Metaphor Machines

Past & Future of HCI

Columbia Group for Experimental Methods
In the Humanities
@dennistenen

- Literary scholar / theorist
- Historian of media and technology
- A recovering software developer (WebTV and Windows XP)

Forthcoming: *Plain Text: The Poetics of Human-Computer Interaction*

Who am I?

the plan today

10 min   a brief history of HCI

25 min   Direct interfaces?

10 min   Space alterior to mimesis

15 min   Questions

Exposed: Desire and Disobedience in the Digital Age Hardcover, Bernard Harcourt (HUP, 2015)

Data and Goliath: The Hidden Battles to Collect Your Data and Control Your World, Bruce Schreiner (Norton, 2015)

Obfuscation: A User's Guide for Privacy and Protest, Finn Brunton & Helen Nissenbaum (MITP, 2015)

Future Crimes: Everything Is Connected, Everyone Is Vulnerable and What We Can Do About It, Marc Goodman (Doubleday, 2015)

The Black Box Society: The Secret Algorithms That Control Money and Information, Frank Pasquale (HUP, 2015)

No Place to Hide: Edward Snowden, the NSA, and the U.S. Surveillance State, Glenn Greenwald (Picador, 2015)

Dataclysm: Who We Are (When We Think No One's Looking, Christian Rudder (Crown, 2014

A SENSE OF CRISIS

HOW DID WE GET HERE?*

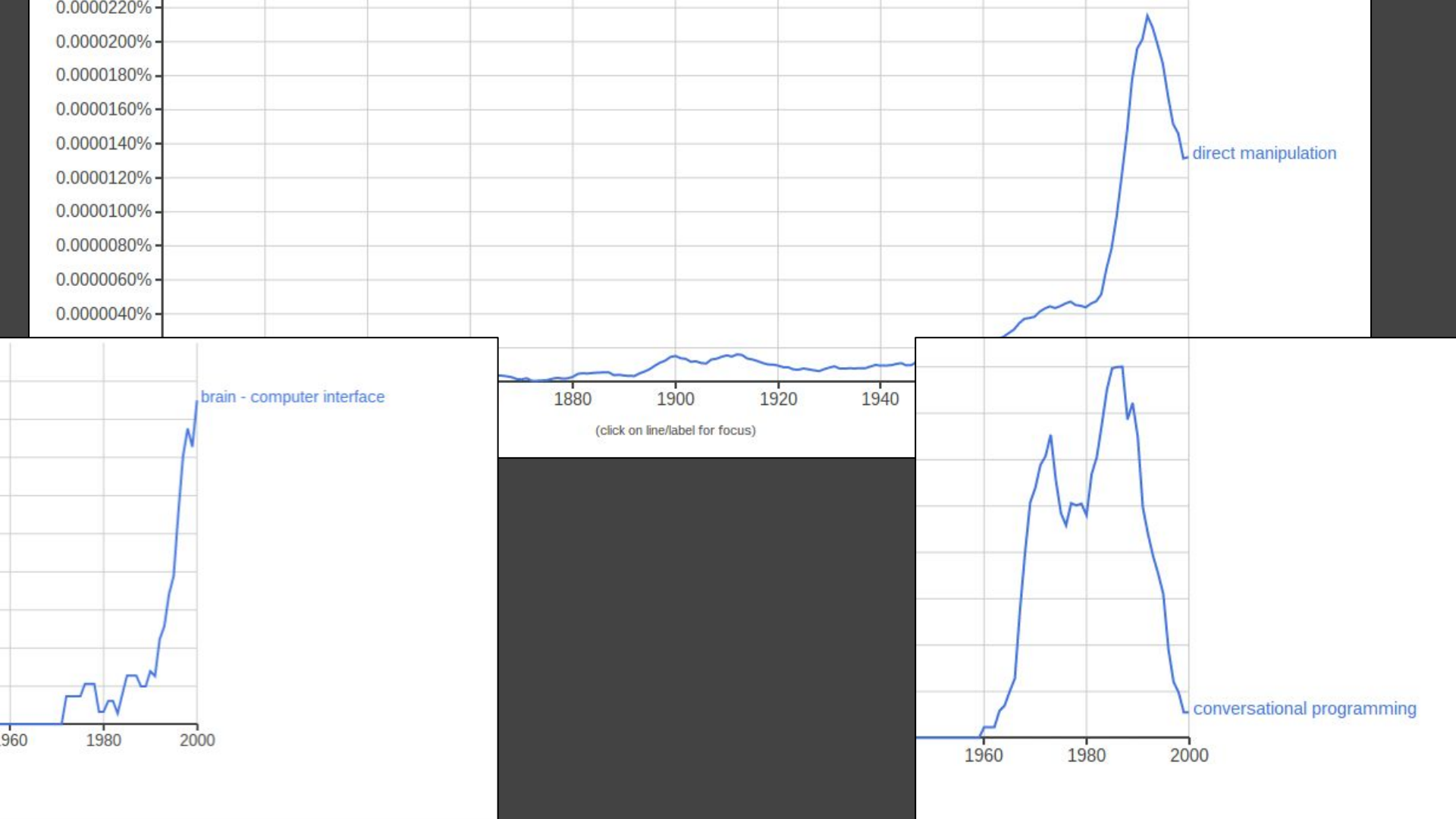* Where is here?

