficits in another.

In this chapter I address some of the problems of applications that have been of primary concern to me over the past few years and that have guided the selection of contributors and themes of this book. The chapter is not intended to be a coherent discourse on Cognitive Engineering. Instead, I discuss a few issues that seem central to the

way that people interact with machines. The goal is to determine what are the critical phenomena: The details can come later. Overall, I have two major goals:

1. To understand the fundamental principles behind human action and performance that are relevant for the development of engineering principles of design.

2. To devise systems that are pleasant to use—the goal is neither efficiency nor ease nor power, although these are all to be desired, but rather systems that are pleasant, even fun: to produce what Laurel calls "pleasurable engagement" (Chapter 4).

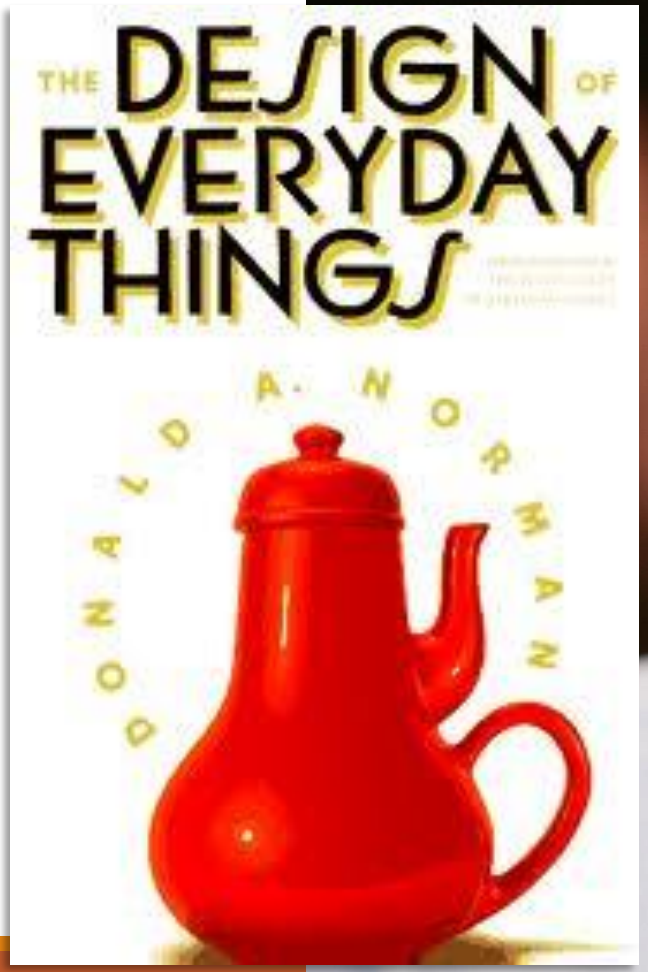
AN ANALYSIS OF TASK COMPLEXITY

Start with an elementary example: how a person performs a simple task, Suppose there are two variables to be controlled. How should we build a device to control these variables? The control question seems trivial: If there are two variables to be controlled, why not simply have two controls, one for each? What is the problem? It turns out that there is more to be considered than is obvious at first thought. Even the task of controlling a single variable by means of a single control mechanism raises a score of interesting issues.

One has only to watch a novice sailor attempt to steer a small boat to a compass course to appreciate how difficult it can be to use a single control mechanism (the tiller) to affect a single outcome (boat direction). The mapping from tiller motion to boat direction is the opposite of what novice sailors sometimes expect. And the mapping of compass movement to boat movement is similarly confusing. If the sailor attempts to control the boat by examining the compass, determining in which direction to move the boat, and only then moving the tiller, the task can be extremely difficult.

> *Experienced sailors will point out that this formulation puts the problem in its clumsiest, most difficult form: With the right formulation, or the right conceptual model, the task is not complex. That comment makes two points. First, the description I gave is a reasonable one for many novice sailors: The task is quite dijjjcult for them. The point is not that there are simpler ways of viewing the task, but that even a task that has but a single mechanism to control a single variable can be difficult to understand, to learn, and to do. Second, the comment reveals the power of the proper conceptual model of the*

