

NORM COX

# CONFESSIONS

*of a*

DESIGN THERAPIST



## Who Designed the Hamburger Icon?



Kelsey Campbell-Dellaghan  
Filed to: UI 3/21/14 3:16pm

110,008 10 10



The hamburger icon is a classic. Even if you don't know it by that name, its three black bars are as familiar as your mouse's cursor—a constant companion on your cyber journey since the day you got your first computer. But who designed this icon?

The hamburger is one of those UI features that's so old, so ubiquitous, that it seems author-less. But someone designed this little visual nugget, and software designer [Geoff Alday](#) recently set out to discover who. In a blog post yesterday, [he described what he found](#).

It turns out that the burger comes from the [Xerox "Star"](#) personal workstation, one of the earliest graphical user interfaces. Its designer, [Norm Cox](#), was responsible for the entire system's interface—including the icons that would effectively communicate functionality to the earliest computer users. The hamburger, which looks like a list, seemed like a good way to remind users of a menu list. Skip to about 21:05 in the following video to see an explanation:

Intrigued, Alday reached out to [Cox](#), who now owns [his own UX and UI company](#), to find out more. Here's how Cox responded:

*You've done your homework and found the right guy. I designed that symbol many years ago as a "container" for contextual menu choices. It would be somewhat equivalent to the context menu we use today when clicking over objects with the right mouse button.*

*Its graphic design was meant to be very "road sign" simple, functionally memorable, and mimic the look of the resulting displayed menu list. With so few pixels to work with, it had to be very distinct, yet simple. I think we only had 16x16 pixels to render the image. (or possibly 13x13... can't remember exactly).*

*Interesting inside joke... we used to tell potential users that the image was an "air vent" to keep the window cool. It usually got a chuckle, and made the icon more memorable.*

# A Brief History of the Hamburger Icon

OCTOBER 25, 2014 IN DESIGN



BY ANTONIO

WHO IS PLACEIT  
We make beautiful  
and videos for  
generate with  
a try.



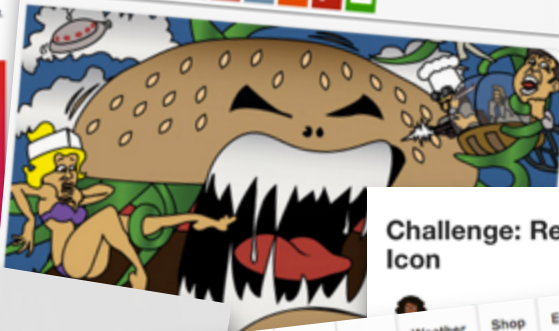
## HOW TO SOLVE THE HAMBURGER ICON PROBLEM

BY PADDY MACDONNELL • UX DESIGN • JUN 24, 2014

### Kill The Hamburger Button

Posted May 24, 2014 by Josh Constance (@joshconstance)

3,764 SHARES



Let's Not Kill the Hamburger Icon Just Yet



### Challenge: Re-Imagining the Hamburger Icon

### Would you like fries with that?

Michel Ferreira  
Tue 23 September 2014

The Hamburger Icon.



### The Juicy Story of the 'Hamburger'

By Guest Blogger | Jul 2, 2015 | Innovation | 0 Comments

By Sachin Shenolikar

(The photo above is courtesy of the Xerox Historical Archives.)

We see it from the corner of our eye every time we log on to the Web. It's the "hamburger" icon, a simple black bar at the top of a browser that resemble our beloved American sandwich. It takes users to a secondary menu of applications on a

Where did this icon originate? It was designed by Norm Cox of PARC for the Xerox Star workstation in the early 1980s — nearly a decade before the birth of the World Wide Web. That was a whimsical era at PARC, when developers were tasked with building a new way of interacting with computers. Remember, this was a time when most people outside of a lab didn't know what a personal computer was. One task for PARC researchers was to introduce new ways to navigate around machines.

The challenge was daunting, but the creativity, the free exchange of ideas, and the opportunity to change the world was infectious," says Cox. "The environment fostered both heated thinking, innovative ideas, and Peet's coffee flowed through the halls and meeting rooms."

