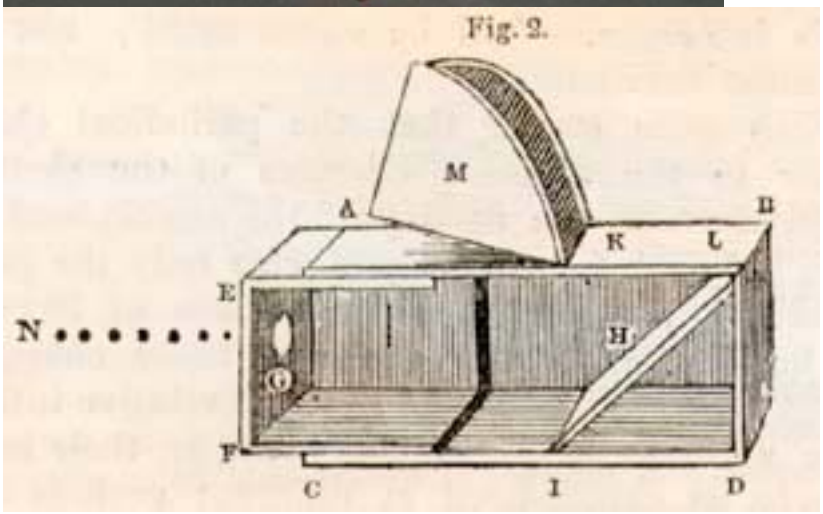
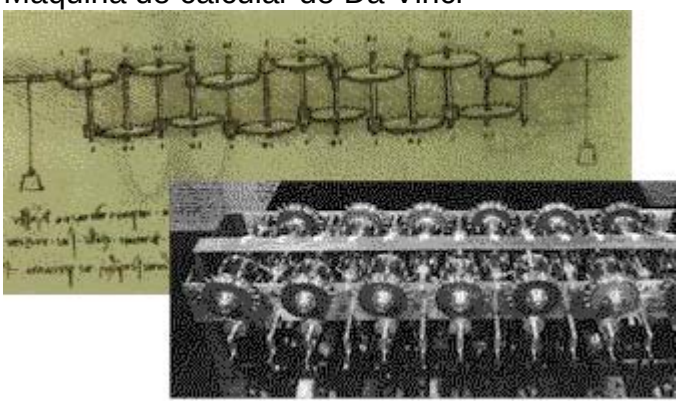
## Uma breve história das máquinas informacionais

Câmera escura. Aristóteles (384-322 ac) já entendia o princípio. No século XI Alhazen contribuiu para seu desenvolvimento. Em 1490 Leonardo Da Vinci fez descrições sobre ele e em 1558 Giovanni Battista Della Porta recomendava seu uso para o treino do desenho. Quem a batizou com este nome foi Johannes Kepler, no século XVII.

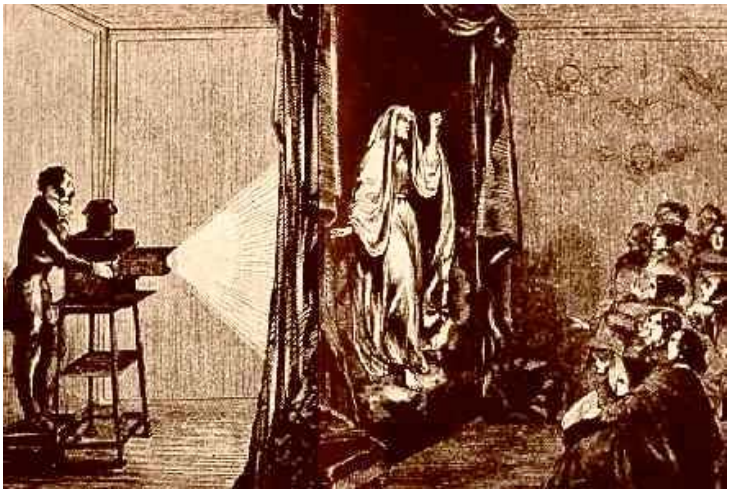



Máquina de calcular de Da Vinci



Lanterna mágica séc XVII

Phantasmagoria século XIX.