1988




NEED
TOOL
CAPABILITY

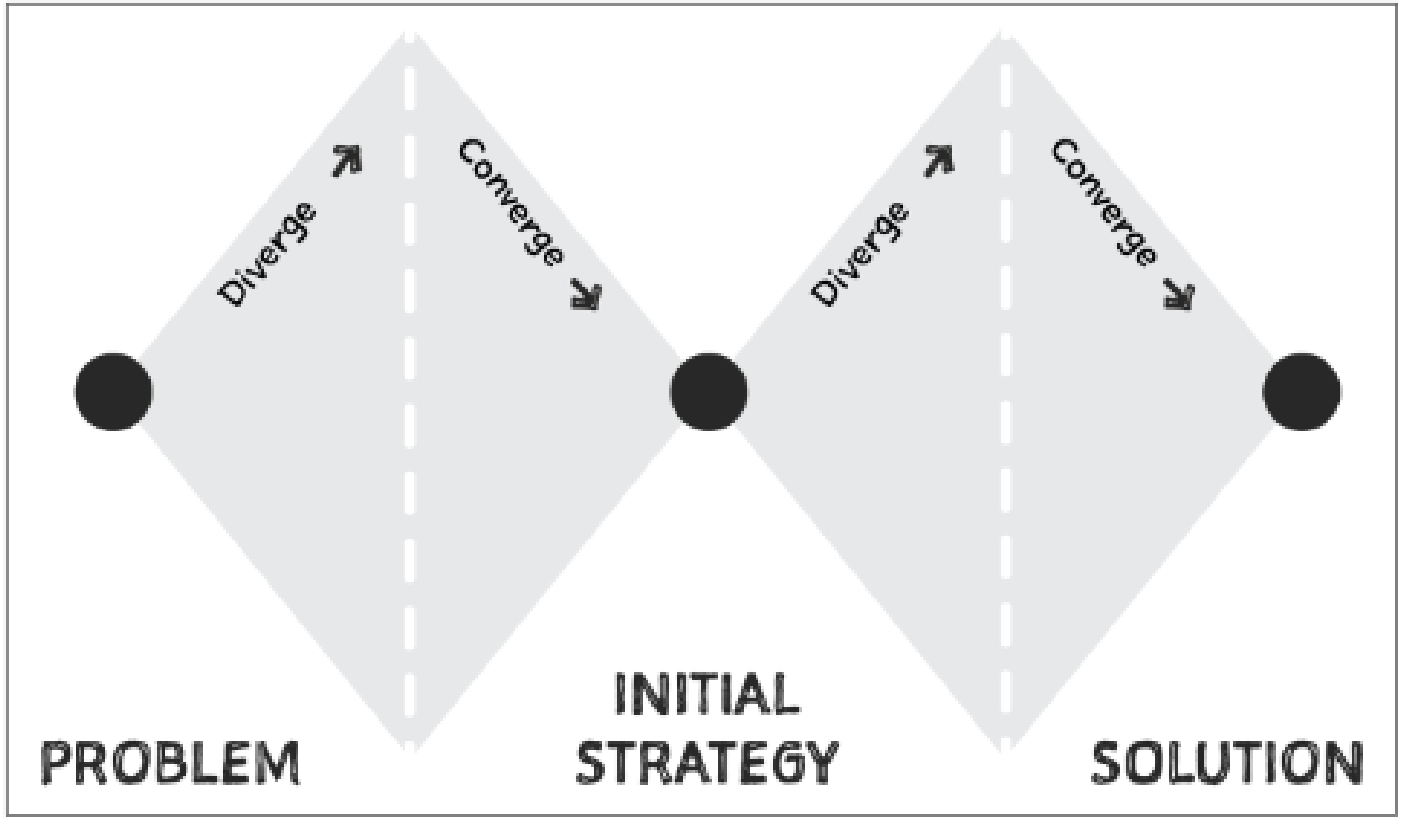

THIS PART
FITS THE
PROBLEM
THIS PART
FITS THE
PERSON

La persona y su tarea

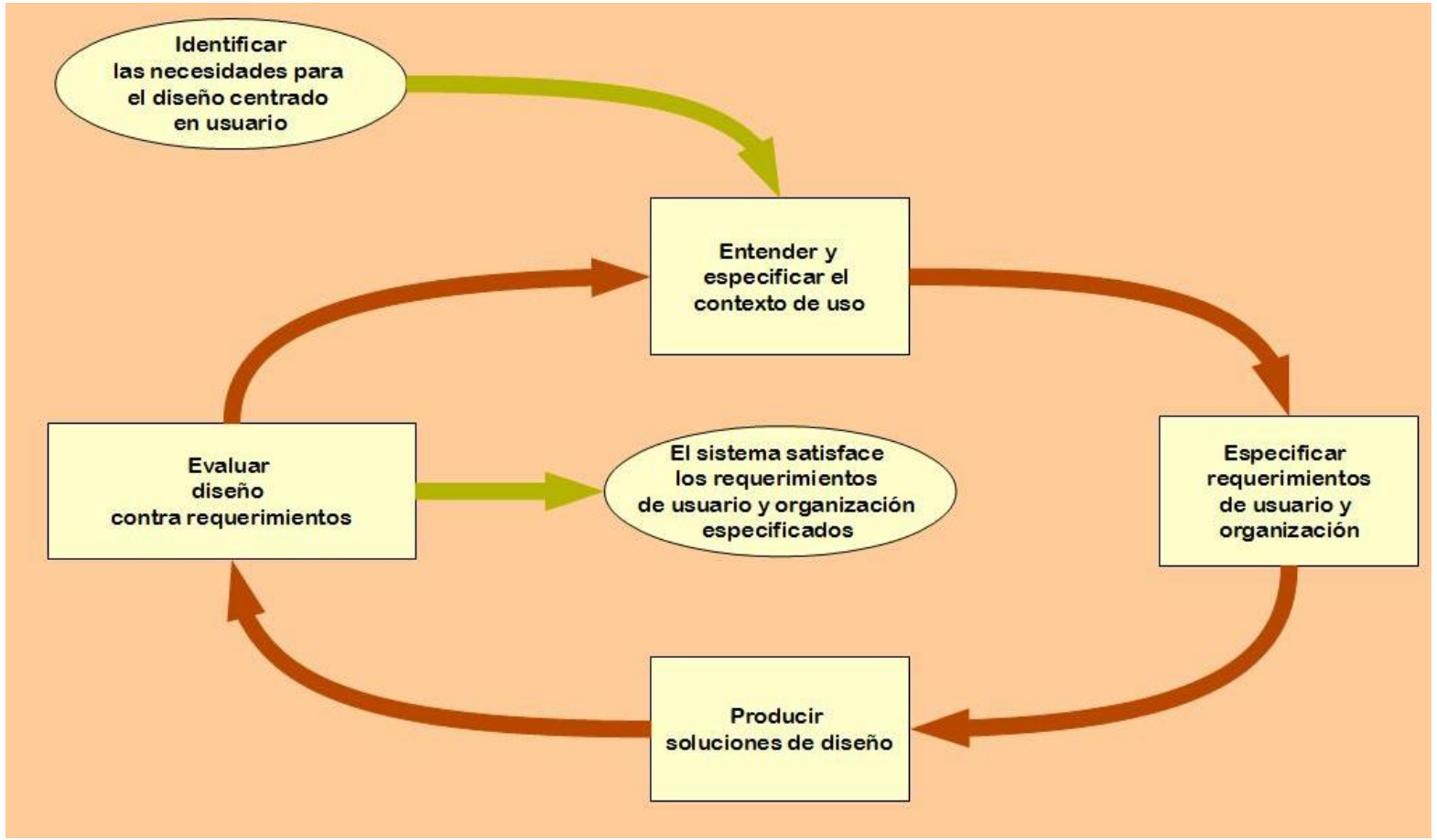
La persona REAL y su tarea REAL