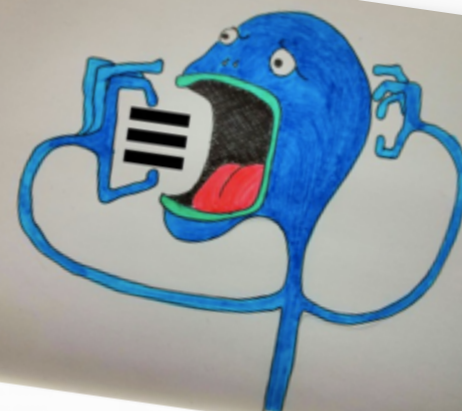


## NEWS

Magazine

### Hamburger icon: How these three lines mystify most people

16 May 2015 Magazine



Design

### The Hamburger is Bad for You

Written by Morten Rand-Hendriksen on March 12th, 2014. 23 Comments



Construction Tech

Journalism

Advertising

Computer Programming

Mechanical Engineering

Art

Landscape Architecture

Psychology

Anthropology

Library Sciences

Graphic Design

Philosophy

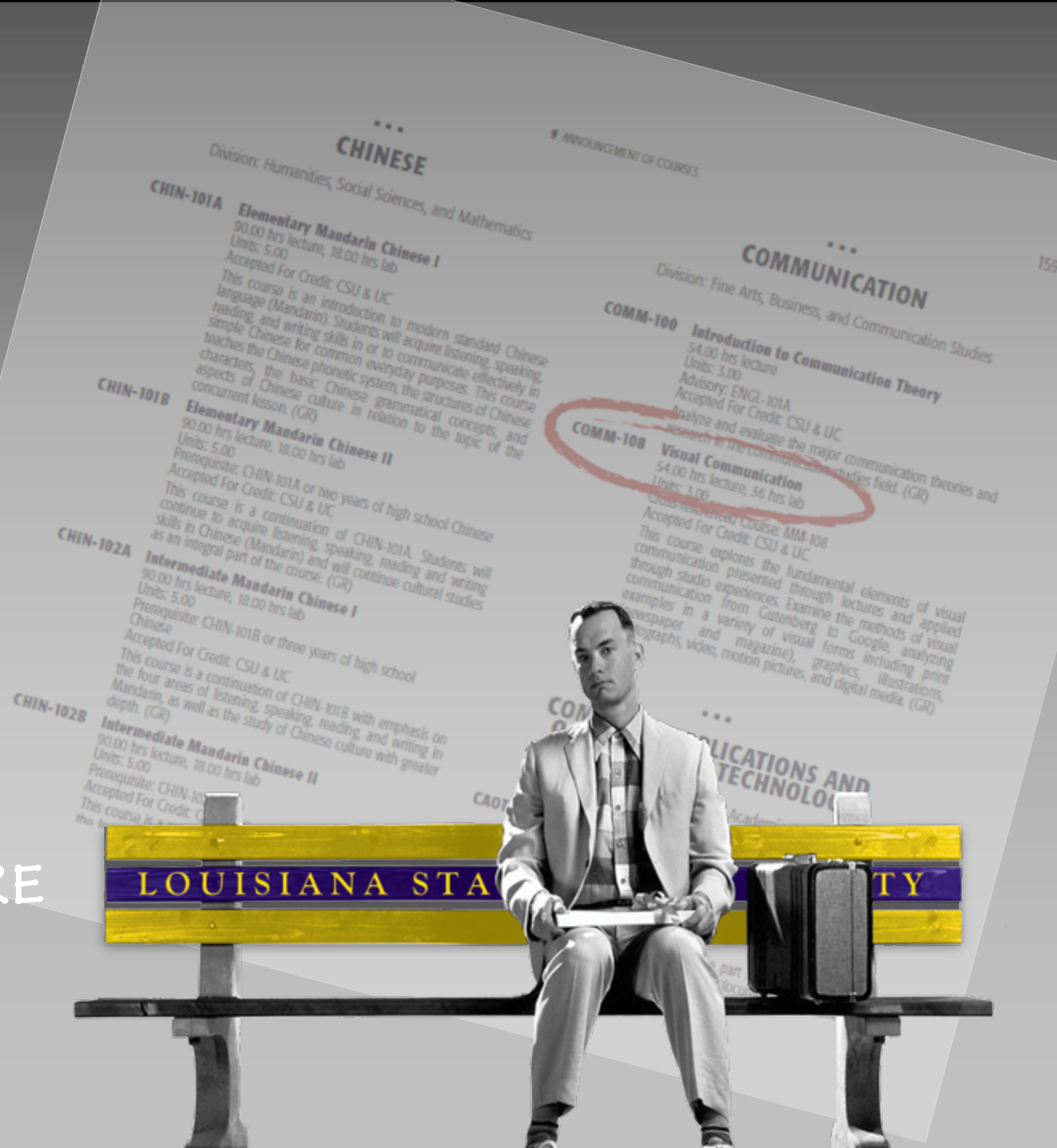
Typography

ARCHITECTURE

Civil Engineering

Marketing

Visual Communication





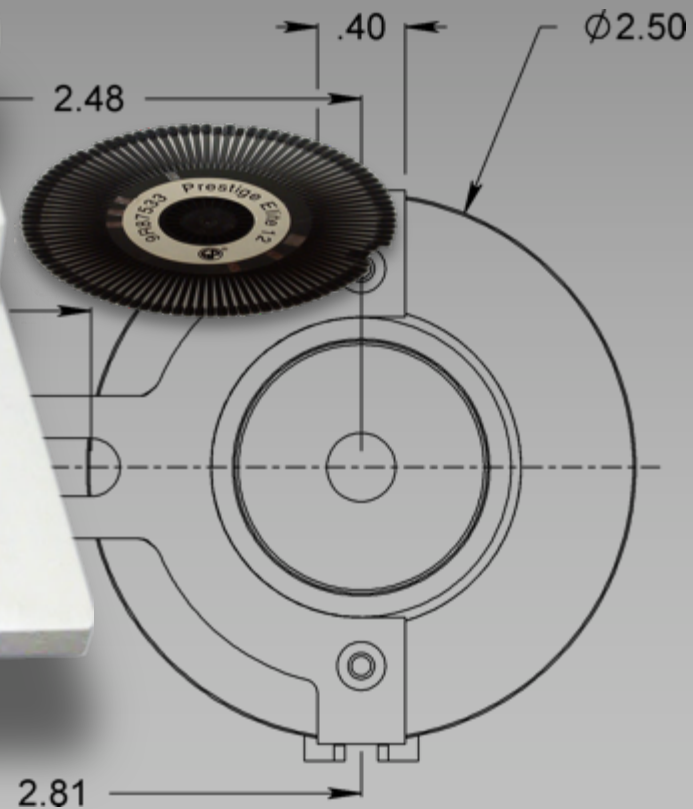
XEROX, c. 1972 - 1982

# XEROX

OFFICE PRODUCTS DIVISION

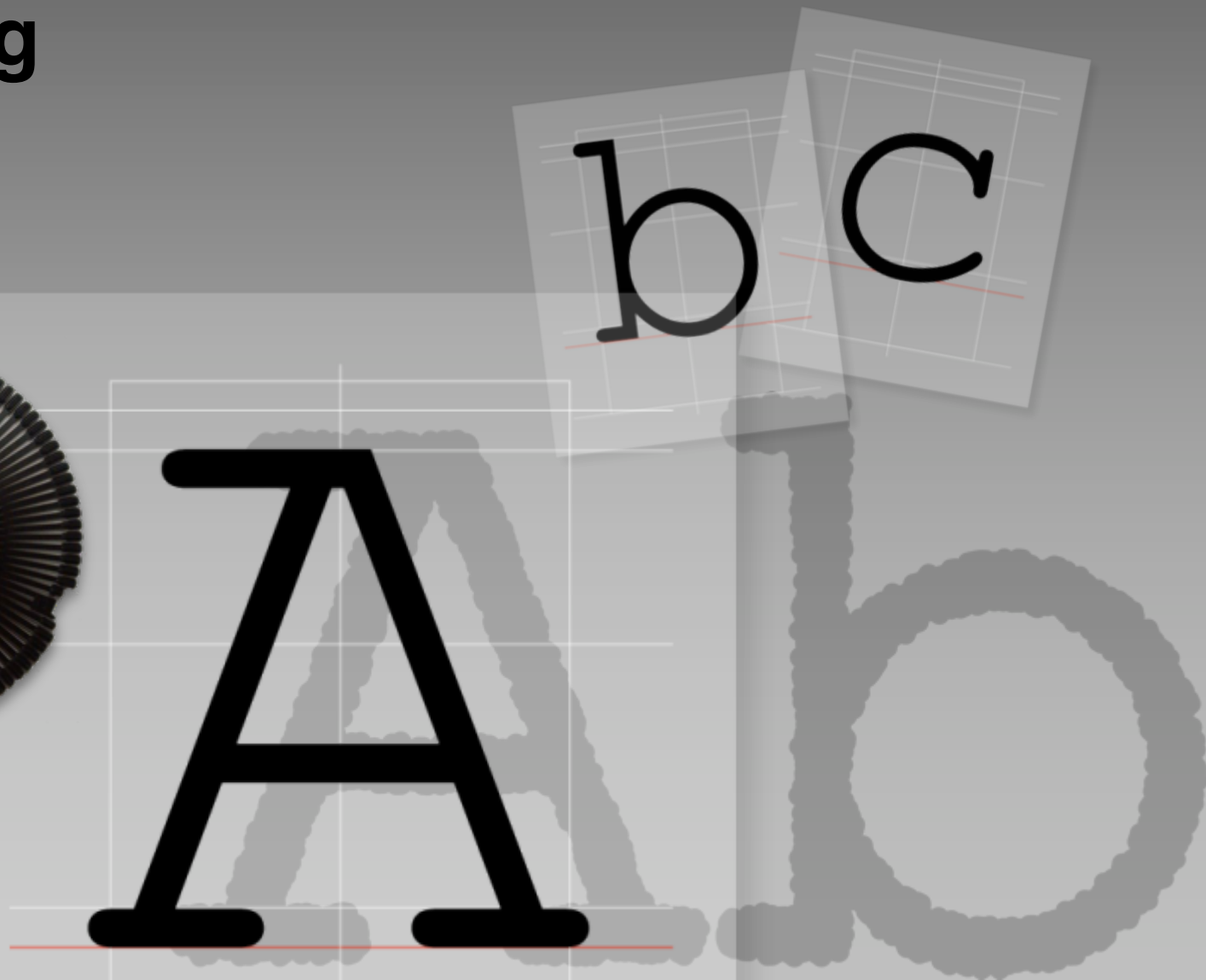


Xerox Memorywriter 6015



XEROX, c. 1972 - 1982

id/hf/g



XEROX, c. 1972 - 1982

id/hf/g



June 6, 1976 Dear John

*Xerox Memorywriter 8010*

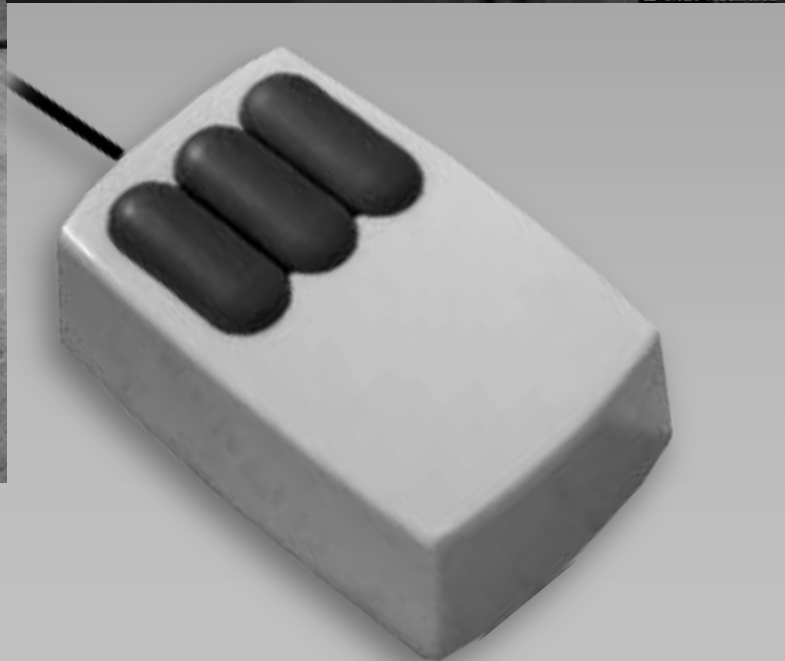
adobe



*Xerox 820 Word Processor*



XEROX | ALTO, c. 1976



## XEROX | ALTO, c. 1976



### HARDWARE

- Bitmap CRT display
- Detachable keyboard
- 3-button “mouse”
- Ethernet connectivity

### SOFTWARE

- First email program (Laurel, Hardy)
- First WYSIWYG text editor (Bravo, Gypsy)
- Vector graphics editor (Sil)
- Raster (paint) editor (Markup)

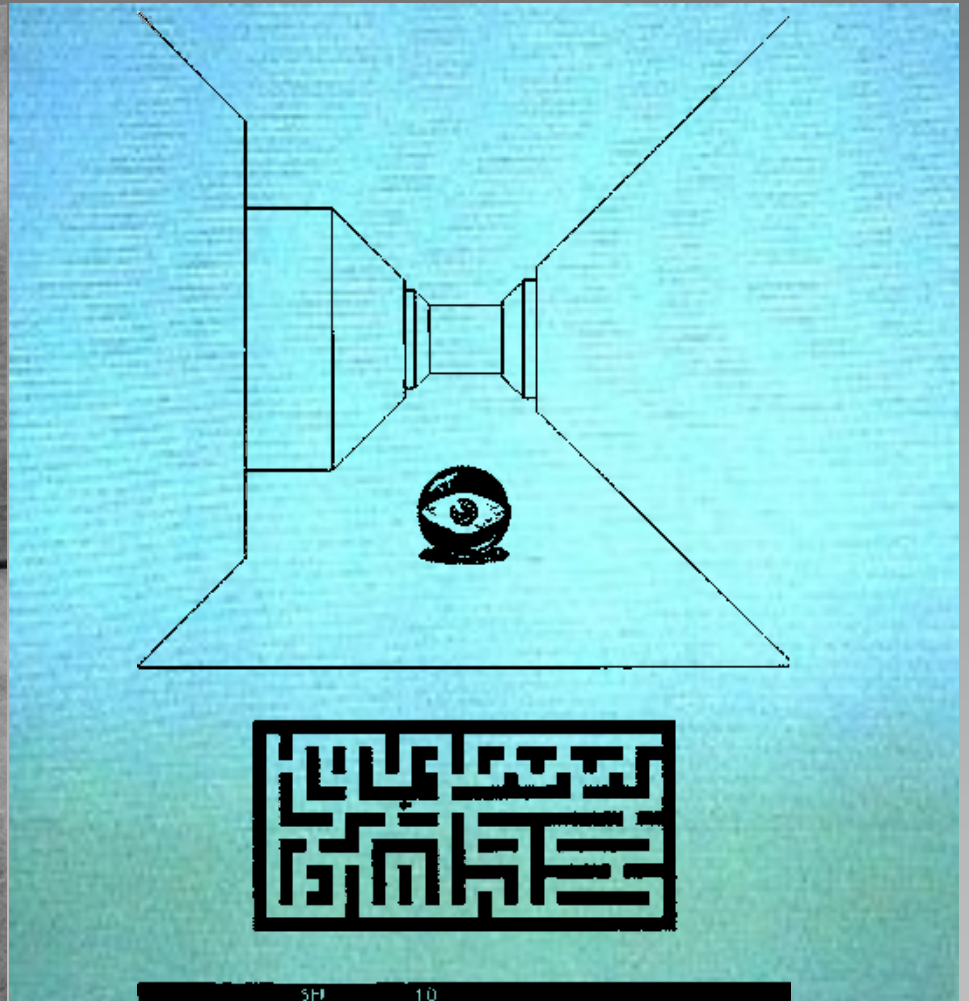
### UI FEATURES

- Cursors
- Windows
- Menus
- Direct manipulation (point, click, drag)
- Portrait (page) screen orientation

XEROX | ALTO, c. 1976



MAZE WAR





XEROX | ALTO, c. 1976



MARKUP



XEROX | ALTO, c. 1976





XEROX PARC, c. 1976

Invent the office of the future...



# PARC ROLL CALL, c. 1978

## David Liddle

Director: Xerox Sys. Dev.  
Founder: Metaphor C.S.,  
Interval Research  
Prof: Stanford Univ.



## Bill Verplank

Teacher, Mentor, Scholar  
IxD, HFE  
Prof: Stanford Univ.,  
Interaction Design Inst., Ivrea



## Alan Kay

Inventor: GUI, OOP, Smalltalk,  
"OLPC: One Laptop Per Child"  
Prof: UCLA, Kyoto Univ., MIT  
Rsrch Fellow: Apple, Disney, HP  
Founder: Viewpoints Rsrch. Inst.



## Ralph Kimball

Pioneer and author:  
Data Warehousing  
Founder: Metaphor C.S.,  
Red Brick Systems,  
Kimball Univ.



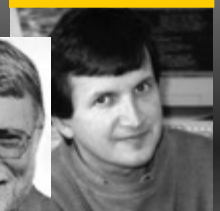
## Larry Tessler

VP Apple Research  
Dir. Apple Lisa, Mac  
UI development



## Charles Simonyi

Developed WYSIWYG editing  
Directed development of  
MS Word, Excel  
Traveled to space  
Dating Martha Stewart



## Charles Irby

Director: Xerox Adv. Dev.  
Founder: Metaphor C.S.



## David Canfield Smith

Inventor: GUI, icons, KidSim



## John Warnock

Founder: Adobe Systems  
Inventor: Postscript, PDF



## Stu Card

Sr. Research Fellow,  
Xerox PARC  
Director: PARC UI Research  
Author  
Adjunct Prof: Stanford Univ.



## John Seely Brown

Chief Scientist: Xerox  
Director: PARC  
Founder: Inst. for  
Research on Learning  
Visiting scholar: USC



## Bob Metcalfe

Co-Inventor: Ethernet  
Founder: 3Com

## Yogen Dalal

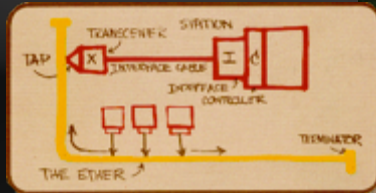
Co-Inventor: Ethernet  
Founder: Claris, Metaphor C.S.  
Managing Director: Mayfield Fund



# THE PARC CULTURE



# THE PARC CULTURE



*Ethernet*



*Laser Printing*



*Doug Englebart's "mouse" (far left)*



*Early commercial 3-button mouse (left)*



*Alto's bitmapped display (far left)*



*Smalltalk graphical UI (left)*



## THE ORIGINAL “DESKTOP” CONCEPT, c. 1976

Taken from Dave Smith's Stanford doctoral thesis  
entitled “Pygmalion”.



Dr. David Canfield Smith

FILE > > > > > >

DIRECTORY

DATABASE

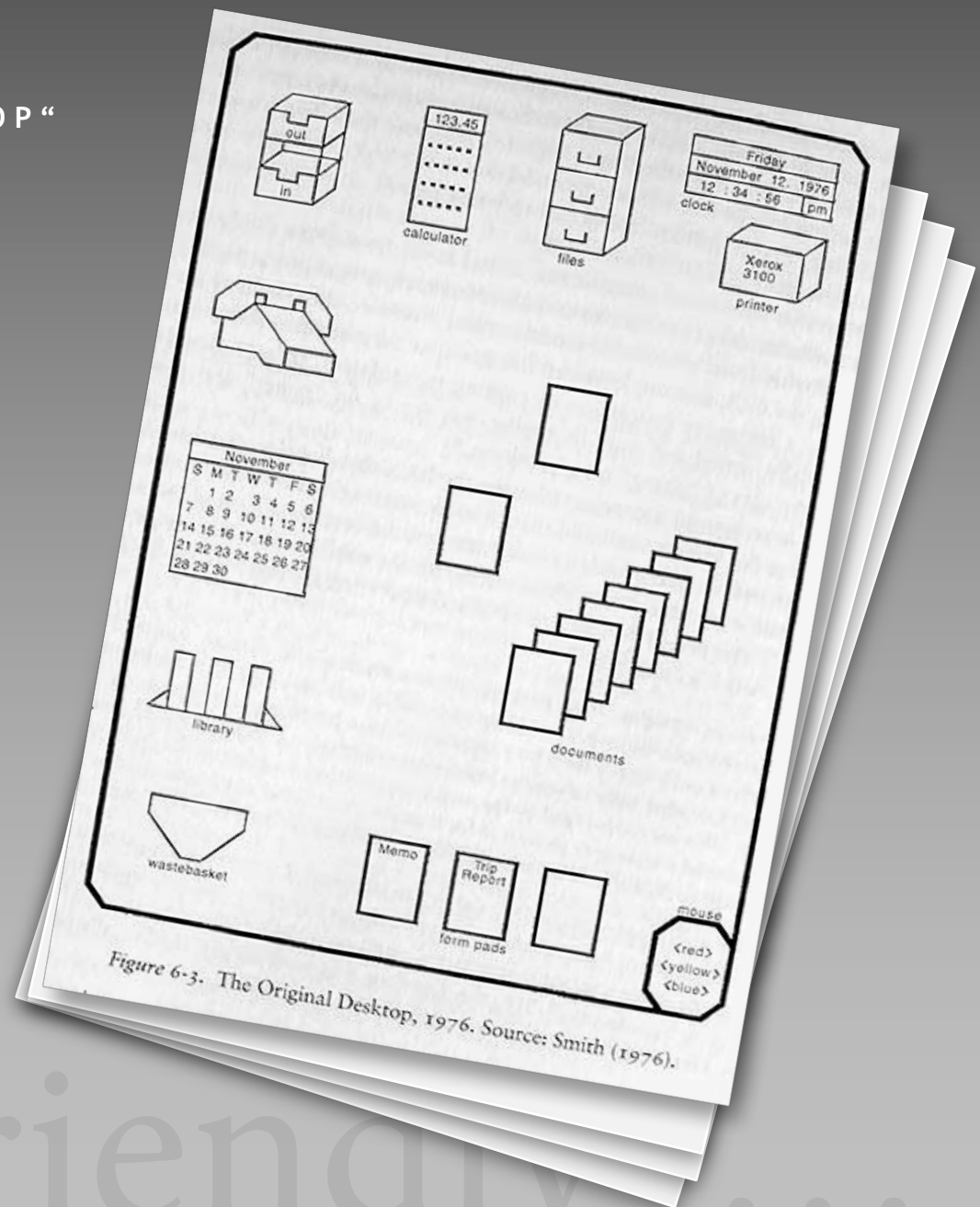
RECORD

BUFFER

DRIVE

SERVER

RAM

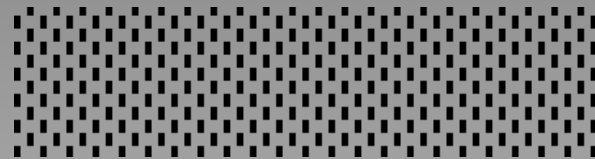


“user friendly”...