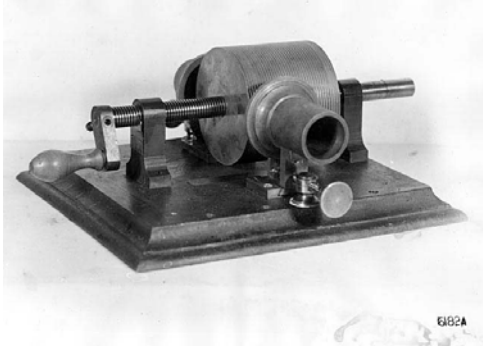


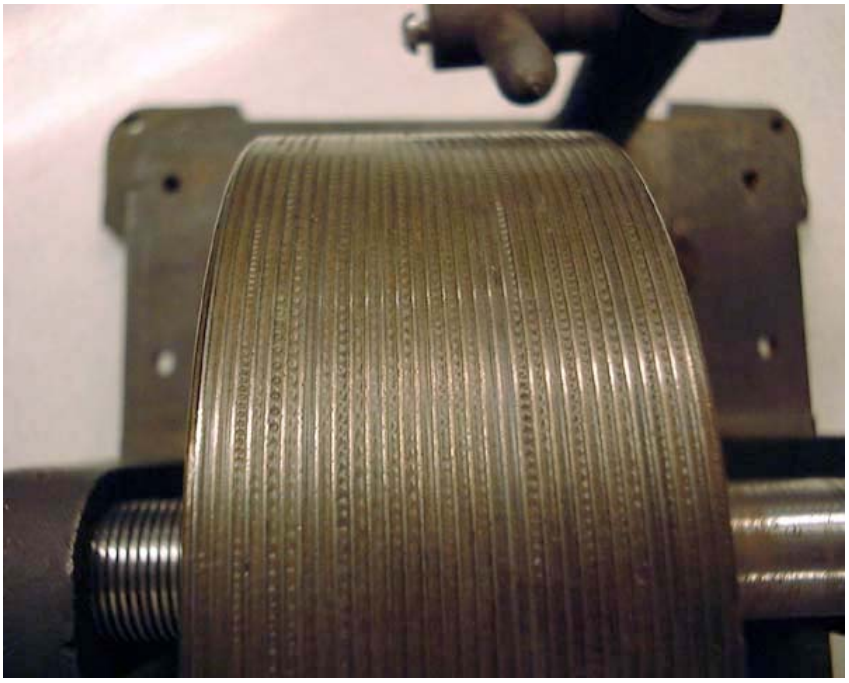
A primeira fotografia foi feita por Joseph Nicéphore Niépce em 1827. Em 1883 George Eastman lançou o primeiro filme seco e flexível e a primeira câmera da Kodak em 1888.

Eadweard Muybridge fez seus primeiros experimentos em 1872, dando início ao desenvolvimento do Kinetoscópio de **Thomas Alva Edison em 1891, graças à invenção da lâmpada em 1878.**

imagens\Muybridge.html
**imagens\mareys-dropcat.mov**

**Nesta época Edison também inventou o fonógrafo, primeiro gravador de som (que foi seguido pelo Gramophone de Emile Berliner) e o telefone (1875), que também foi desenvolvido por Bell.**





FIRST BELL TELEPHONES, PHOTOGRAPHED FROM THE ORIGINAL INSTRUMENTS IN THE PATENT OFFICE AT WASHINGTON

diagramas-fernando\bell_lg.mov
diagramas-fernando\telephone1929.mov

A câmera e o projetor de cinema tomam forma com a invenção do cinematógrafo de Louis Lumiére em 1894 e a primeira projeção pública do filme “L'Arrivée d'un train en gare de la Ciotat” de Georges Méliè.

1898 – Gravação de som em fio - Dane Valdemar Poulsen

1901 - Gravação óptica do som (cinema)

1902 Méliè “Viagem à lua” – truques de montagem e pintura sobre a película.

1903 Edwin Porter “The great Train Robery” – Montagem de closes e planos abertos.

1914 Charlie Chaplin com “O pequeno vagabundo” e D.W. Griffith desenvolve os primeiros esboços da “gramática do cinema” (montagem paralela).

1924 Sergei Eisenstein “A Greve” – Montagem intelectual e outras contribuições.

O som só foi se incorporar ao cinema na década de 1920 depois da invenção do processo Vitaphone utilizado pelo famoso “The Jazz Singer” de 1927 e do desenho animado da Disney “Steamboat Willie” de 1928, o primeiro filme com áudio dublado.

diagramas-fernando\vitaphone_sm1926.mov

1929 – Transmissão de TV mecânica (30 linhas) pela BBC até 1935.

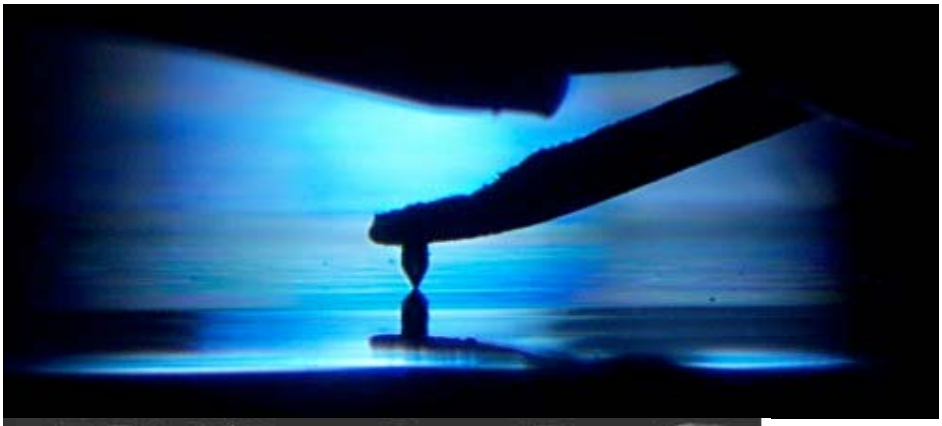
1932 – introdução do technicolor e da celulose