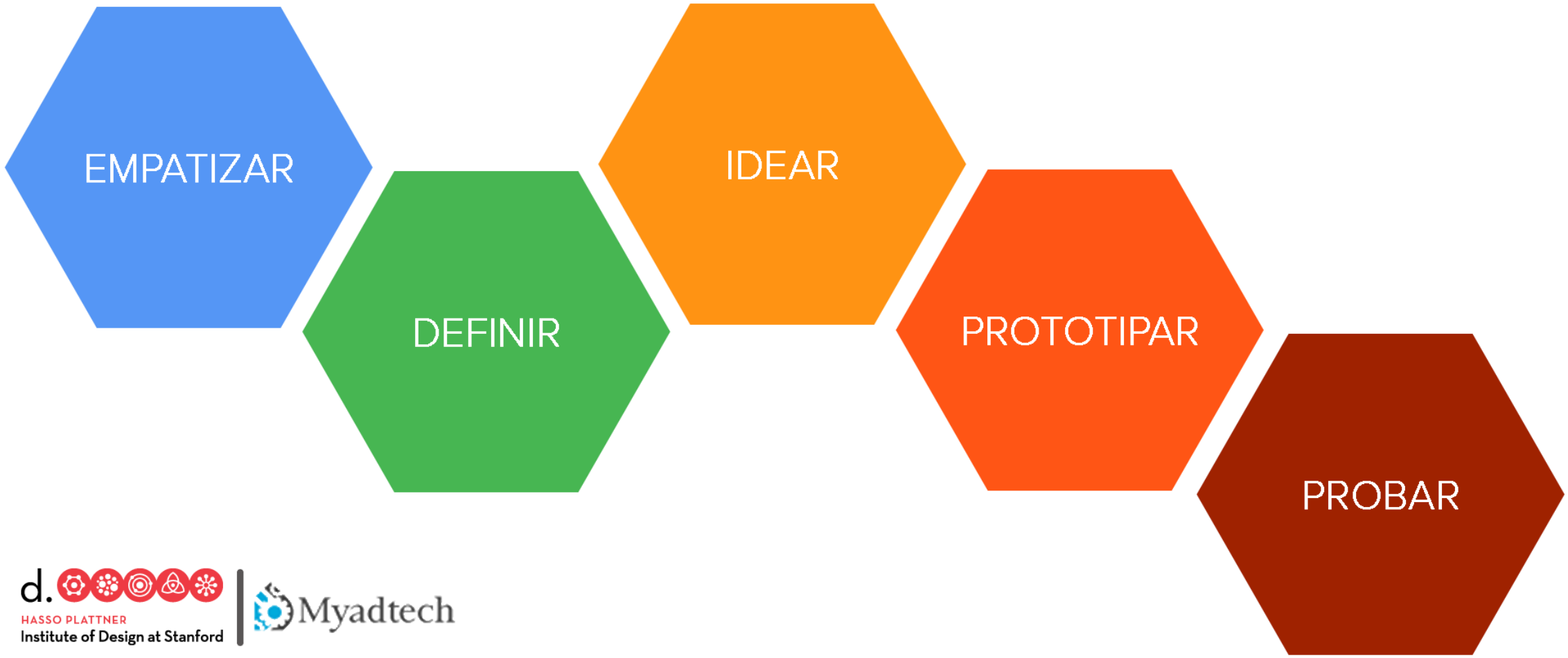
Pensamiento de diseño

Divergencia y convergencia en PD



El ciclo de vida DCU





HASSO PLATTNER
Institute of Design at Stanford

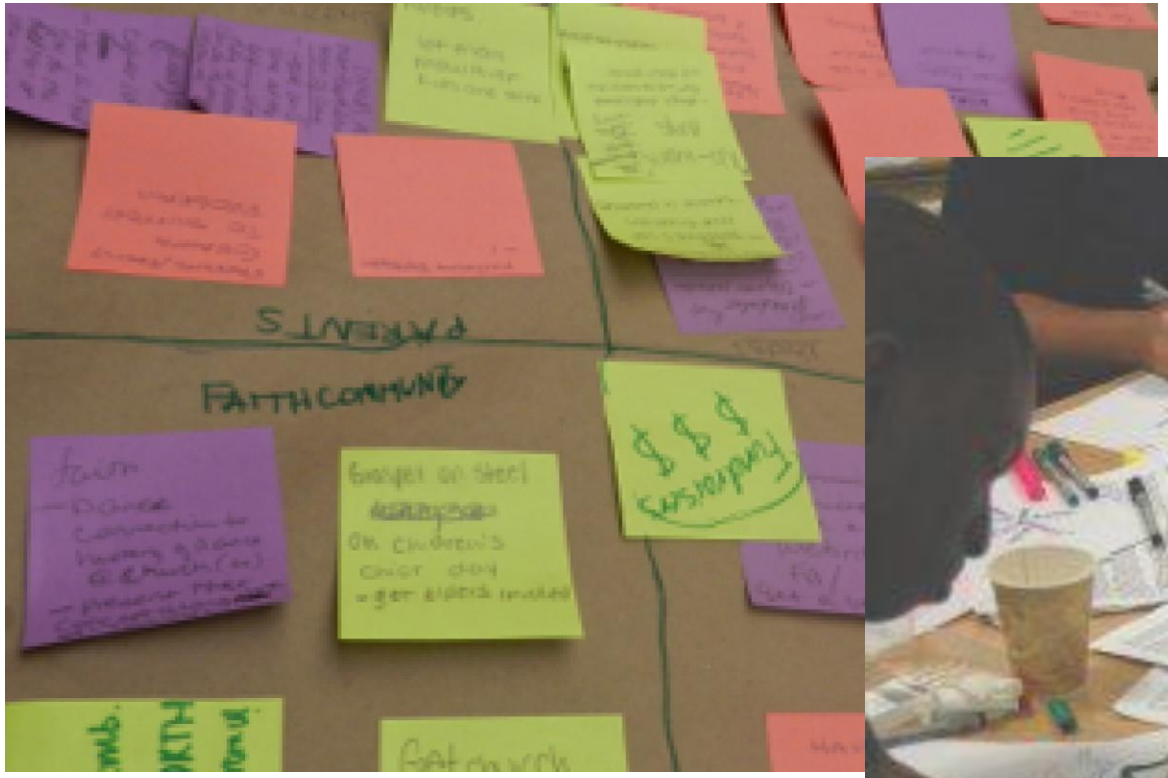