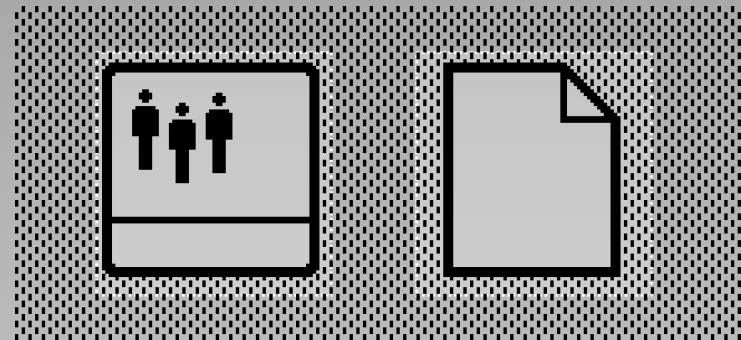
## THE “STAR” DESKTOP



- 17” black/white CRT display
- 1024 x 860 resolution
- 72 dpi (*perfect typography units*)
- “Desktop gray”



- 72 x 72 icon size



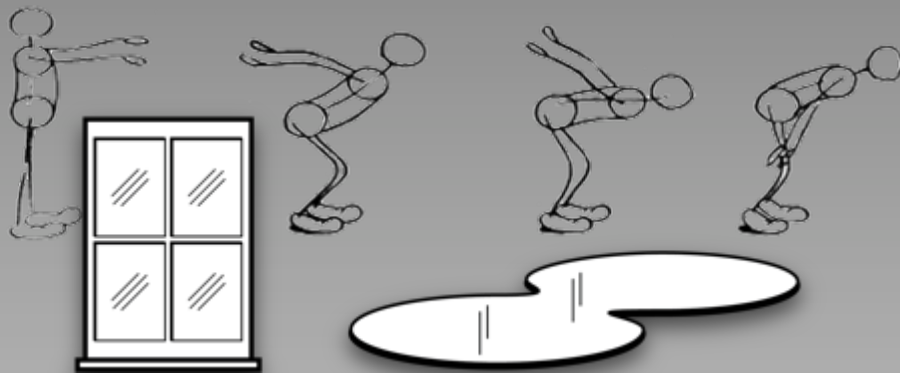
- Status and states





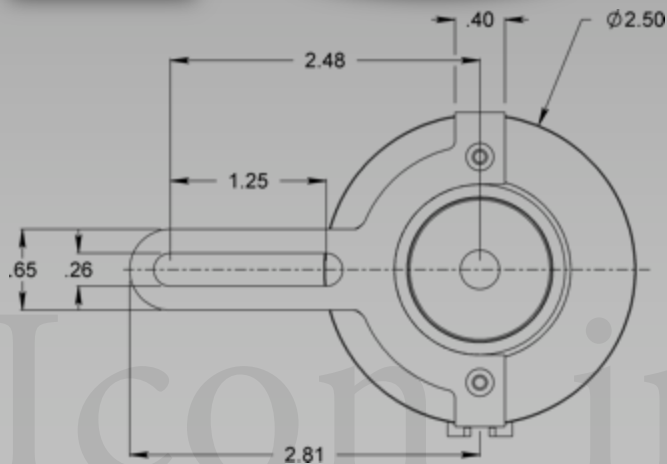
## Traffic signage

- Shape emphasis
- Simplified imagery



## Cartooning | Cave painting

- Minimal line work
- Representational
- Pictograms/ideograms



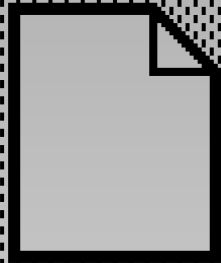
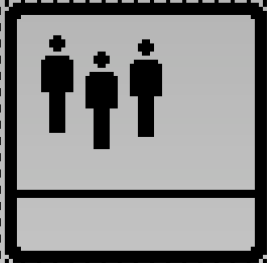
## Mechanical drawing

- Purposeful line weights
- Precision rendering
- Visual hierarchy

Icon inspiration



## THE “STAR” ICONS

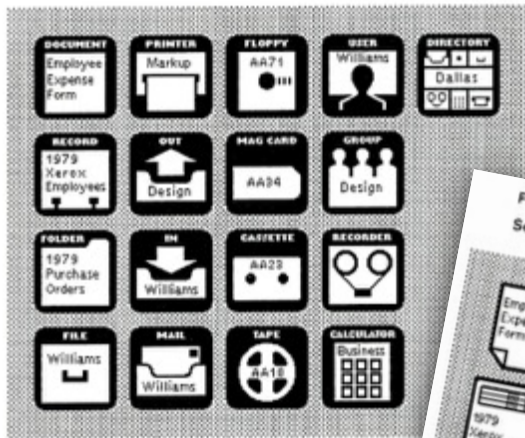


- Traffic sign simplicity
- Shape emphasis
- Consistent style and visual weight
- User friendly | familiar
- Natural language naming
- Representational/concrete images
- Office metaphor context
- Intuitive | understandable | memorable
- User friendly

Design tenets...

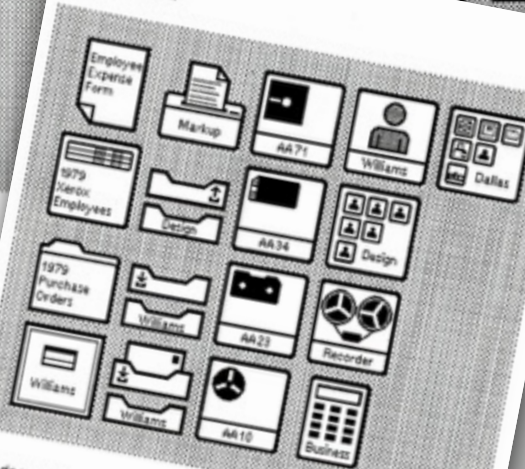
# STAR ICON STUDIES, c. 1978-79

Figure 2.  
Set 2 (Bowman)



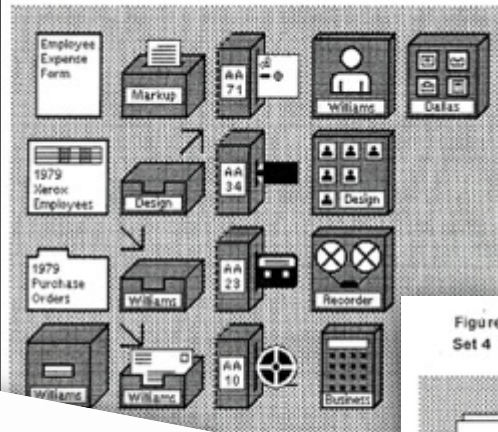
document	printer	floppy disk	user
record file	out-basket	mag. card	group
folder	in-basket	cassette	recorder
file drawer	in-basket (with mail)	mag. tape	calculator

Figure 1.  
Set 1 (Cox)



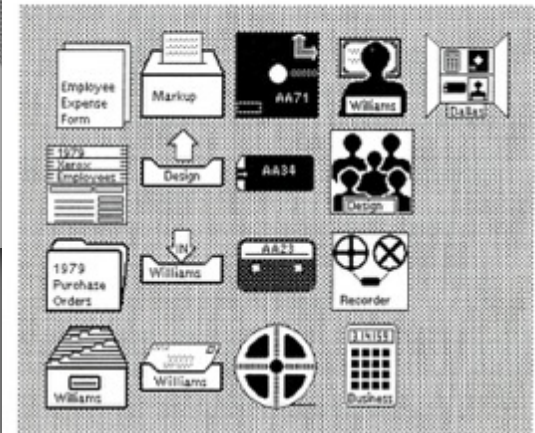
document	printer	floppy disk	user	directory
record file	out-basket	mag. card	group	
folder	in-basket	cassette	recorder	
file drawer	in-basket (with mail)	mag. tape	calculator	

Figure 3.  
Set 3 (Smith)



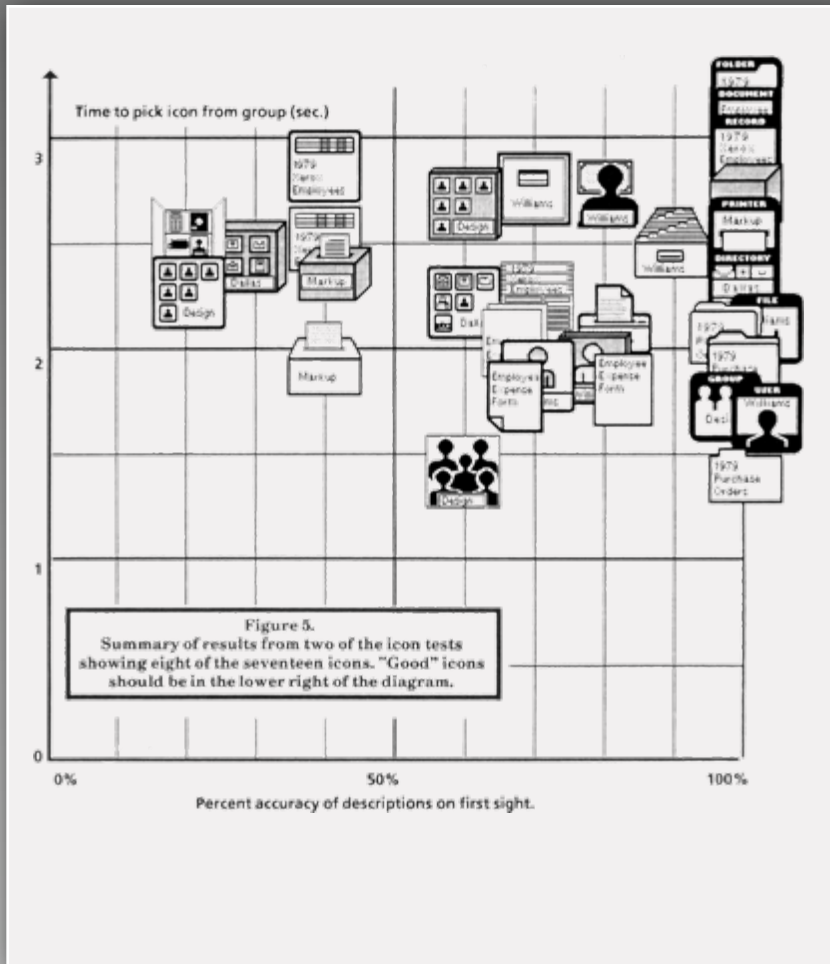
floppy disk	user
mag. card	group
cassette	recorder
mag. tape	calculator

Figure 4.  
Set 4 (Judd)



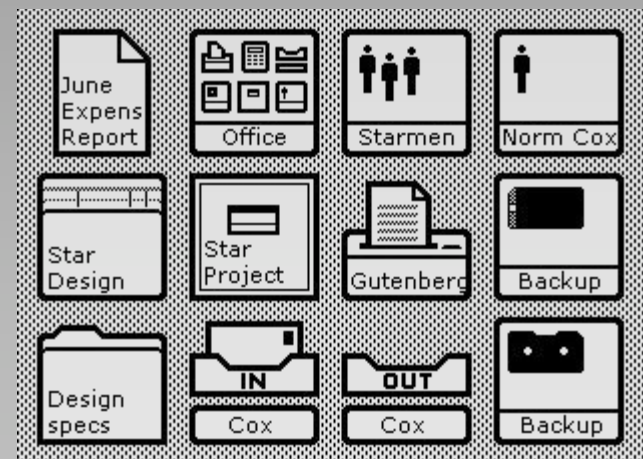
document	printer	floppy disk	user	directory
record file	out-basket	mag. card	group	
folder	in-basket	cassette	recorder	
file drawer	in-basket (with mail)	mag. tape	calculator	

## STAR ICON USABILITY TESTING, c. 1979



- Naming | describing tests
- Timed response (*pick from group*)
- Semantic differential tests
- Personal preference

*Final icon designs refined from test results.*





STAR ICON USABILITY TESTING, c. 1979

Hmm...  
shredder?