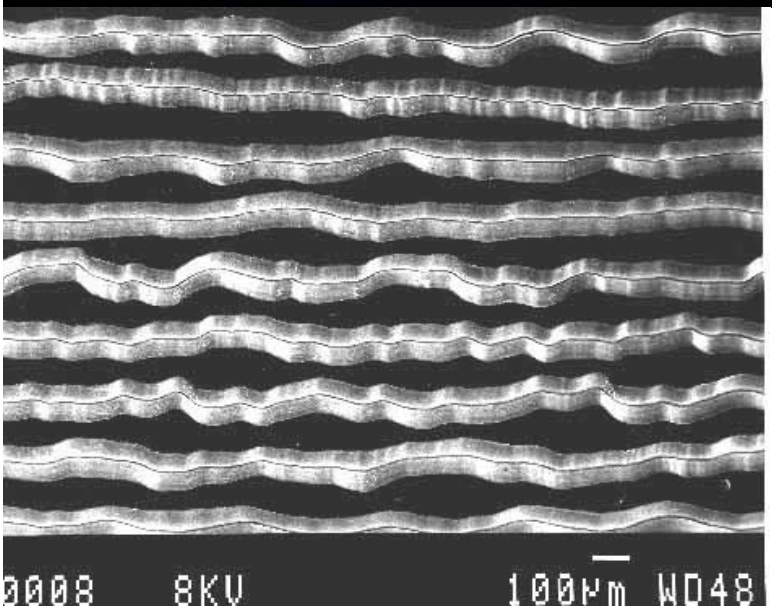
1933 – gravação de som em fita magnética - BASF

1936 – primeiras TV's eletrônicas (200 linhas)