Myadtech

Empatizar

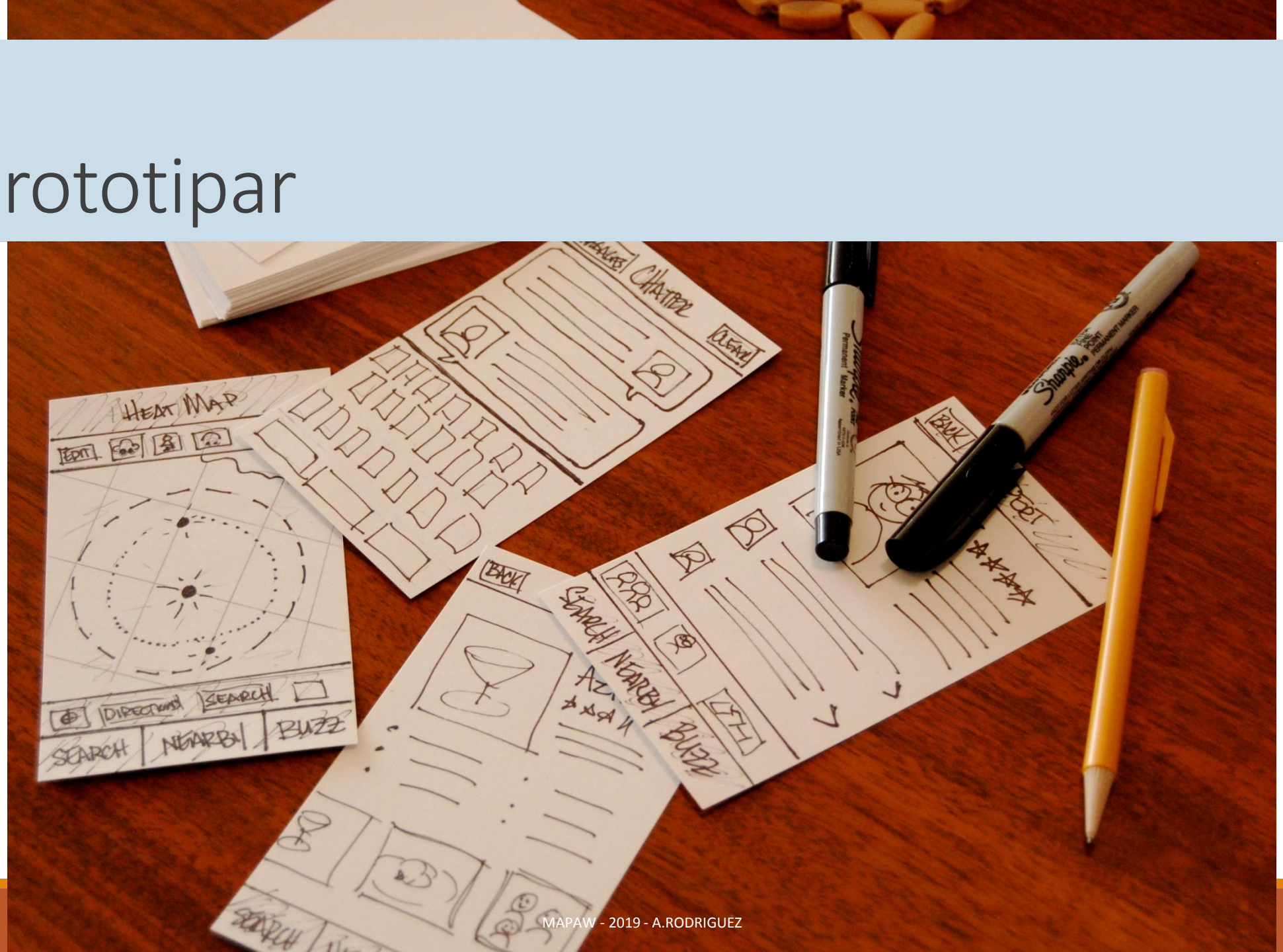
Definir


© 1997 by Randy Glasbergen. www.glasbergen.com
MEMO
GLASBERGEN
"My screen is hard to read. Can I have a bigger monitor?"