** Who are the we?

image
icon
symbol
character
data
record
text
inscription
interface

Where is it?

0.0000220%

0.0000200%

0.0000180%

0.0000160%

0.0000140%

0.0000120%

0.0000100%

0.0000080%

0.0000060%

0.0000040%

direct manipulation

brain - computer interface

1880   1900   1920   1940

(click on line/label for focus)

conversational programming

1960   1980   2000

1960   1980   2000
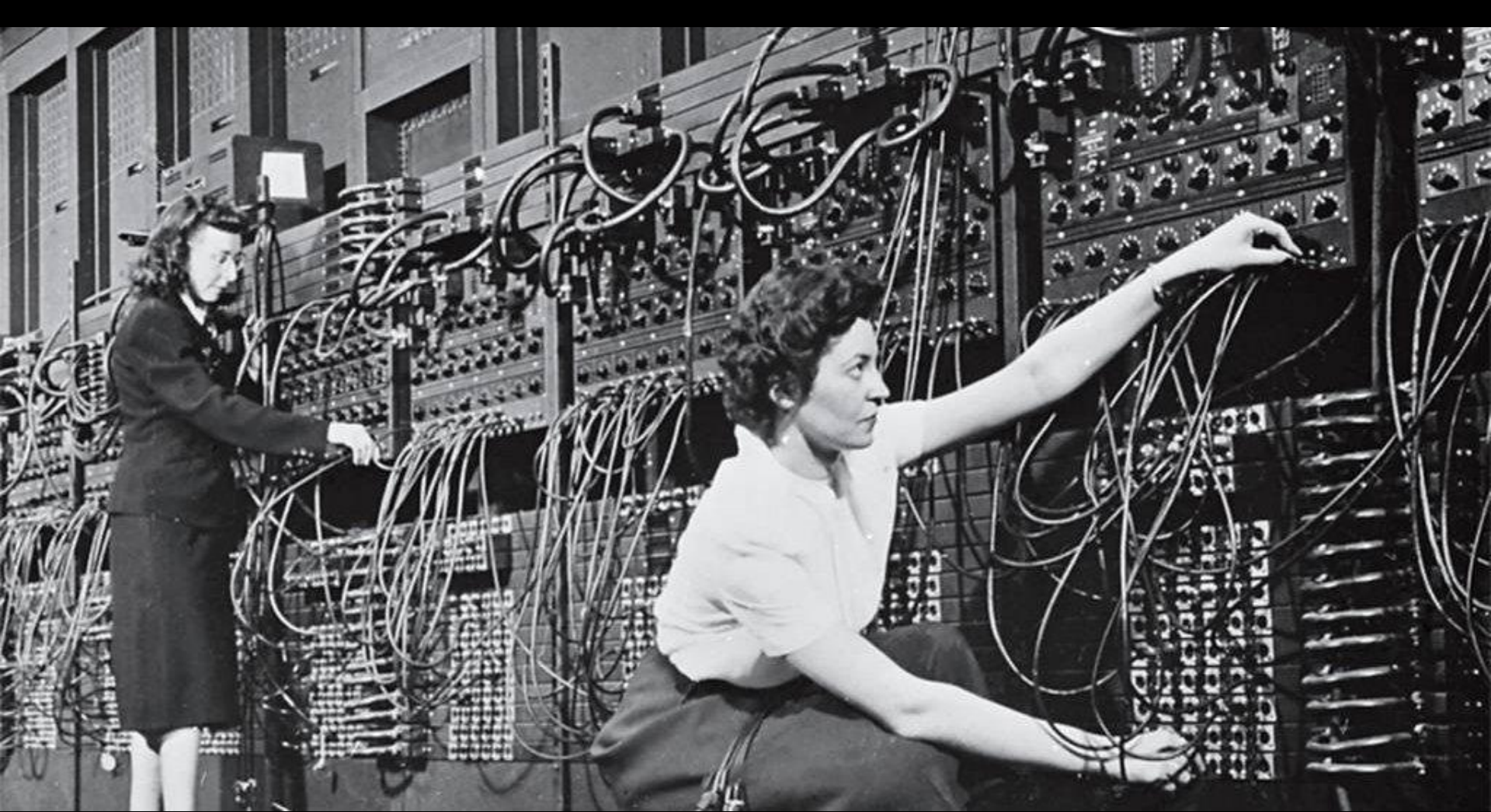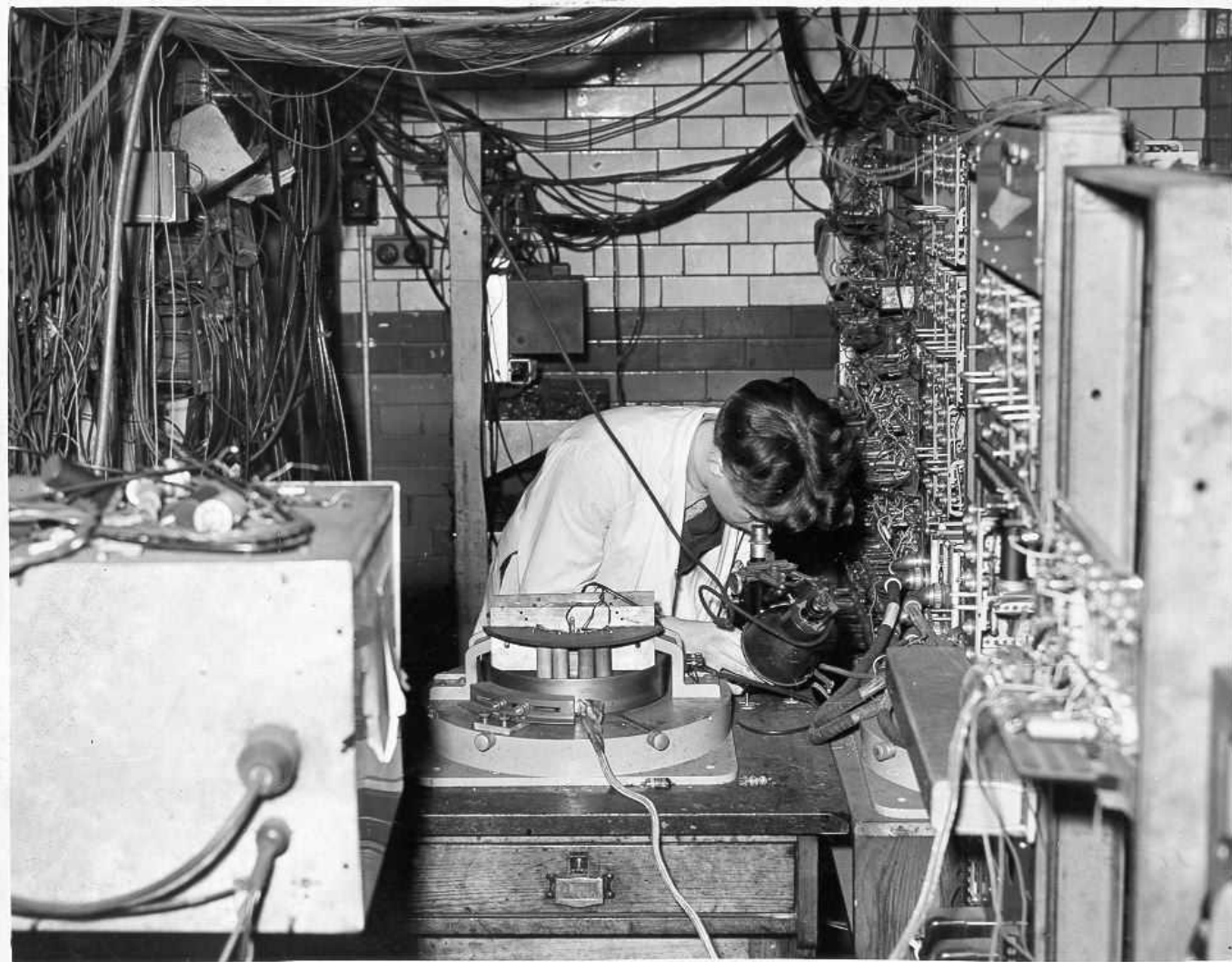
hardware