imagens\emitron_brochure.html
imagens\ge_1944_brochure.html

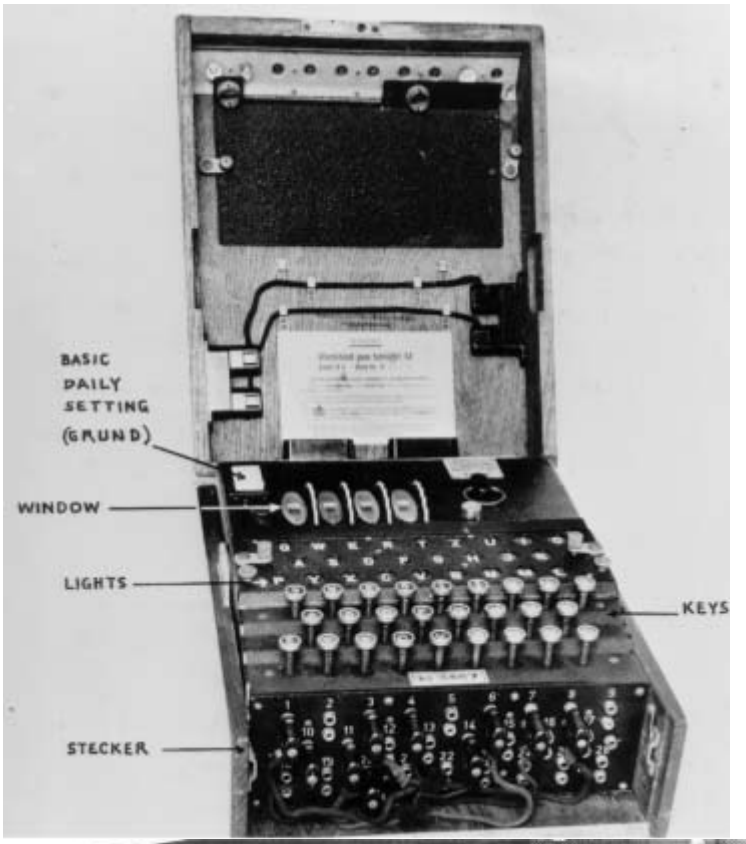
1940 – nascimento do LP – CBS

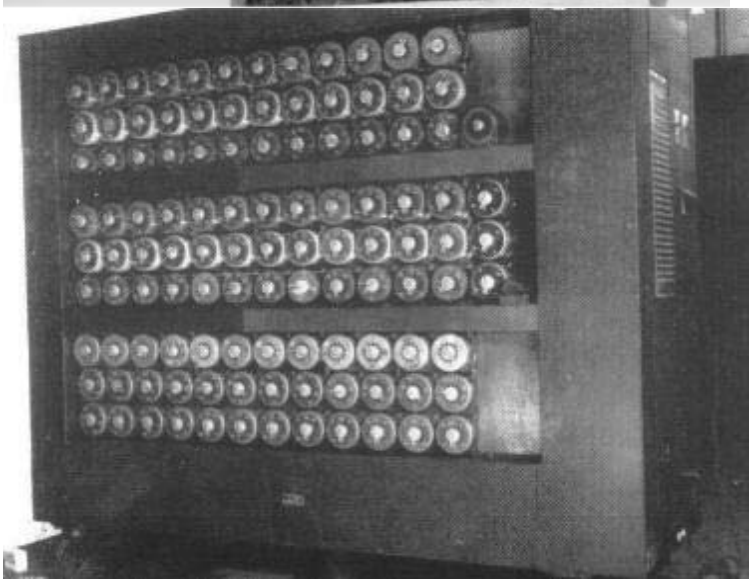




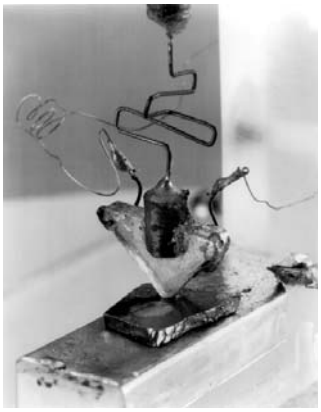

Era de ouro de Hollywood: King Kong (1933), E o vento levou (1936), O mágico de Oz (1939), Cidadão Kane (1941), Casablanca (1942) e da Disney: Branca de Neve (1938), Bambi (1942), Pinnochio e Fantasia (1940).

1945 – Enigma e Bomber



1947 – Invenção do transistor – Bell



diagramas-fernando\transistor_lg.mov

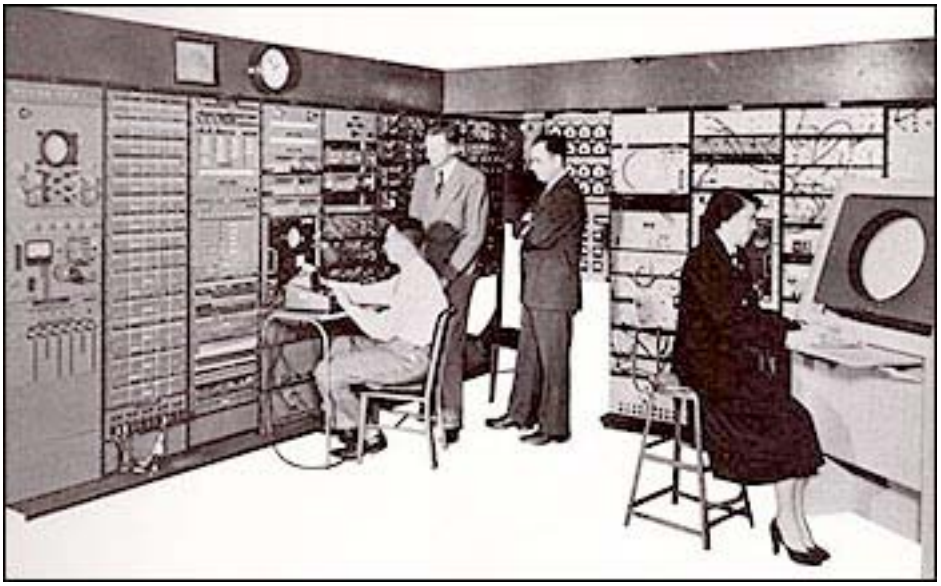
1948 – TV a cabo

1950 – calculadora Curta

http://www.vcalc.net/curta_simulator_en.htm

1951 – Primeiro computador comercial – Univac

MIT – Whirlwind – 1951



IBM AN/FSQ7 – 1o. CRT, light pen, 1o. modem 1300,

1953 – primeiros desenvolvimentos do Video Tape – Ampex

1953 – Definição do NTSC

1954 – Primeira transmissão colorida
1954 – Célula Solar (silício) – precursora do CCD

1956 – Primeira transmissão de video tape
1956 – Crescimento de silício

1957 – Satélite – Sputinik
imagens\sputnik.wav

1958 – Laser (é usado nos CD’s e DVD’s e transmite informações na fibra óptica)

1959 – Circuito integrado

1962 – primeira transmissão de TV via satélite – Telstar (primeiro satélite de comunicação.