Tissue  
box?

Suggestion  
box?



Uhh...Fax  
machine?

Ooh!... It's a  
toilet paper  
dispenser?

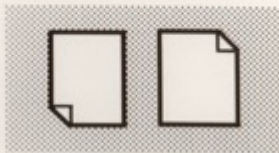
STAR ICON USABILITY TESTING, c. 1979



Printer!

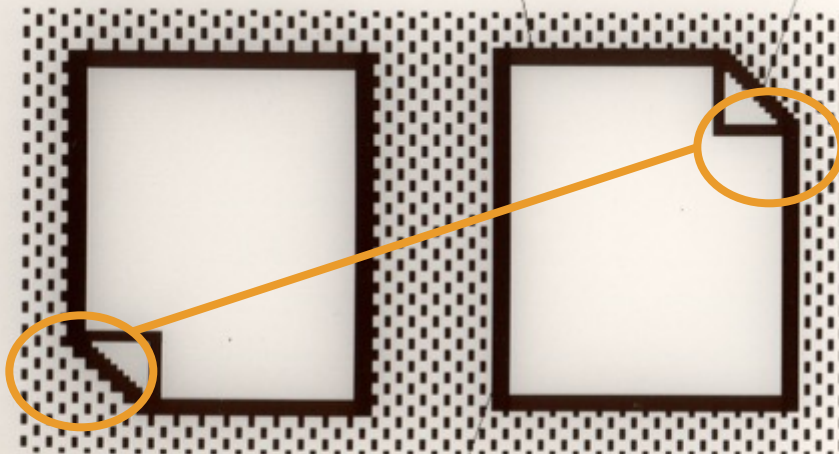
# STAR ICON REFINEMENTS

## Size and Positioning Considerations



Careful positioning of angles assures smooth lines.

Splitting background pixels creates a cleaner edge.



Icon width of  $4n + 1$  and positioned against white column eliminates ragged edges.

## Size and Positioning Considerations (con't)



To eliminate edge fuzziness and to assure consistent corner radii, this icon was sized to  $64h \times 65w$  and vertically positioned to split background pixels.

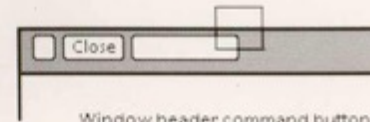




# STAR UNIFORM VISUAL LANGUAGE

- Consistent design elements
- “Soft” appearance
- Non-computer-y
- “User friendly”

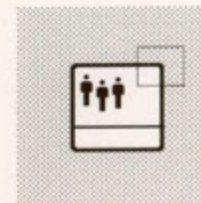
## Consistent Design Element Applications



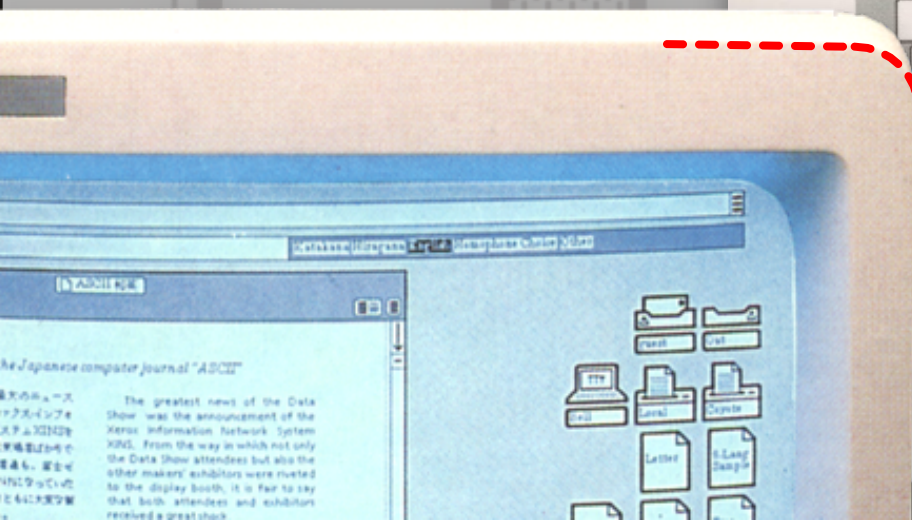
Window header command buttons



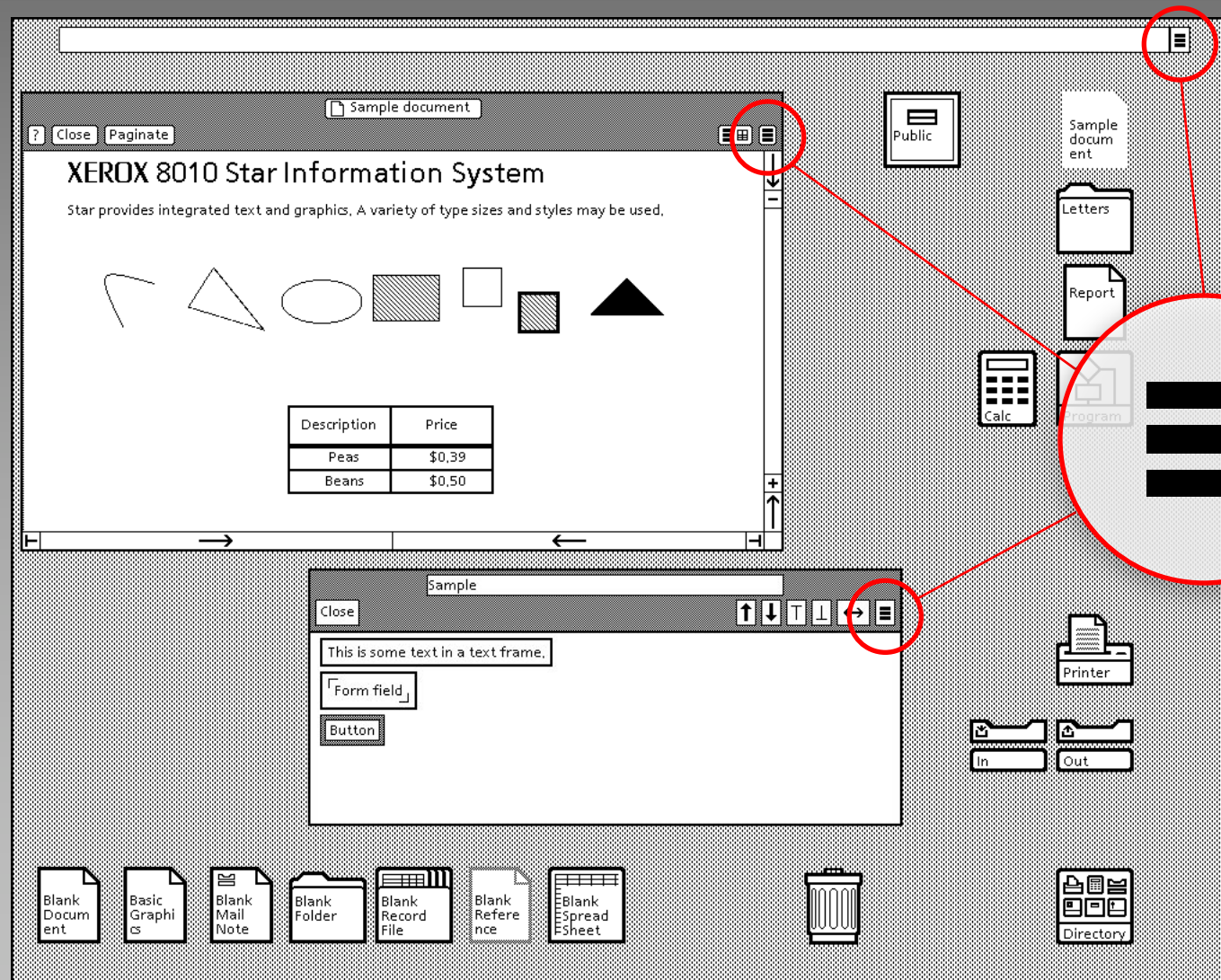
Virtual keyboard keys



Icons



# THE "HAMBURGER"



# THUMBING | PAGING

Alto: Bravo word processor

READY: Select operand or type command  
12165 bytes read from SampleDoc.bravo.

SampleDoc.bravo

## Preface

This manual describes the Bravo system for creating, reading and changing text documents on the Alto. It is supposed to be readable by people who do not have previous experience with computers. You should read the first four sections of the Non-Programmers Guide to the Alto before starting to read this manual.

You will find that things are a lot clearer (I hope) if you try to *learn by doing*. Try out the things described here as you read.

SampleDoc.bravo

## Preface

SampleDoc.bravo

## Preface

This manual describes  
changing text documents

Alto: Laurel email program

Laurel 6 Friday Aug. 14, 2020 9:07 am PDT  
Login please. 1576 free disk pages  
User {NoName.PA} New mail Mail file {tutorial.mail} Quit  
1 Apr. 27 LaurelSupport TO START YOUR TUTORIAL  
SESSION. Point cursor at "Display"  
and click the left mouse button  
2 Apr. 27 LaurelSupport Displaying a selected message  
3 Apr. 27 LaurelSupport Message number 3 in Tutorial.mail.  
4 Apr. 27 LaurelSupport "Delete" and "Undelete".  
5 Apr. 27 LaurelSupport Movable boundaries  
6 Apr. 27 LaurelSupport Thumbing  
7 Apr. 27 LaurelSupport "Mail file" and "Move to"  
8 Apr. 27 LaurelSupport "New mail"  
9 Apr. 27 LaurelSupport "Hardcopy"  
10 Apr. 27 LaurelSupport Composing messages

Display Delete Undelete Move to Hardcopy

Date: 27 April 1981 10:36 am PDT (Monday)  
From: LaurelSupport.PA  
Subject: TO START YOUR TUTORIAL SESSION: Point cursor at "Display" and  
click the left mouse button  
To: @NeatText

Laurel 6 Friday  
Login please.  
User {NoName.PA} New mail Mail file {  
1 Apr. 27 LaurelSupport TO START  
SESSION  
and clic  
2 Apr. 27 LaurelSupport Displaying  
3 Apr. 27 LaurelSupport Message n  
4 Apr. 27 LaurelSupport "Delete" a

Message

End of Message.

Unrecognized command. Type DEL to terminate command.  
Editor command keys: a, b, d, e, f, g, i, p, r, s, t, u, esc.



## “SCROLL” BAR

We see it from the corner of our eye every time we log on to the simple black bars at the top of a browser that resemble our beloved yet important purpose: it takes users to a secondary menu listing

Where did this icon originate? It was designed by Norm Cox of PARC for the Xerox Star workstation in the early 1980s- nearly a decade before the birth of the world wide web. That was a whimsical era at PARC, when developers were tasked with building a new way of interacting with computers. Remember, this was a time when most people outside of a lab didn't know their way around a personal computer. One task for the PARC researchers was to introduce new ways to navigate around machines.

“The challenge was daunting, but the creativity, the free exchange of ideas, and the opportunity to change the world was infectious,” says Cox. “The environment fostered both heated debate and way-cool collaboration and camaraderie. Cutting edge thinking, innovative ideas and Peet's coffee flowed unabated

through the halls and meeting rooms. The designers at PARC in those early days of personal computing had a near blank slate to work on.