the extreme and solipsist point of view. Probably he would be quite willing to accept the imitation game as a test. The game (with the player B omitted) is frequently used in practice under the name of *viva voce* to discover whether some one really understands something or has 'learnt it parrot fashion'. Let us listen in to a part of such a *viva voce* :

Interrogator : In the first line of your sonnet which reads 'Shall I compare thee to a summer's day', would not 'a spring day' do as well or better ?

Witness : It wouldn't scan.

Interrogator : How about 'a winter's day' That would scan all right.

Witness : Yes, but nobody wants to be compared to a winter's day.

Interrogator : Would you say Mr. Pickwick reminded you of Christmas ?

Witness : In a way.

Interrogator : Yet Christmas is a winter's day, and I do not think Mr. Pickwick would mind the comparison.

Witness : I don't think you're serious. By a winter's day one means a typical winter's day, rather than a special one like Christmas.

And so on. What would Professor Jefferson say if the sonnet-writing machine was able to answer like this in the *viva voce* ? I do not know whether he would regard the machine as 'merely

conversation

MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY

I.—COMPUTING MACHINERY AND INTELLIGENCE

BY A. M. TURING

1. *The Imitation Game.*

scrawled the inscription, "Fee fie foe foo" [sic].

>s

In Narrow Corridor
You are in a long, narrow corridor stretching out of sight to the west. At the eastern end is a hole through which you can see a profusion of leaves.

>n
You can't go that way.

>w

```
#       support/conferences/ipam-april-2016/
nothing added to commit but untracked files present (use "git add" to track)
[~/Documents/plain-text]$ git add -A                              *[master]
[~/Documents/plain-text]$ git commit -m "add images"             *[master]
[master 2f9f4fe] add images
 2 files changed, 455 insertions(+)
 create mode 100644 support/conferences/ipam-april-2016/45-min-direct-manipulation.md
 create mode 100644 support/conferences/ipam-april-2016/test.pdf
[~/Documents/plain-text]$ git push                                [master]
Enter passphrase for key '/home/denten/.ssh/id_rsa':
Counting objects: 10, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (7/7), done.
Writing objects: 100% (7/7), 660.88 KiB, done.
Total 7 (delta 2), reused 0 (delta 0)
remote: This repository moved. Please use the new location:
remote:   https://github.com/dh-notes/plain-text.git
To git@github.com:xpmethod/plain-text.git
   8407241..2f9f4fe  master -> master
[~/Documents/plain-text]$ vim 0-intro.md                          [master]
Error detected while processing /home/denten/.vimrc:
line   68:
E518: Unknown option: regexpengine=2

vim-pandoc: 'bibliographies' and 'command' modules require vim >= 7.4 and have been disa
bled.
Press ENTER or type command to continue
[~/Documents/plain-text]$ 
```