diagramas-fernando\telstar_lg.mov

1963 – Cassete de áudio – Philips

Carry-Corder '150' shows 80% of actual size

# Norelco® Cordless Tape Recorders

## Norelco Carry-Corder® '150'

**Tiny tape cartridge loads in seconds, records for an hour**

Revolutionary tape recorder, features reusable snap-in cartridges, one button control to start, stop, wind-/rewind tape. Separate volume controls for record and playback. Weighs only 3 lbs. with 5 flashlight batteries. 1⅞ ips constant speed capstan drive. Has dynamic microphone with detachable remote switch. Superior sound quality with frequency response of 100 to 7000 cps. Connections for recording and playback directly with radio, phono, TV or another tape recorder. 7¼" x 4½" x 2¼". **Prepacked in Deluxe Case** with 4 cartridges (each in a dust proof container with index card), microphone, fitted carrying case, mike pouch, patchcord and tape mailer. CIRCLE 51 ON READER-SERVICE CARD

## Norelco Continental '101'

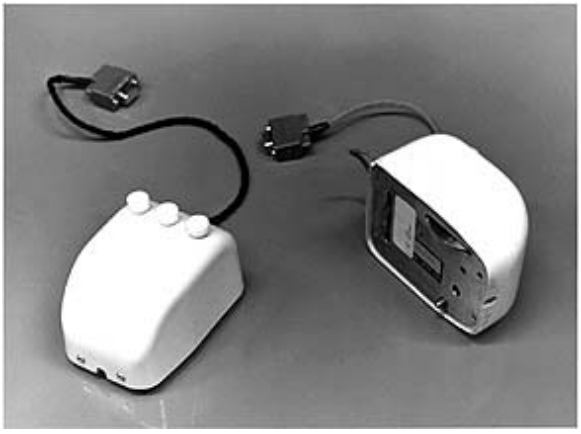
100% transistorized for on the spot record/playback . . . up to 2 hours on a single reel. 2 track 1⅞ ips constant speed machine weighs 6 lbs. with 6 flashlight batteries. Features dynamic microphone, tone control, record/level/battery condition indicator. Includes direct recording patch-cord. Frequency response 80 to 8000 cps. 11" x 3¼" x 8".