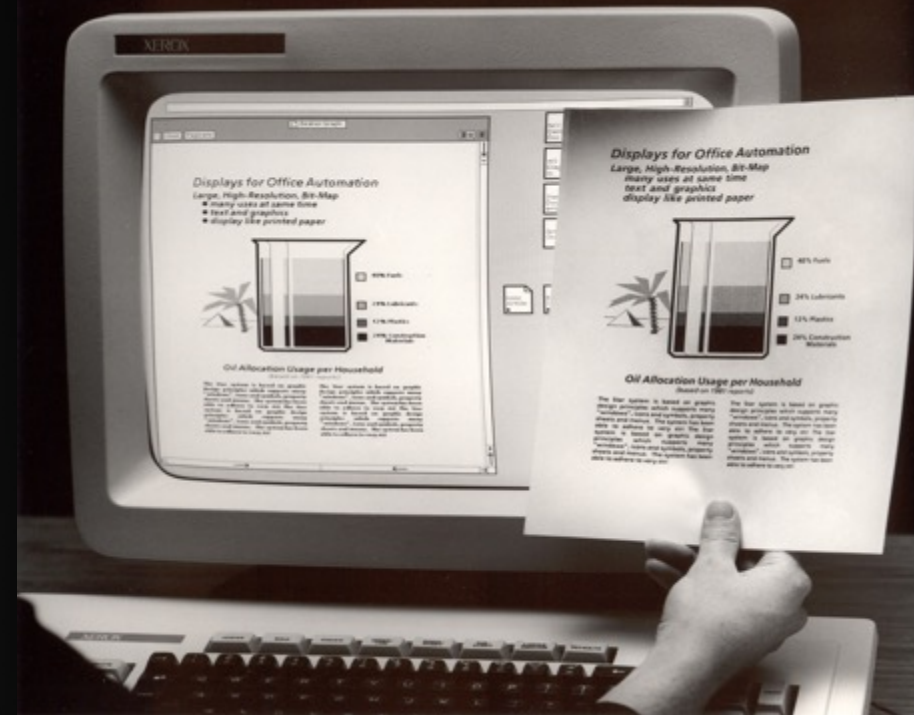
However

OPTION 1

OPTION 2

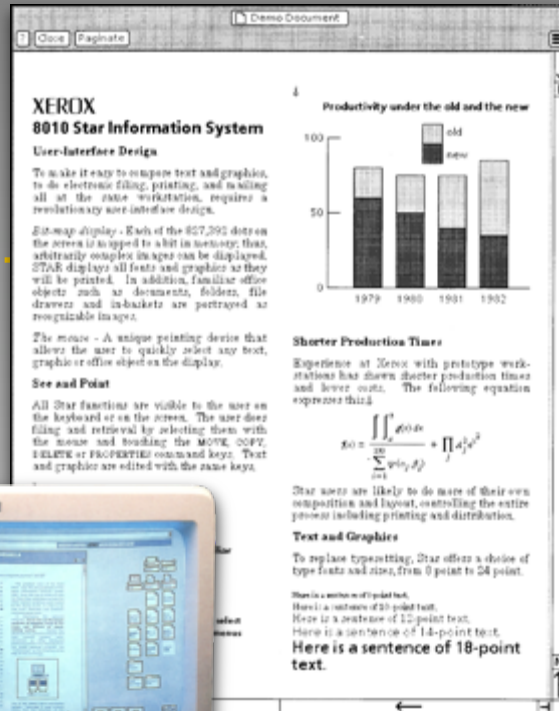
# XEROX STAR 8010 WORKSTATION, c. 1981

# 1981



XEROX STAR c. 1981

*Document-centric model*



APPLE MAC c. 1984

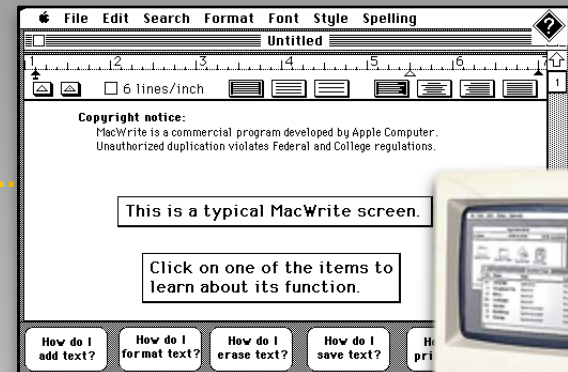
*Application-centric model*



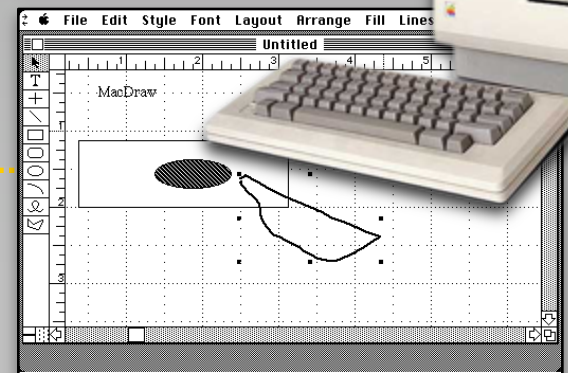
MacPaint



MacWrite



MacDraw





METAPHOR COMPUTER SYSTEMS, c. 1983



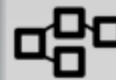
# METAPHOR



Folder



Document



Query



Plot

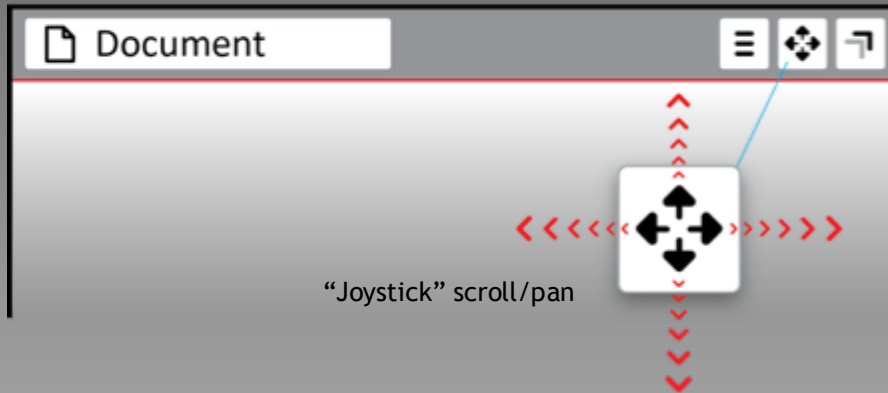


Printer

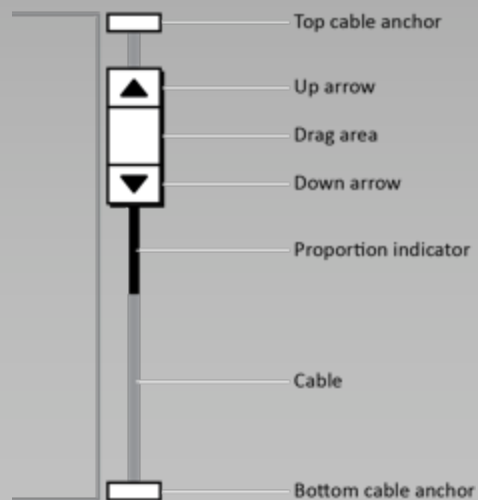
Document



## METAPHOR COMPUTER SYSTEMS, c. 1983



## OPENLOOK | Sun Microsystems, 1987



## GOOGLE WAVE | Google, 2010



# IBM CORPORATE DESIGN PROGRAM, c. 1988 - 98



Tom Hardy  
Director: IBM Corp.  
Design Program



Sam Lucente  
Manager, Corporate  
Design



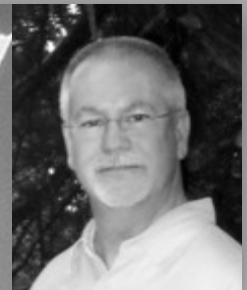
Richard Sapper  
Industrial Design  
Consultant  
Milan, Italy



Paul Rand  
Graphic Design  
Consultant  
Yale University



Edward Tufte  
Information Design  
Consultant  
Yale University

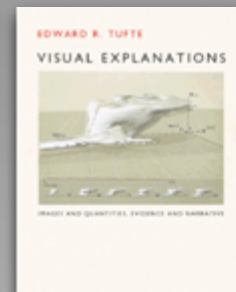
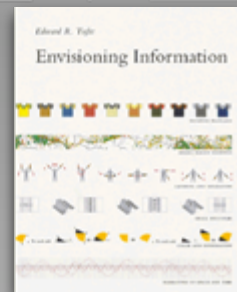
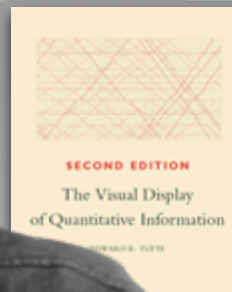
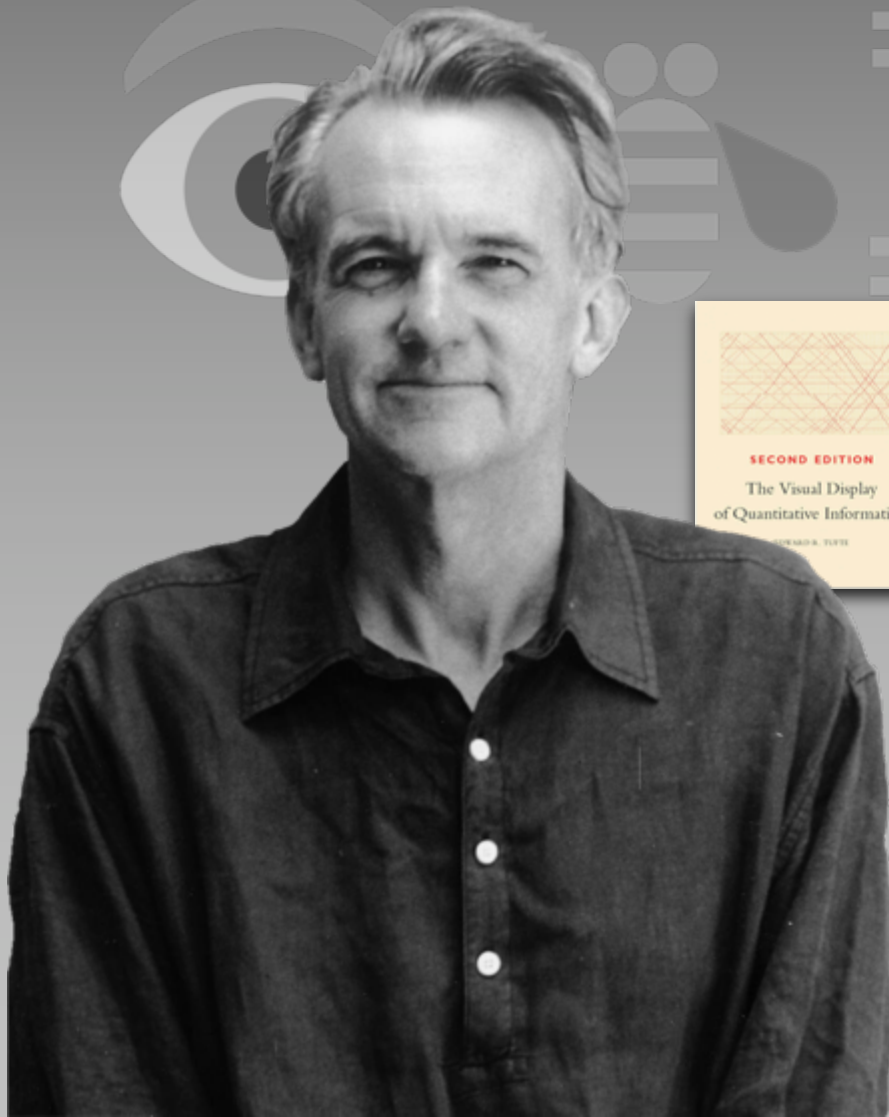


Norm Cox  
Experience Design  
Consultant



EDWARD TUFTE

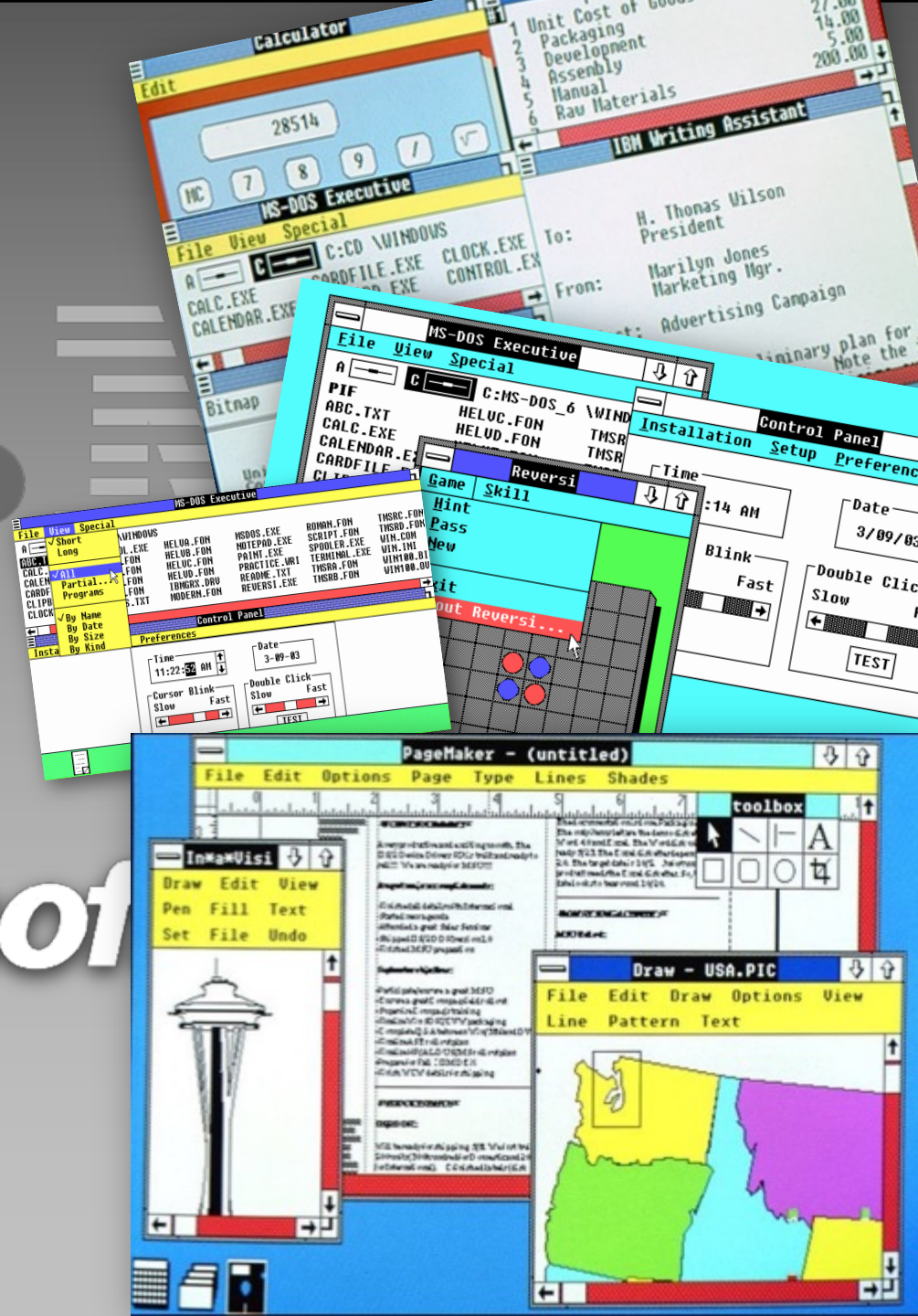
Professor emeritus of Political Science, Statistics and Computer Science, Yale University  
Author, Artist and Pioneer in the field of Data Visualization