"direct manipulation"

Example ViewPoint Document   Close   Save   Reset   Save & Edit
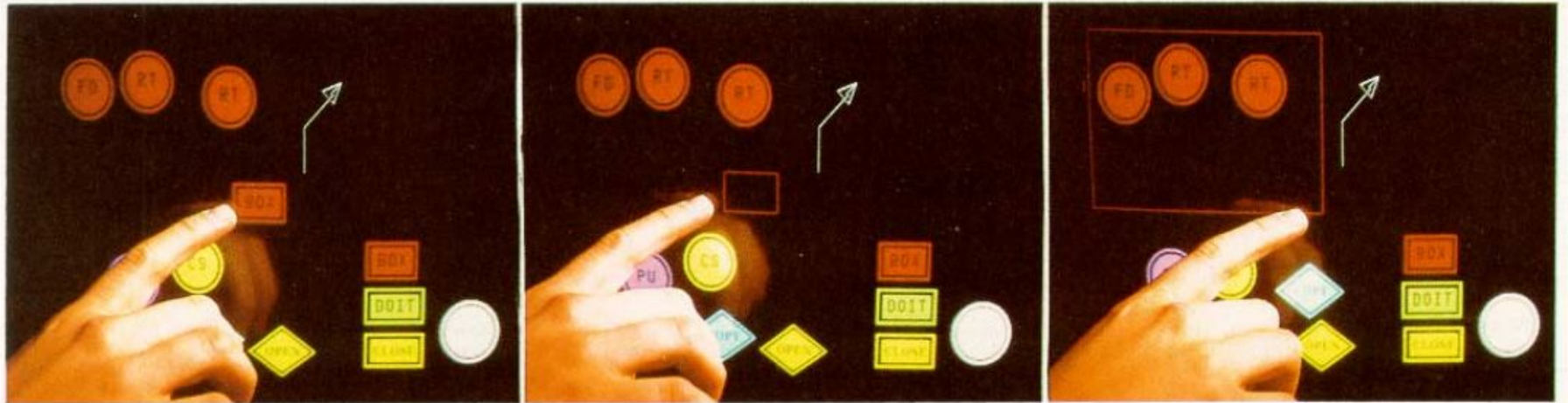
XEROX
6085 Workstation
User-Interface Design

To make it easy to compose text and graphics, to do electronic filing, printing, and mailing all at the same workstation, requires a revolutionary user interface design.

Bit-map display. Each of the pixels on the 19" screen is mapped to a bit in memory; thus, arbitrarily complex images can be displayed. The 6085 displays all fonts and graphics as they will be printed. In addition, familiar office objects such as documents, folders, file drawers and in-baskets are portrayed as recognizable images.

The mouse. A unique pointing device that allows the user to quickly select any text, graphic or office object on the display.

See and Point

All functions are visible to the user on the keyboard or on the screen. The user does filing and retrieval by selecting them with the mouse and touching the MOVE, COPY, DELETE or PROPERTIES command keys. Text and graphics are edited with the same keys.

Shorter Production Times

Experience at Xerox with prototype workstations has shown shorter production times and thus lower costs, as a function of the percentage of use of the workstations. The following equation can be used to express this:

Year	Non 6085	6085
1978	85.2	15.0
1980	41.1	39.9
1982	45	55
1984	30	70
1986	10	90
1988	5	95

Table 1: Percentages of use of methods.