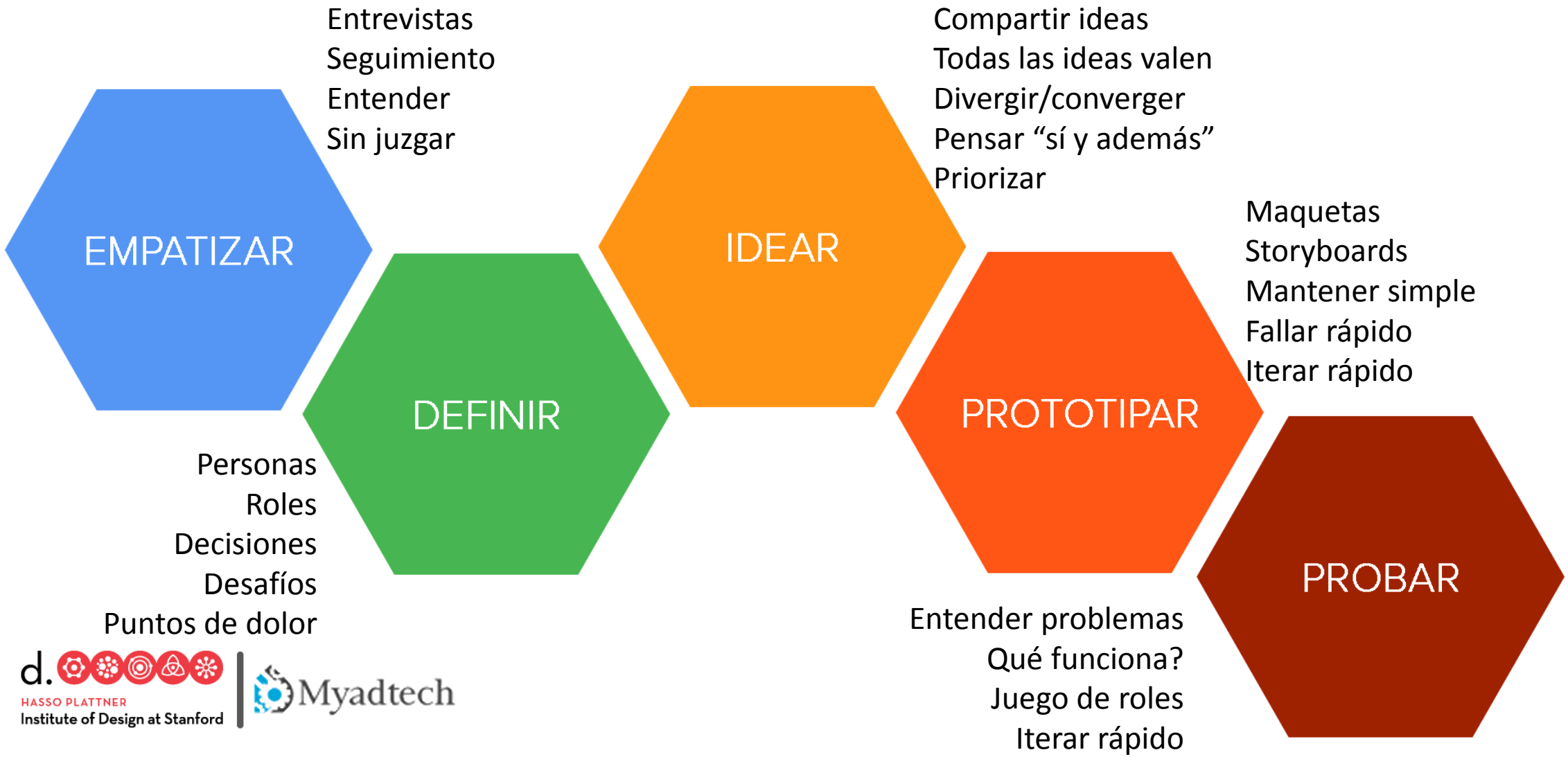
Idear

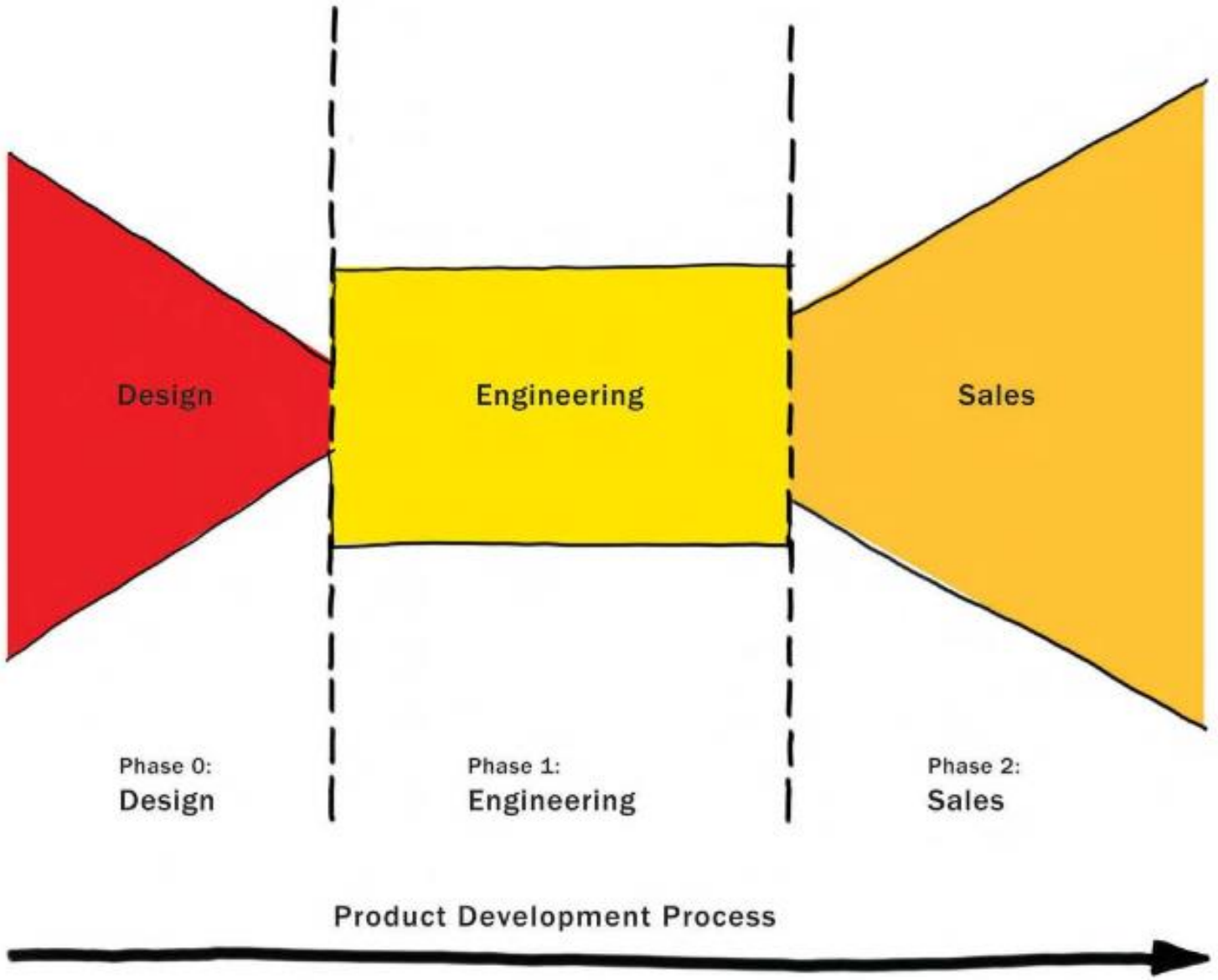


Prototipar

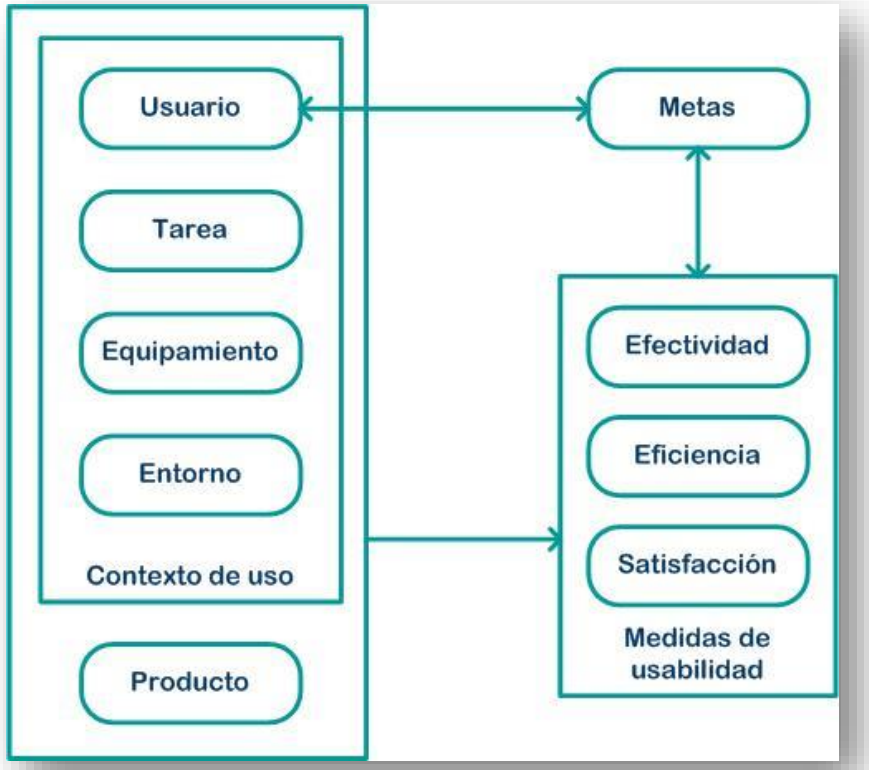

HEAT MAP
EDIT
SEARCH
NEARBY
BUZZ
BACK
SEARCH
NEARBY
BUZZ
Sharpie
Permanent Marker

Probar

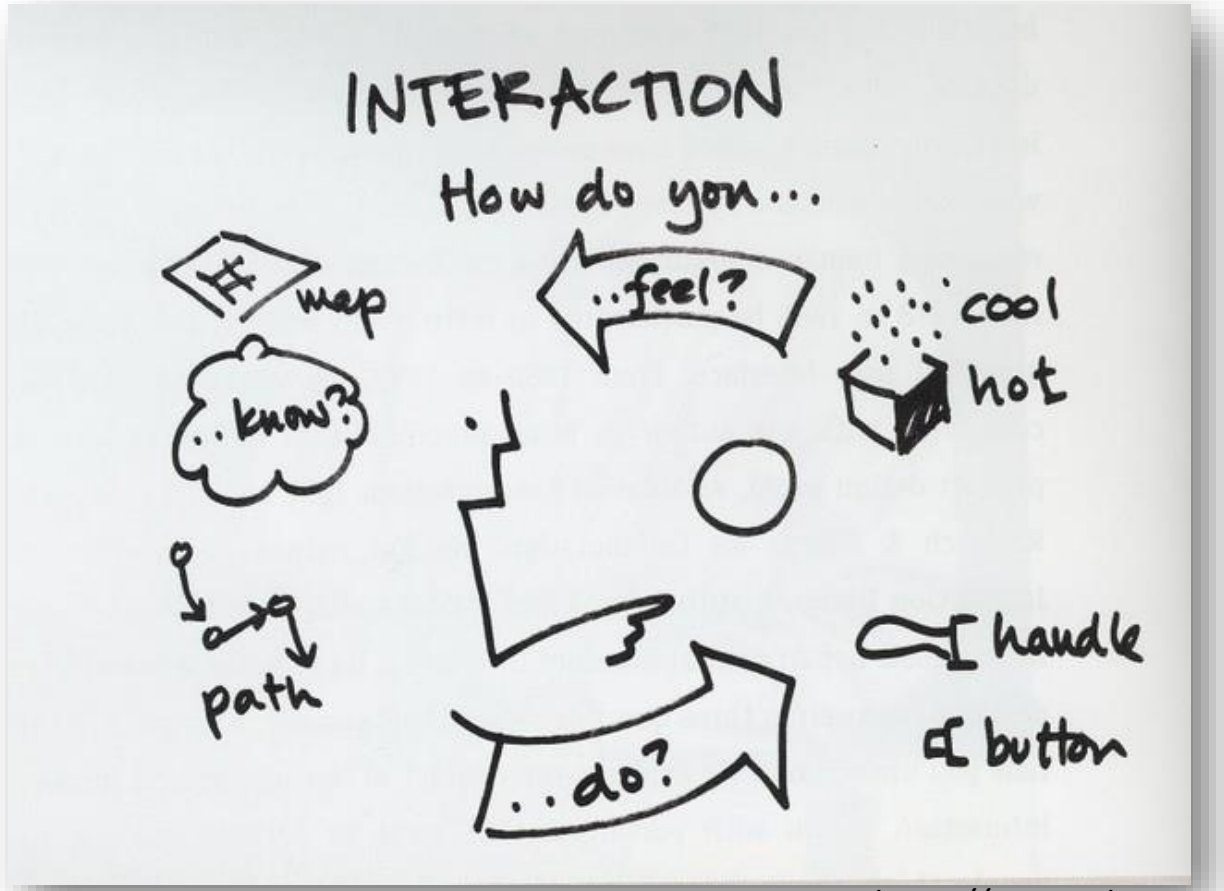

Entrevistas
Seguimiento
Entender
Sin juzgar
EMPATIZAR
Personas
Roles
Decisiones
Desafíos
Puntos de dolor
DEFINIR
Compartir ideas
Todas las ideas valen
Divergir/converger
Pensar “sí y además”
Priorizar
IDEAR
Maquetas
Storyboards
Mantener simple
Fallar rápido
Iterar rápido
PROTOTIPAR
Entender problemas
Qué funciona?
Juego de roles
Iterar rápido
PROBAR
HASSO PLATTNER
Institute of Design at Stanford
Myadtech


Design
Engineering
Sales
Phase 0:
Design
Phase 1:
Engineering
Phase 2:
Sales
Product Development Process