CIRCLE 52 ON READER-SERVICE CARD

Olivetti Programma – 1965

1967 – Floppy Drive

1969 – Invenção do Mouse - Douge Englebert – Xerox

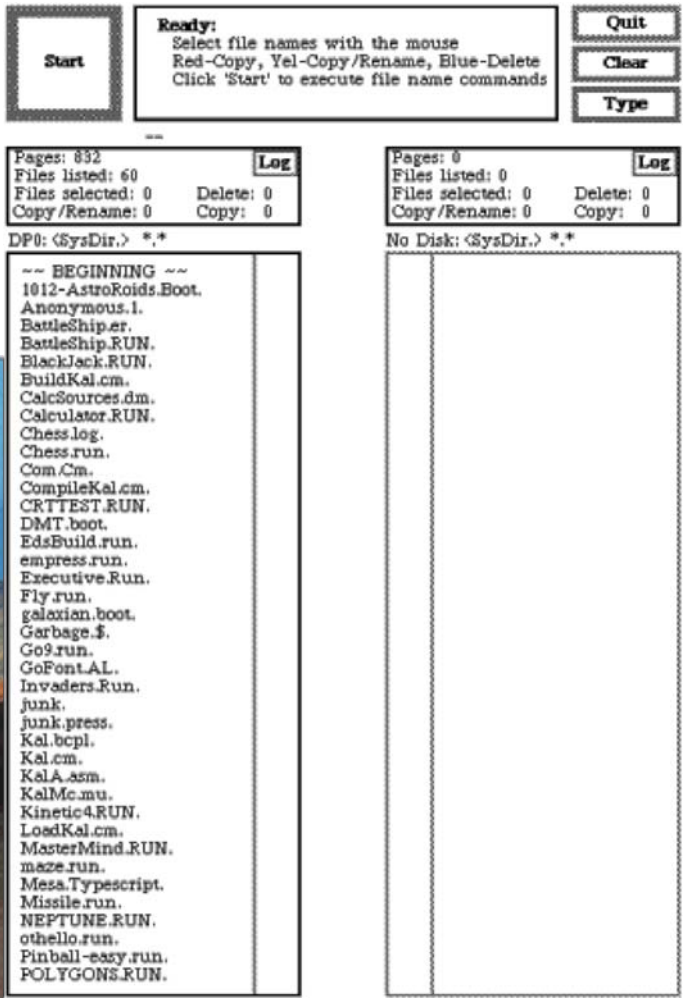


1969 – ARPANET – precursora da Internet

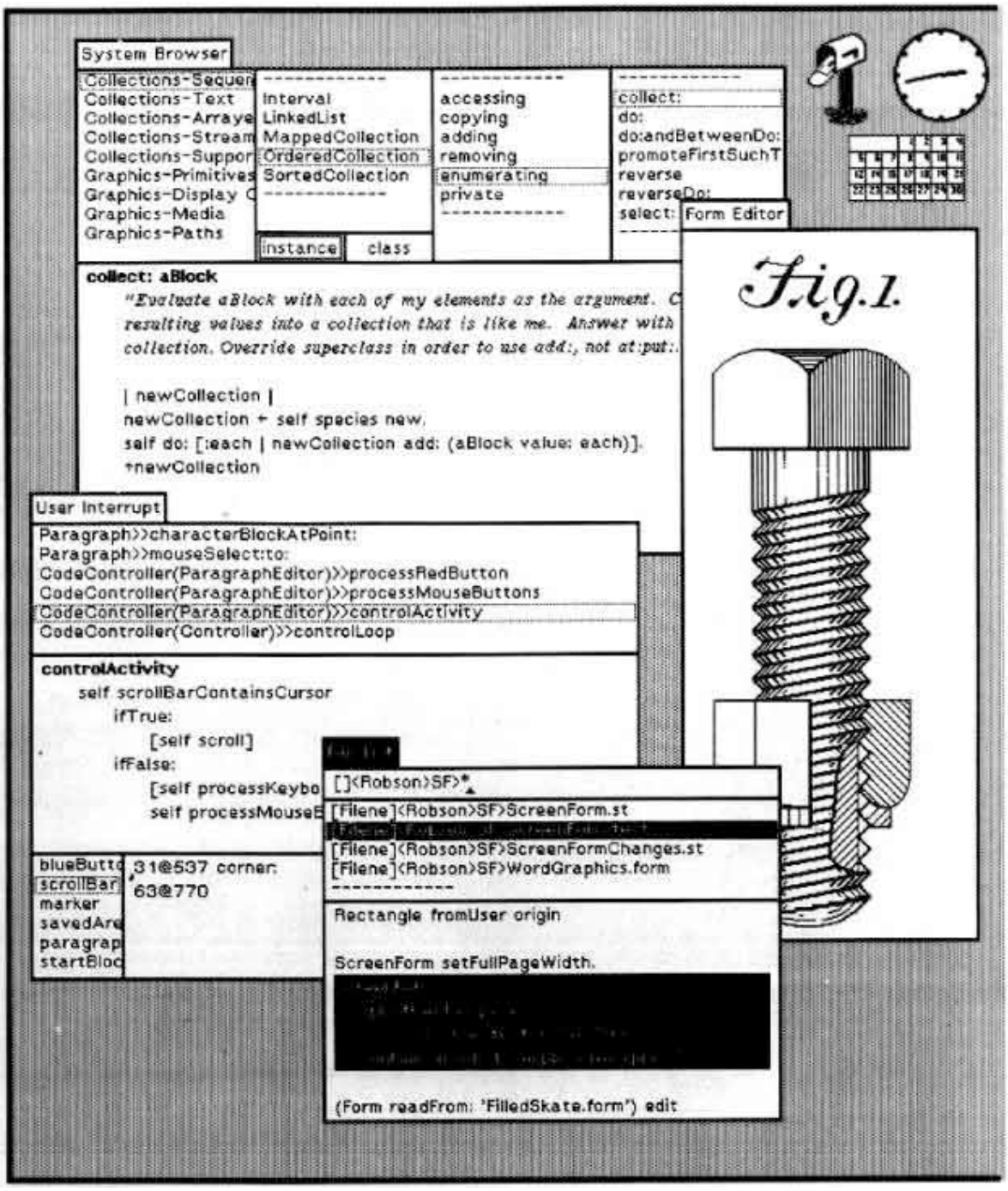
1970 – Display LCD (relógios)

1973 – Hard disk – IBM

Xerox Alto – 1973




Xerox SmallTalk – 1974


System Browser
Collections-Sequer
Collections-Text
Collections-Arraye
Collections-Stream
Collections-Suppor
Graphics-Primitives
Graphics-Display C
Graphics-Media
Graphics-Paths
Interval
LinkedList
MappedCollection
OrderedCollection
SortedCollection
instance
class
accessing
copying
adding
removing
enumerating
private
collect:
do:
do:andBetweenDo:
promoteFirstSuchT
reverse
reverseDo:
select:
Form Editor
collect: aBlock
"Evaluate aBlock with each of my elements as the argument. C
resulting values into a collection that is like me. Answer with
collection. Override superclass in order to use add:, not at:put:.
| newCollection |
newCollection ← self species new.
self do: [:each | newCollection add: (aBlock value: each)].
↑newCollection
User Interrupt
Paragraph>>characterBlockAtPoint:
Paragraph>>mouseSelect:to:
CodeController(ParagraphEditor)>>processRedButton
CodeController(ParagraphEditor)>>processMouseButtons
CodeController(ParagraphEditor)>>controlActivity
CodeController(Controller)>>controlLoop
controlActivity
self scrollBarContainsCursor
ifTrue:
[self scroll]
ifFalse:
[self processKeybo
self processMouseE
blueButto
scrollBar
marker
savedAre
paragrap
startBloc
31@537 corner:
63@770
[]<Robson>SF>*
[Filene]<Robson>SF>ScreenForm.st
[Filene]<Robson>SF>ScreenFormChanges.st
[Filene]<Robson>SF>WordGraphics.form
Rectangle fromUser origin
ScreenForm setFullPageWidth.
(Form readFrom: 'FilledSkate.form') edit
Fig.1.