Activity under the old and the new
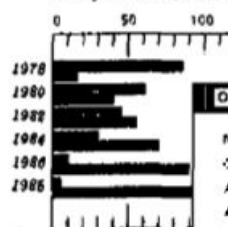
Figure 1: Data from Table 1 drives

$$X(t) = \sum_{i=1}^{n} \int_{1}^{t} \frac{4 + PP^{ij}}{denominator + t} $$

Workstation usage percentages Table 1 and illustrated in Figure 6085 users are likely to do composition and layout, control process including printing and di

Text and Graphics

To replace typesetting, the 6085 offers a choice of type fonts and sizes, from 6 point to 36 point

Here is a sentence of 10-point text.
Here is a sentence of 12-point text.
18-point text.
24-point text.
36-point text.

Brother Dominic

D O S & Lotus data: Close   Redisplay

NAME	EXTENSION	SIZE	DATE
COMMAND	COM	22677	15-A
ANSI	SYS	2556	18-A
ASSIGN	COM	864	28-A
ATTRIB	EXE	15091	14-A
BACKUP	COM	17024	28-A
CHKDSK	COM	9435	34-A
CHMOD	COM	6528	27-A
COMP	COM	3018	18-S
DEBUG	EXE	15364	15-A

9:27:24
10-29-88
N.H. | Local | Kevin J. | Outbasket

Mail Merge | Mail from Ken

Brother Domini c | Calendar | Calc | Loader

Blank User Dictionar y | Empty Dictionar y | Blank Record File

Blank Document

2.0 | TTY | Beechnut | Monthly Profile | Blank Folder

C Tools | Blank Illustrator | Blank Canvas

Emulator | PC | Converter | Blank Shared Book | Blank Book

Emulated Rigid Disk | Virtual Floppy | Example ViewPo | Remote Files

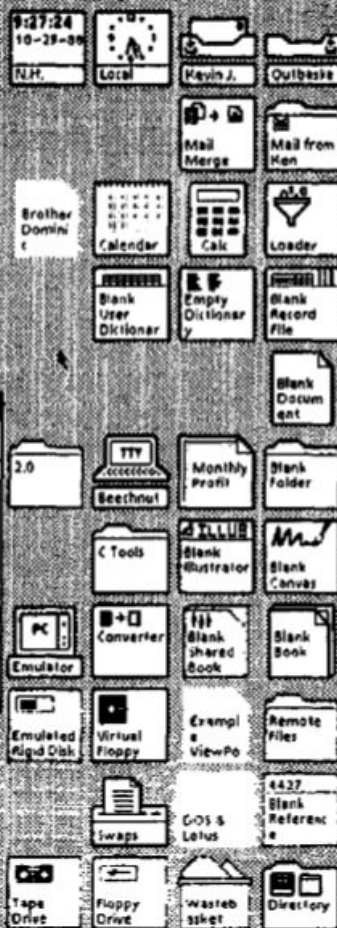Drawers in Japan | Swaps | DOS & Lotus | Blank Reference

Mackey | OSBU | Xerox | Tape Drive | Floppy Drive | Wastebasket | Directory

Speaking of Science

A paralyzed woman flew an F-35 fighter jet in a simulator — using only her mind

A | 🖨 | 💬 9 | 🔖 Save for Later | ☰ Reading List

By **Abby Phillip** March 3, 2015 ✉ 🐦 Follow @abbydphillip

SEARCH

The New York Times

SU

p, Implanted in
n, Helps
alyzed Man Regain
ntrol of Hand

19. WARRIORS 125, GRIZZLIES 104
Warriors Set Record With 73rd Win of Season

20. Is Gigi Gorgeous America's Next Top Model?

What to Look For in the Democratic Debate

HOME PAGE

Bernie Sanders, in New York, Presses Fight Against 'Status Quo'

Chip, Implanted in Brain, Helps Paralyzed Man Regain Control of Hand

By BENEDICT CAREY   APRIL 13, 2016

Ian Burkhart, who is paralyzed, playing a guitar video game as Nick Annetta, an electrical engineer at Battelle Memorial Institute in Columbus, Ohio, watches. The Ohio State Wexner Medical Center and Battelle

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index  | this * | brain-computer interfaces?

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icon   |    *   | direct manipulation

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symbol |  star  | conversational


                          @dennistenen THE END
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