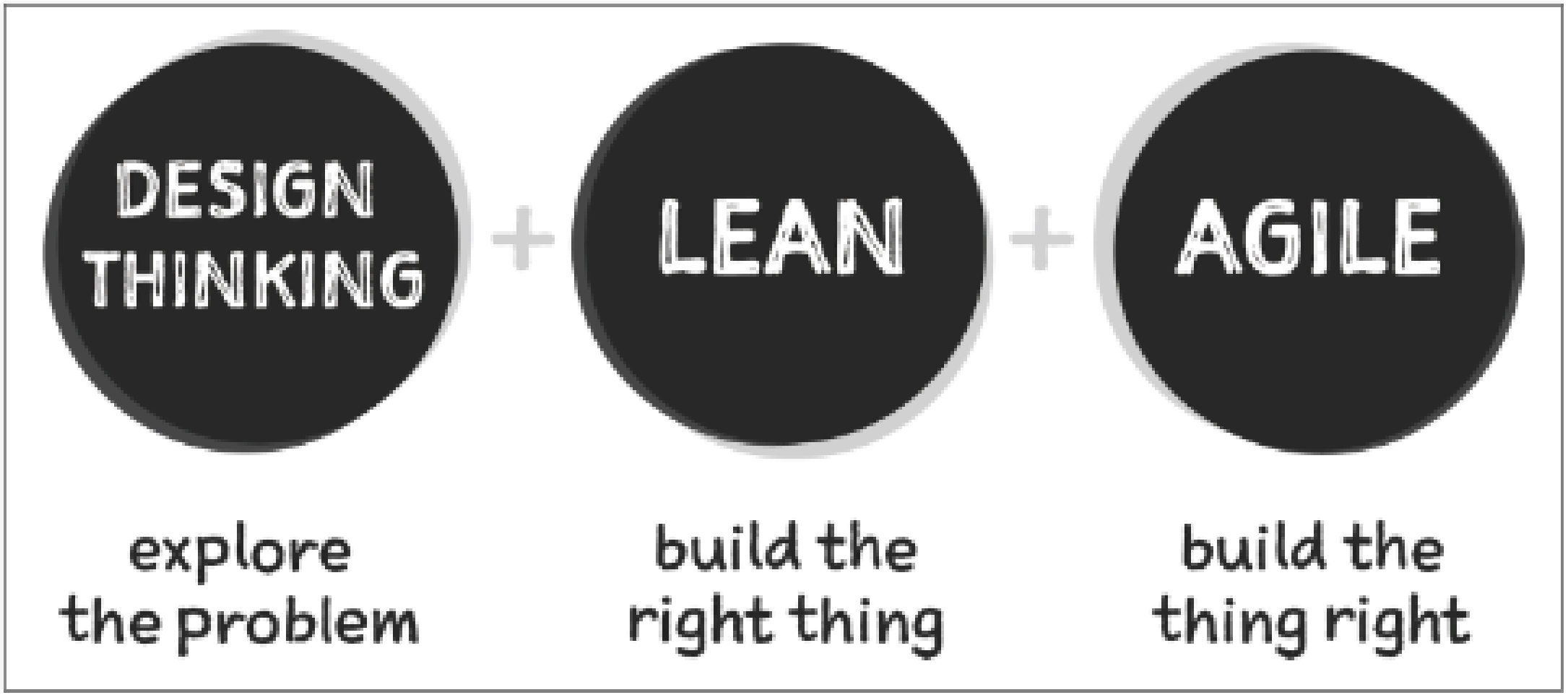
Usabilidad y Experiencia de Usuario



Diseño de interacción



https://qu.wordpress.com/tag/bill-verplank/


DESIGN THINKING
+
LEAN
+
AGILE
explore the problem
build the right thing
build the thing right