Hp 65 1974

1975 – Câmera CCD (pb) – Bell Labs

1975 – Primeiro computador pessoal - Altair

1976 – Betamax – Sony  - VHS – RCA (1977)

Apple I – 1976

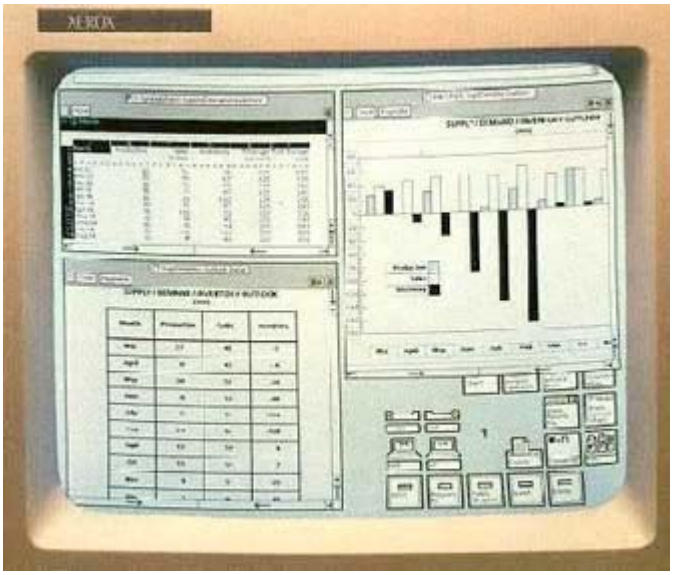
Apple II – 1977 (Visicalc)