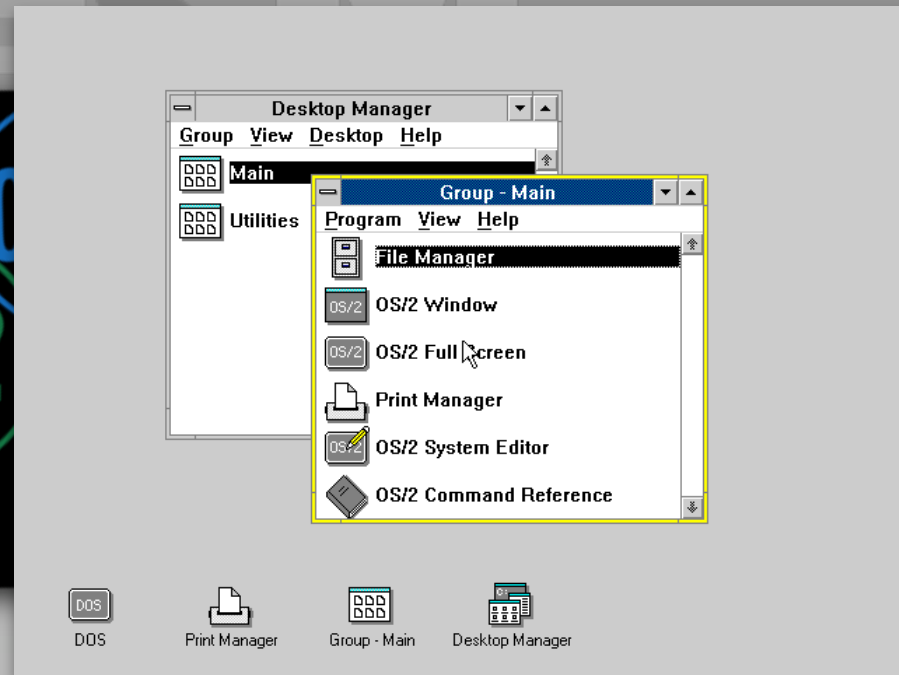
for Norm  
with warmest regards  
Ed Tufte May 1990



# Microsoft



OS/2 OPERATING SYSTEM, c. 1988-90



# OS/2 Operating System



VIA VOICE, c. 1990



ViaVoice



ViaVoice®



## an.thro.po.morph.ism

*n:* To attribute human qualities or characteristics to an animal, object or organization.



“Clippy”

Microsoft’s obnoxious and annoying, on-screen “help” agent

APPLE v. MICROSOFT, c. 1990 - 1994

Apple Computer  
*Plaintiff*

v.

Microsoft  
Hewlett-Packard  
*Defendants*

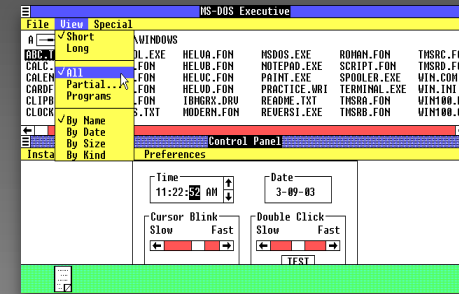
### THE STAKES

- \$14B in damages
- Ownership of GUI
- “Bundling” of concepts
- New precedent copyright law
- Value of intellectual property

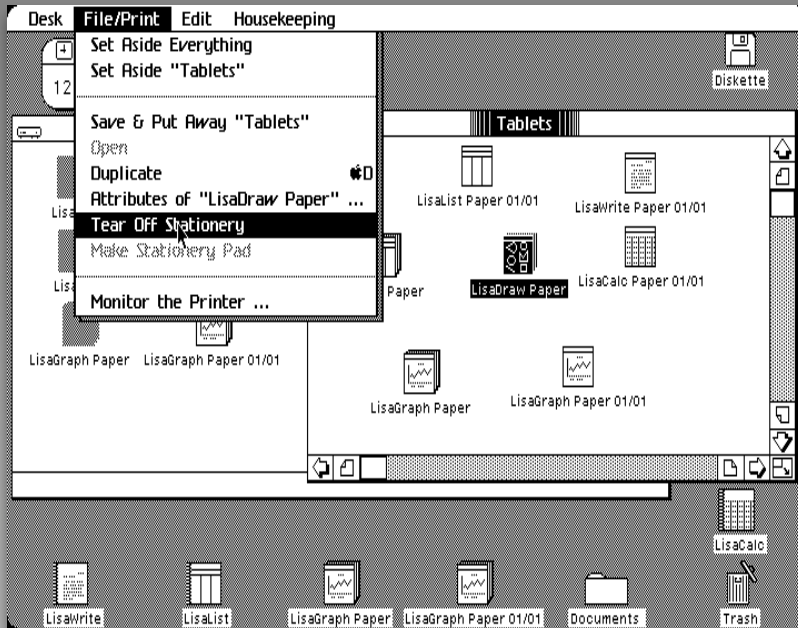


# APPLE v. MICROSOFT, c. 1989

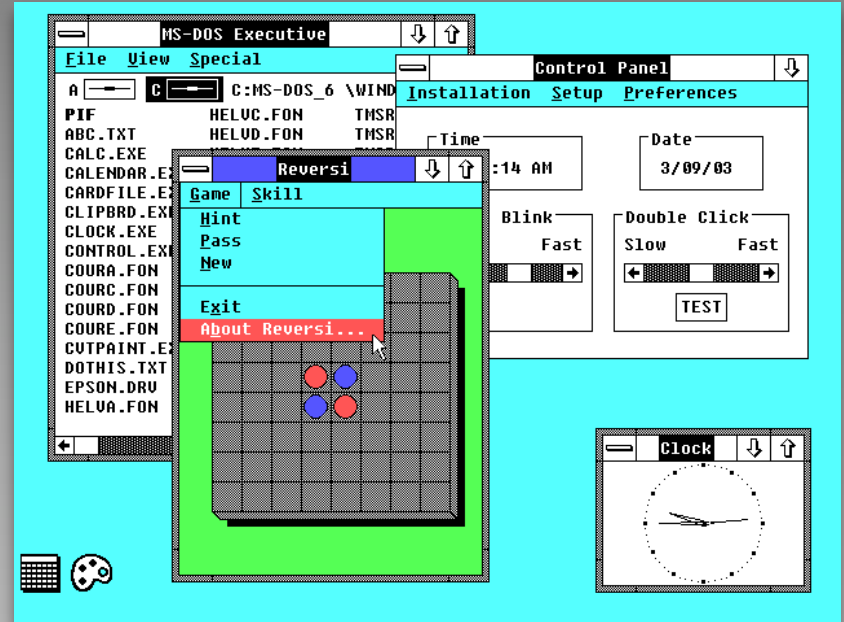
WINDOWS 1.0



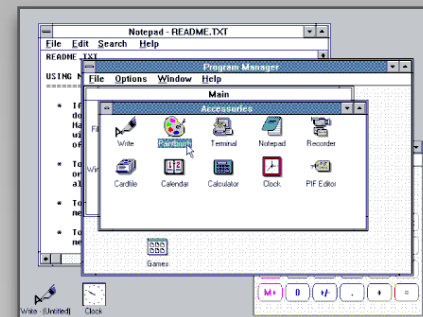
APPLE LISA



WINDOWS 2.0



WINDOWS 3.0





APPLE v. MICROSOFT, c. 1989



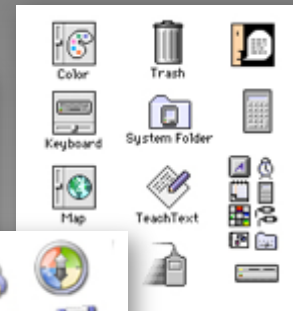
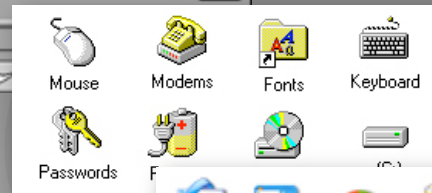
Flat, simple,  
minimal



Literal



Isometric | Color



Shiny plastic | Shadows



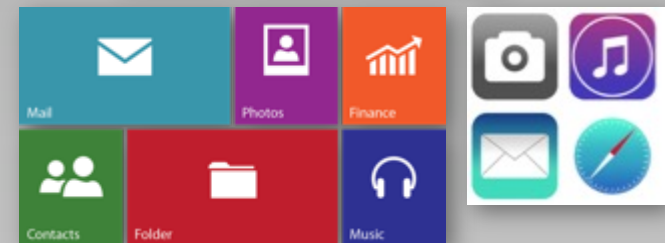
Jellybeans & Glass



Skeuomorphic | Hyper-realism



Flat, simple, minimal



## Mnemonic gestures

Tap



Double tap



Drag



Flick



Pinch



Spread



Press



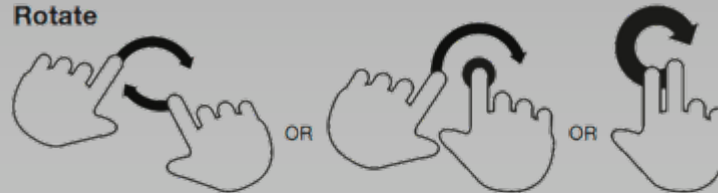
Press and tap



Press and drag



Rotate



S A M S U N G, c. 2014

## Mnemonic gestures





SAMSUNG, c. 2014

## Mnemonic gestures





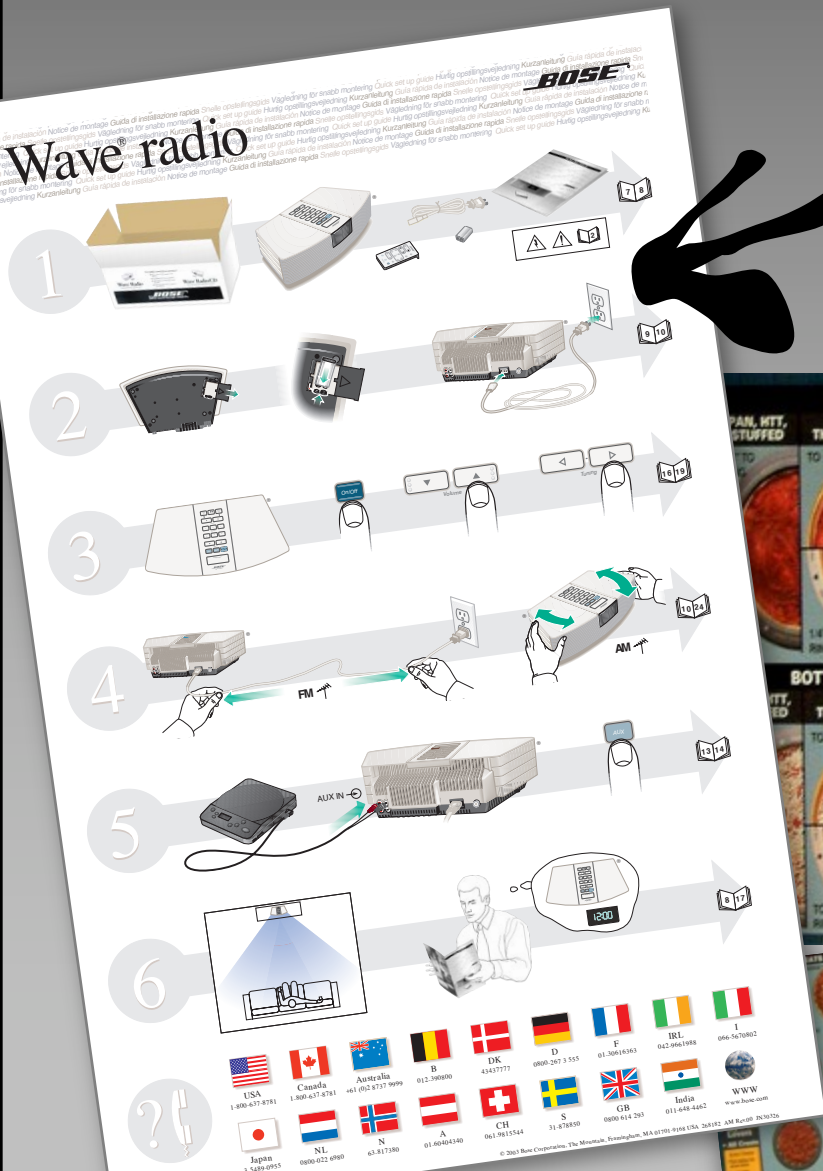
- 12,000 outlets in 90 countries.
- Employs more than 300,000 staff.
- Parent company (YUM Brands) is largest restaurant company in the world.
- Serves more than 1.3 million pizzas daily.
- Offers approx. 500,000+ different combinations of pizza.