Lean UX

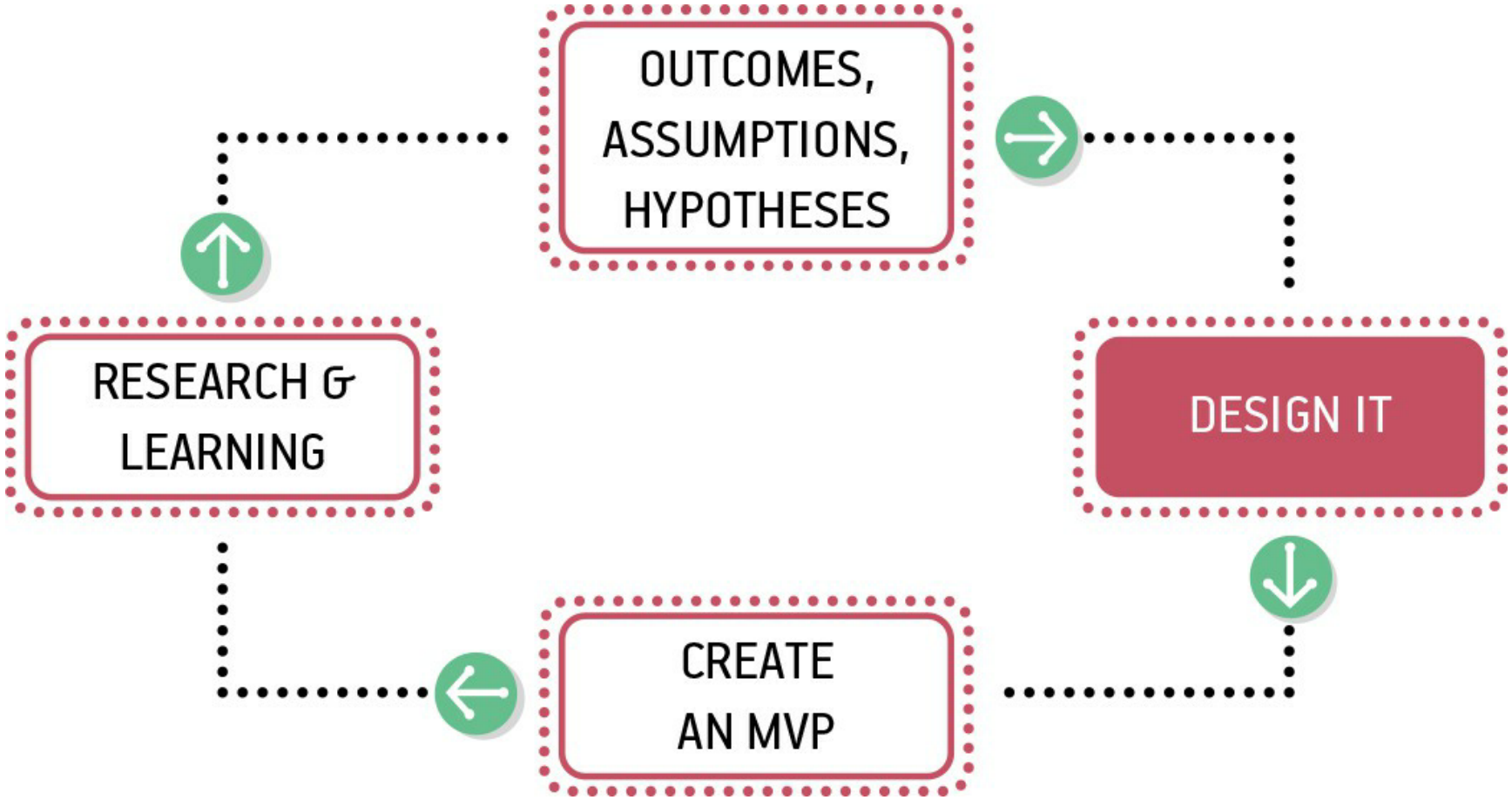
Procesos breves

- Trabajar en pequeños lotes
- Descubrimiento continuo
- GOOB (Getting Out Of the Building)
- Externalizar el trabajo
- Limitar el análisis
- Salir del negocio de las entregas

Lean ux


OUTCOMES, ASSUMPTIONS, HYPOTHESES
DESIGN IT
CREATE AN MVP
RESEARCH & LEARNING

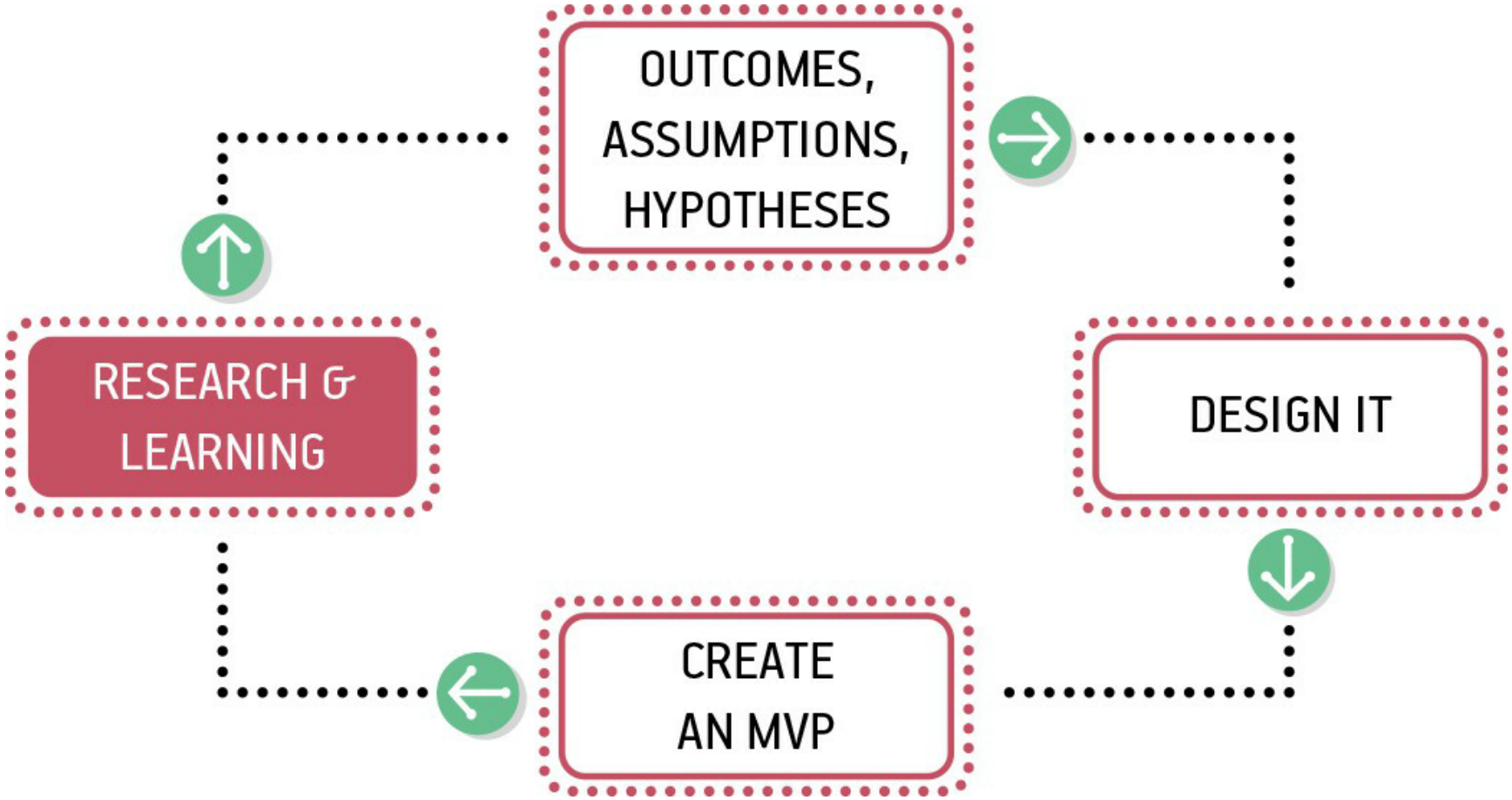
Lean ux


OUTCOMES,
ASSUMPTIONS,
HYPOTHESES
DESIGN IT
CREATE
AN MVP
RESEARCH &
LEARNING

Lean ux


OUTCOMES,
ASSUMPTIONS,
HYPOTHESES
DESIGN IT
CREATE
AN MVP
RESEARCH &
LEARNING

Lean ux


OUTCOMES,
ASSUMPTIONS,
HYPOTHESES
DESIGN IT
CREATE
AN MVP
RESEARCH &
LEARNING

LEAN UX – Desarrollo ágil