PIZZA HUT, c. 2000

# Wave® radio

“Uhh...

We want this!"



## HOLISTIC DESIGN

PIZZA HUT, c. 2000

# WHY?



- Reduce production errors.  
*50% of all pizzas are incorrectly made or out of spec.*
- Reduce complexity of instructions.  
*Nobody can figure it out.*
- Reduce cost of translation/printing.  
*Expensive to print for 90+ countries*
- Reduce employee training time.  
*200+% employee turnover each year. (~600k)*
- Improve employee confidence.  
*Complexity of back-of-house materials leads to low confidence in job performance.*
- Reduce managers' stress  
*Store managers were underperforming and stressed.*



Small  
Medium  
Large

- Shake & level
- Strips off bottom excess

Extra Sauce =  
Honeying Dressing

- Bottom Cheese  
Sm = 1/2 green  
Md = 1 green  
Shuffled = 1 green  
Lg = 1 red

• Cheese Pizza  
(Bottom Cup Only)  
Siz = 1.4 green, tot  
Mg = 2.12 green, tot  
Dried = 2.13 green,  
total

SUPREME		SUPER SUPREME		MEAT LOVERS	
BOTTOM CHEESE		BOTTOM CHEESE		BOTTOM CHEESE	
Pepperoni		Pepperoni		Pepperoni	
1" Slicing		1" Slicing		1" Slicing	
Meat Mix <b>B</b>		Ham		Ham	
Green Pepper <b>D</b>		1" Slicing		1" Slicing	
Red Onion <b>D</b>		Meat Mix <b>D</b>		Meat Mix <b>C</b>	
Mushroom <b>D</b>		Italian Sausage <b>D</b>		Italian Sausage <b>C</b>	
TOP CHEESE		Green Pepper <b>D</b>		Bacon <b>C</b>	
PEPPERONI LOVERS		Red Onion <b>D</b>		TOP CHEESE	
BOTTOM CHEESE		Mushroom <b>D</b>		VEGGIE LOVERS	
Pepperoni		Black Olive <b>D</b>		BOTTOM CHEESE	
1" Slicing		TOP CHEESE		Green Pepper <b>D</b>	
Middle Cheese <small>1 1/2" x 1 1/2" Top Slice Bottom 1/2" x 1 1/2" Top Slice</small>				Red Onion <b>D</b>	
Pepperoni				Mushroom <b>D</b>	
<small>Supreme Edge, inner panel</small>				Black Olive <b>D</b>	
SAUSAGE LOVERS		CHICKEN SUPREME		Tomato <b>D</b>	
BOTTOM CHEESE		BOTTOM CHEESE		TOP CHEESE	
Italian Sausage <b>A</b>		Chicken <b>B</b>		CHEESE LOVERS	
Pork <b>C</b>		Green Pepper <b>D</b>		BOTTOM CHEESE	
TOP CHEESE		Red Onion <b>D</b>		2 Toppings <b>C</b>	
		Mushroom <b>D</b>		<small>Good Ranch, Top or Top</small>	
		TOP CHEESE		Top Cheese <small>1 1/2" x 1 1/2" Top Slice Bottom 1/2" x 1 1/2" Top Slice</small>	

**Additional Specialty Toppings = Level C**

### Anchovy Rules:

GREEN PEPPER RED ONION

THE WORKS	
BOTTOM CHEESE	
Pepperoni	
1" Slicing	
Italian Sausage	C
Green Pepper	C
Red Onion	C
Mushroom	C
Tomato	C
MARINARA SEASONING SPRAY	
Cheese Herb Seasoning	
MEATY	
BOTTOM CHEESE	
Pepperoni	
1" Slicing	
Ham	
1" Slicing	
Italian Sausage	B
Bacon	C
MARINARA SEASONING SPRAY	
Cheese Herb Seasoning	

CYO = follow Topping Chart  
Extra Toppings = Level C

**1 Topping**  
• All Crusts

1 Top Pepperoni  
or Ham

• See top sliced meats

**2**  
**Topping**  
• All Crusts

**3+**  
**Topping**  
• All Crusts

Extra Peppermint  
- Add another layer  
edge to edge

**Specialties**  
• All Crusts

**Extra Peppermint**  
- Add another layer  
edge to edge



Edge to Edge

1" Spacing

**Pepperoni Lovers**  
• All Crusts

**Basic Crusts**  
Place dough on a floured surface and roll out to 12" (12" round) or 14" (14" round) or 16" (16" round) or 18" (18" round) or 20" (20" round) or 22" (22" round) or 24" (24" round) or 26" (26" round) or 28" (28" round) or 30" (30" round) or 32" (32" round) or 34" (34" round) or 36" (36" round) or 38" (38" round) or 40" (40" round) or 42" (42" round) or 44" (44" round) or 46" (46" round) or 48" (48" round) or 50" (50" round) or 52" (52" round) or 54" (54" round) or 56" (56" round) or 58" (58" round) or 60" (60" round) or 62" (62" round) or 64" (64" round) or 66" (66" round) or 68" (68" round) or 70" (70" round) or 72" (72" round) or 74" (74" round) or 76" (76" round) or 78" (78" round) or 80" (80" round) or 82" (82" round) or 84" (84" round) or 86" (86" round) or 88" (88" round) or 90" (90" round) or 92" (92" round) or 94" (94" round) or 96" (96" round) or 98" (98" round) or 100" (100" round) or 102" (102" round) or 104" (104" round) or 106" (106" round) or 108" (108" round) or 110" (110" 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**A 1 Topping**  
• PRN  
• HTT  
• THIN / Edge

**B 2 Topping**  
• PRN  
• HTT  
• THIN / Edge

**1 Topping**  
• Stuffed

**3+ Topping**  
• PRN  
• HTT  
• THIN / Edge

**2+ Topping**  
• Stuffed

Extra Toppings  
Level C

**D Recipe Chart**

Menu board content:

- 1 Topping
  - PAN
  - MTT
  - THIN / Edge
- 2 Topping
  - PAN
  - MTT
  - THIN / Edge
- 1 Topping
  - Stuffed
- 3+ Toppings
  - PAN
  - MTT
  - THIN / Edge
- 2+ Toppings
  - Stuffed

**A1 Topping**

- PEPPERONI
- MUSHROOMS
- HAM / Edge

**2 Topping**

- PEPPERONI
- MUSHROOMS
- HAM / Edge

**1 Topping**

- Sausage

**3+ Topping**

- PEPPERONI
- MUSHROOMS
- HAM / Edge

**2+ Topping**

- Sausage
- Pepperoni
- Ham / Edge

**Recipes Charts**

**FINAL CHECK**

Have toppings distributed  
No cheese, chicken, vegetables or drink  
No parchment, missing top/bottom  
Check all sides  
Check final temp.

[illegible]



# CHALLENGE ESTABLISHED SPECS / RULES



# INSTRUCTIONAL MATERIAL REDESIGN

	Sauce	Cheese*	Sliced meats	Ground meats	Vegetable Toppings	Top Cheese	Sliced meats
Personal Pan							
Pan							
Handtossed							
Thin							
Homestyle							
Stuffed Crust							
P'ZONE							

\* For cheese only pizzas, add 2 additional cups.

\* Skip to Top Cheese, then add sliced meats on top.

### Supreme

- 1 Pepperoni
- 2 Meat mix
- 4+ Green peppers
- 4+ Red onions
- 4+ Mushroom
- 4+ Black olives
- Cheese

### Meat Lovers

- 1 Pepperoni
- 1 Ham
- 2 Meat mix
- 2 Ital. sausage
- 4+ Bacon
- Cheese

## Toppings

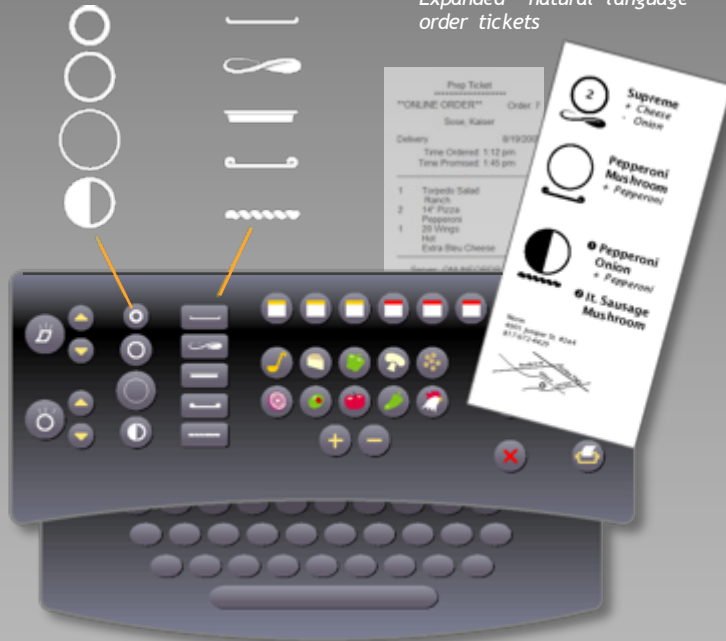
1
2/3
4+ +

Green peppers			
Red onions			
Mushrooms			
Black olives			
Tomatoes			

# HOLISTIC DESIGN APPROACH

Consistent visual language

Expanded “natural language” order tickets

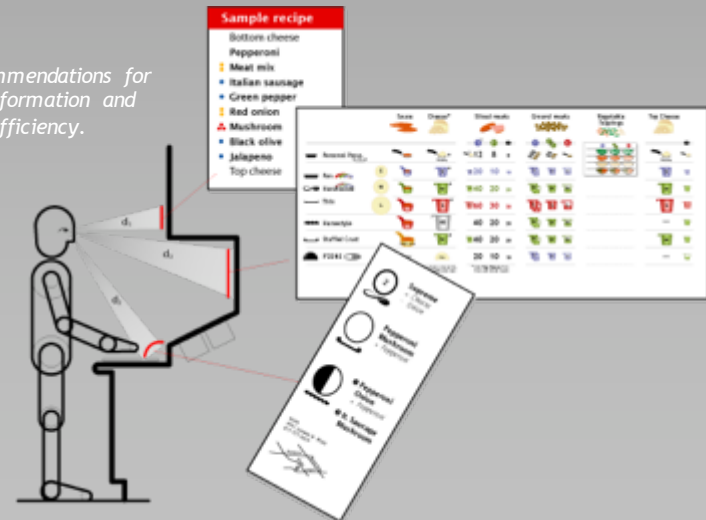


Proposed redesign of order entry terminals.



Visual job aids redesigned to be simpler, more flexible, and easy to read and understand.

Ergonomic recommendations for “just in time” information and maximum task efficiency.





## REDUCING RGM STRESS...

Opinionaire: 400 respondents

On-site observations: 12 restaurants

**Pizza Hut**  
RESTAURANT

*Simply Great  
Taste FRESH*

### Restaurant General Manager (RGM) Identifying Stress Factors In Restaurant Operations

Operations Questionnaire  
and Opinionaire

Facilitated by:

COX&HALL  
June, 2001

# errors

slip

lapse

mistake

**violation**

} Unintentional

} Intentional

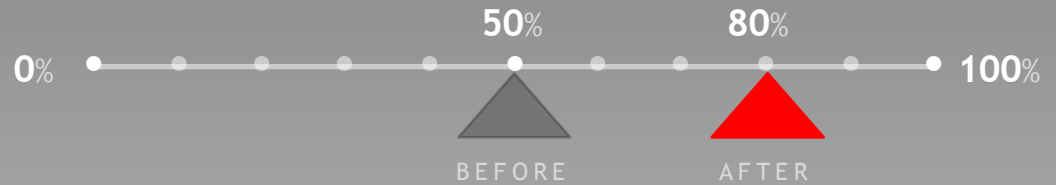
Compensation Policies for franchisees were actually encouraging “violations” of quality standards in the restaurants.



## THE NUMBERS ...



Production accuracy



Training time for pizza production staff (no. of shifts)



Time to achieve proficiency (no. of shifts)



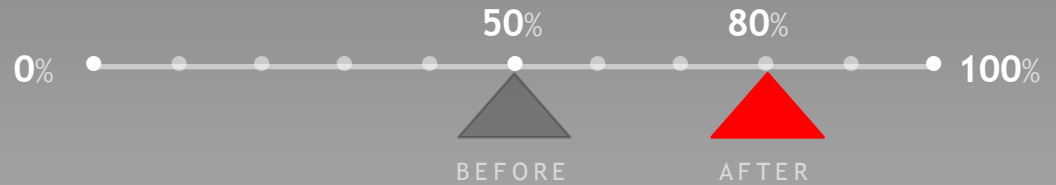
Confidence level of staff (50% improvement)



## THE NUMBERS ...



Production accuracy



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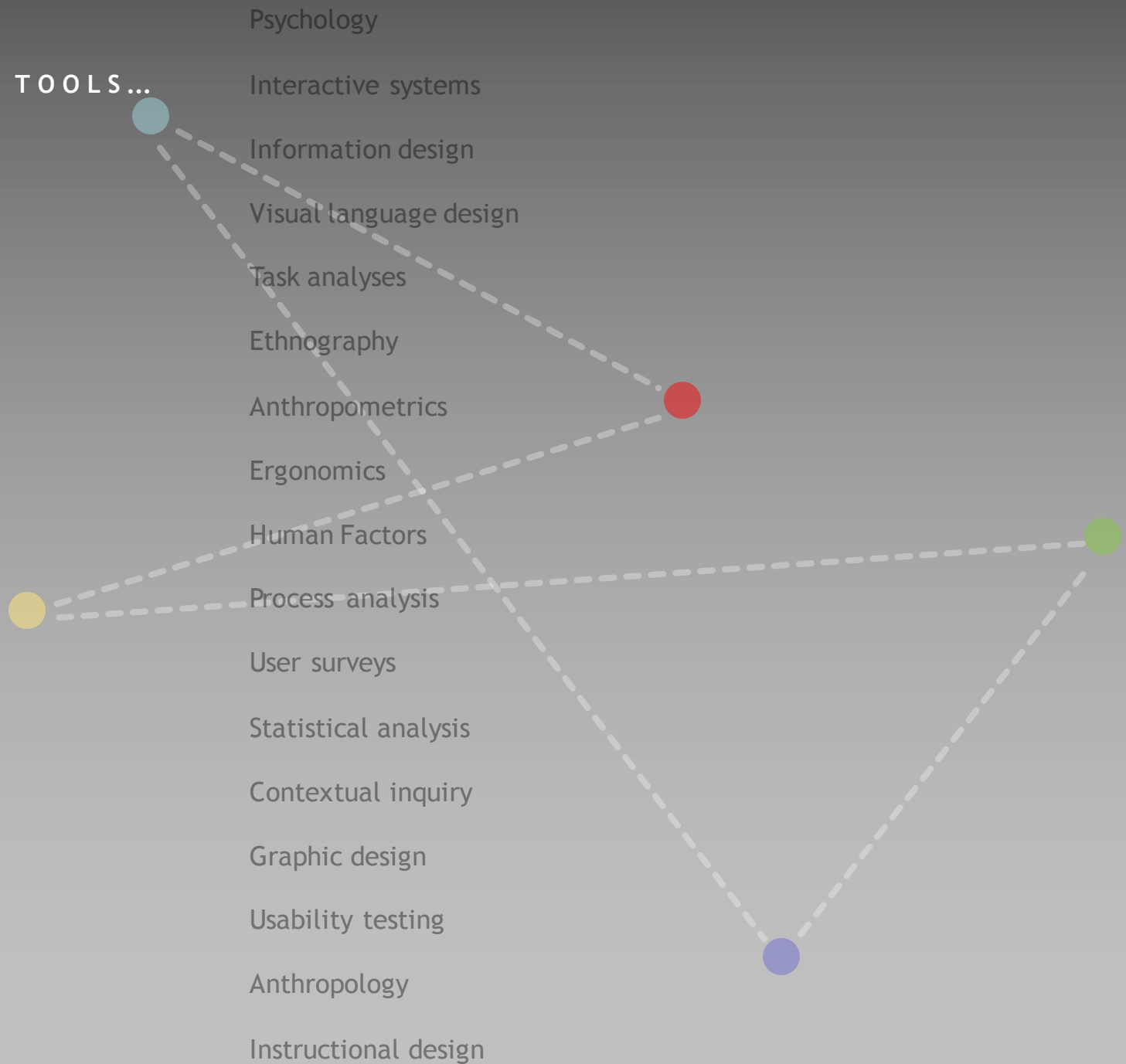
Confidence level of staff (50% improvement)

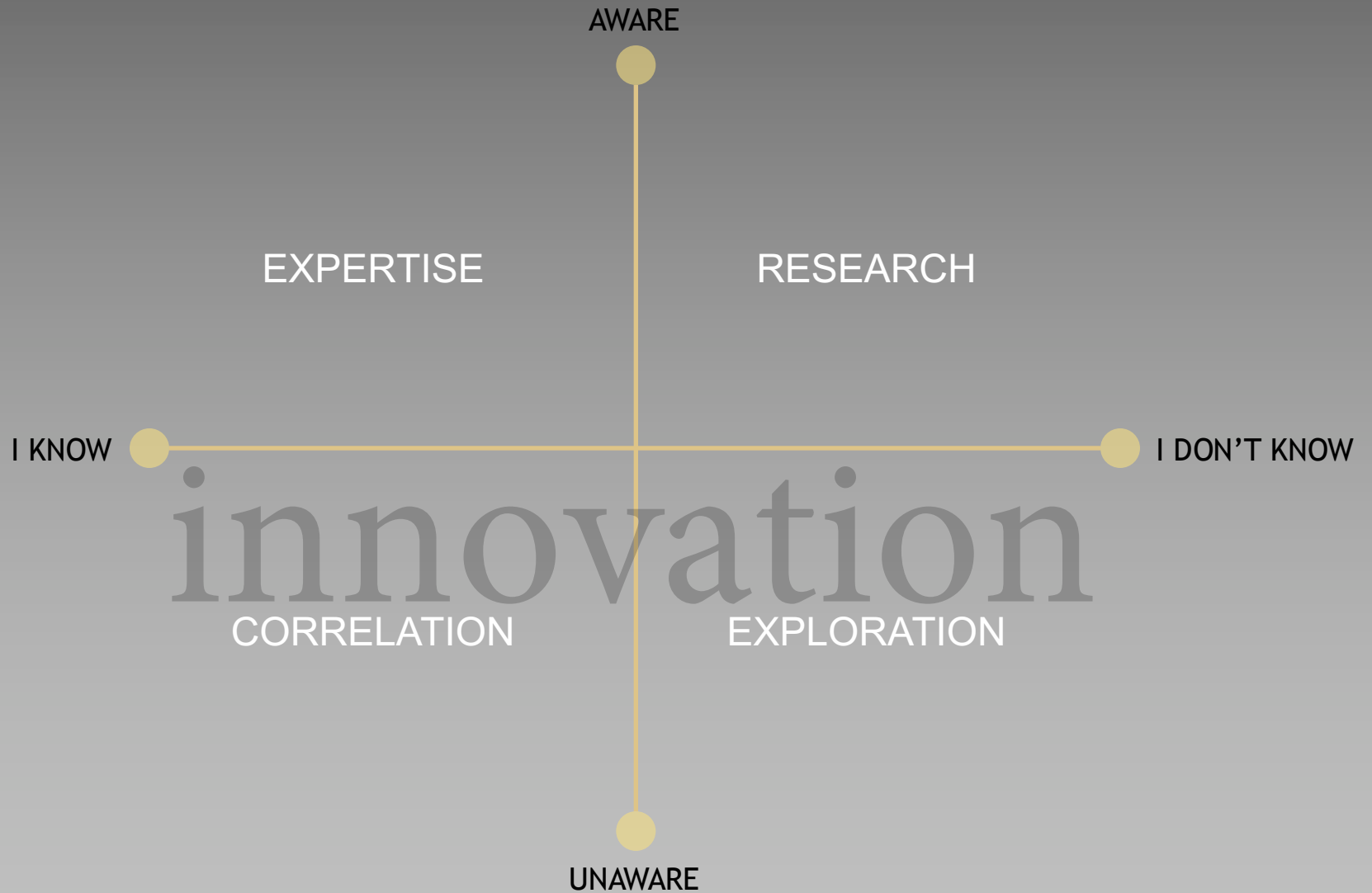


**\$400M**  
per year savings

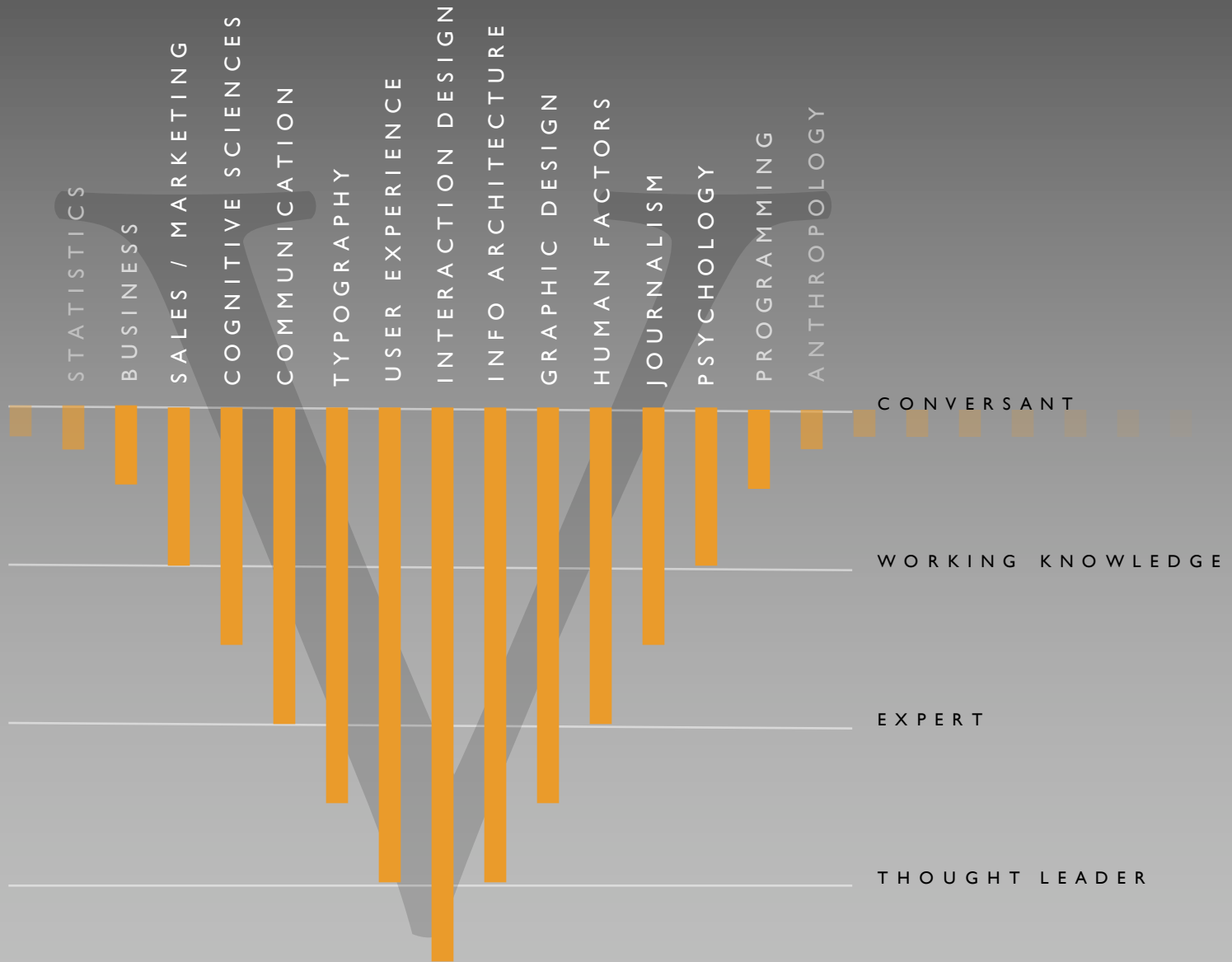


## THE TOOLS...





# THE **V** THINKER



“If you only have a hammer, you tend to see every problem as a nail.”

Abraham Maslow, American Psychologist, Creator of “Maslow’s Hierarchy of Needs” ( 1908 - 1970 )



# Thank you.

COX&HALL

DESIGN | USABILITY | EXPERIENCE



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