1979 – Video disco analógico
1979 – Celular

1980 – Câmera CCD Colorida
1980 – Hard Disk para micro – Seagate – 5MB

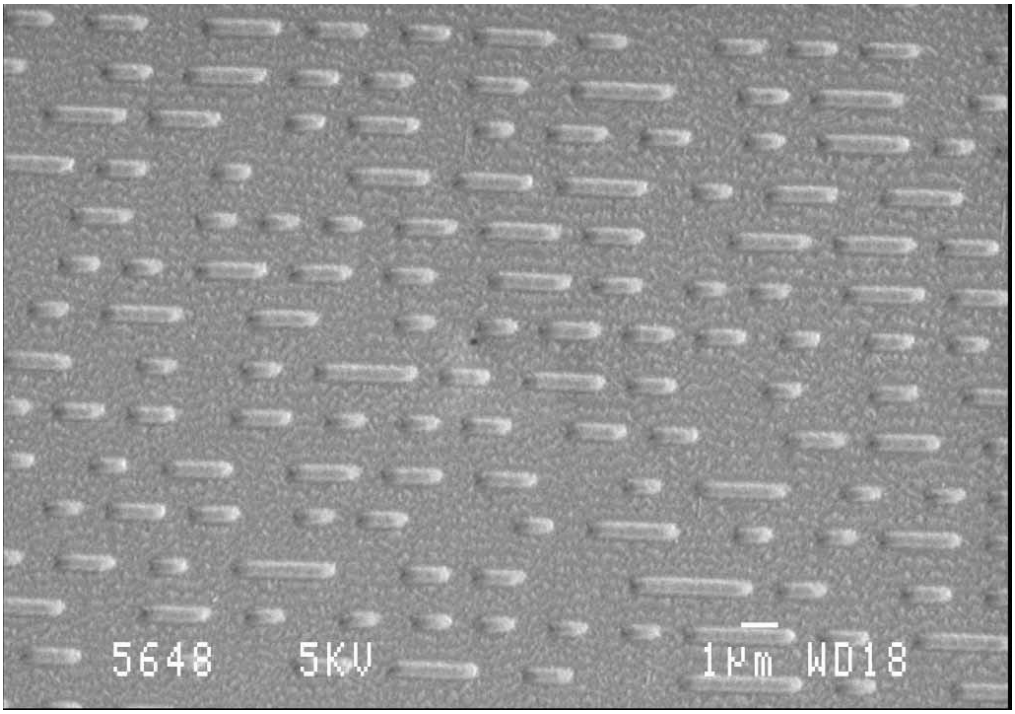
1981 – IBM PC 4.77MHz

Xerox Star – 1981

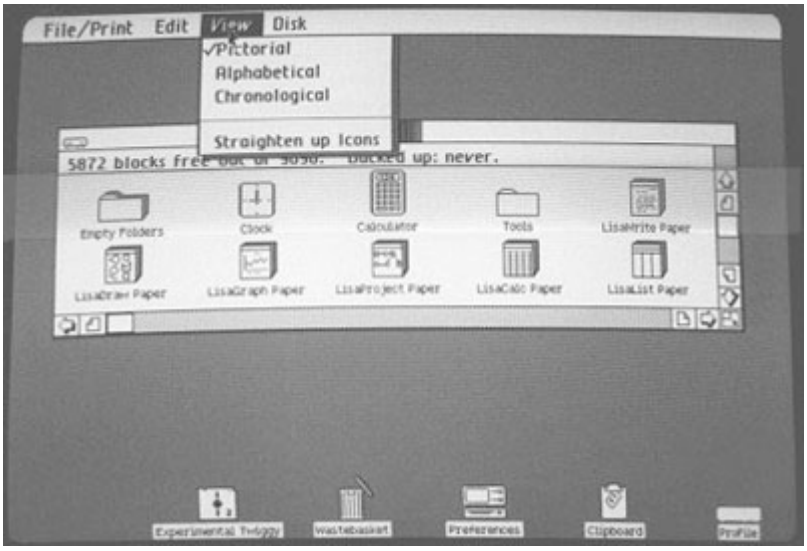



Microdigital TK82 (tsr80)

1982 – CD



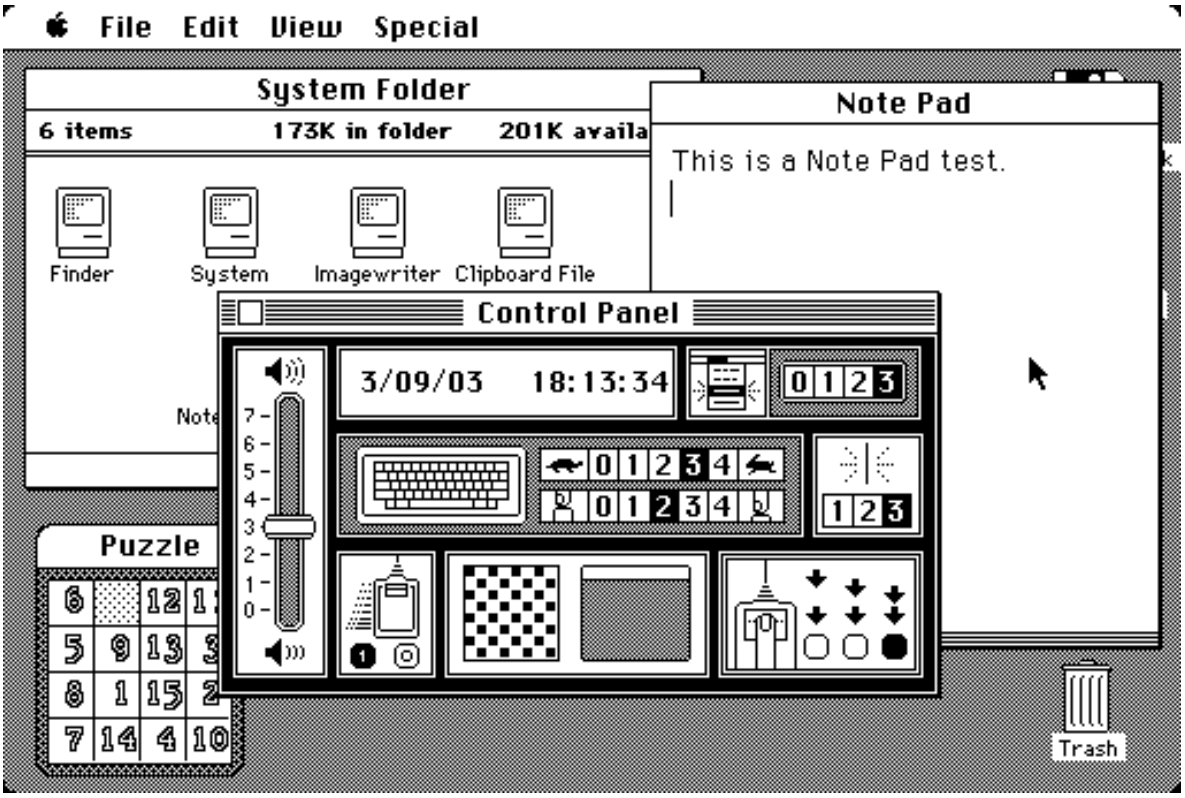

Apple Lisa 1983




1983 – Camcorder

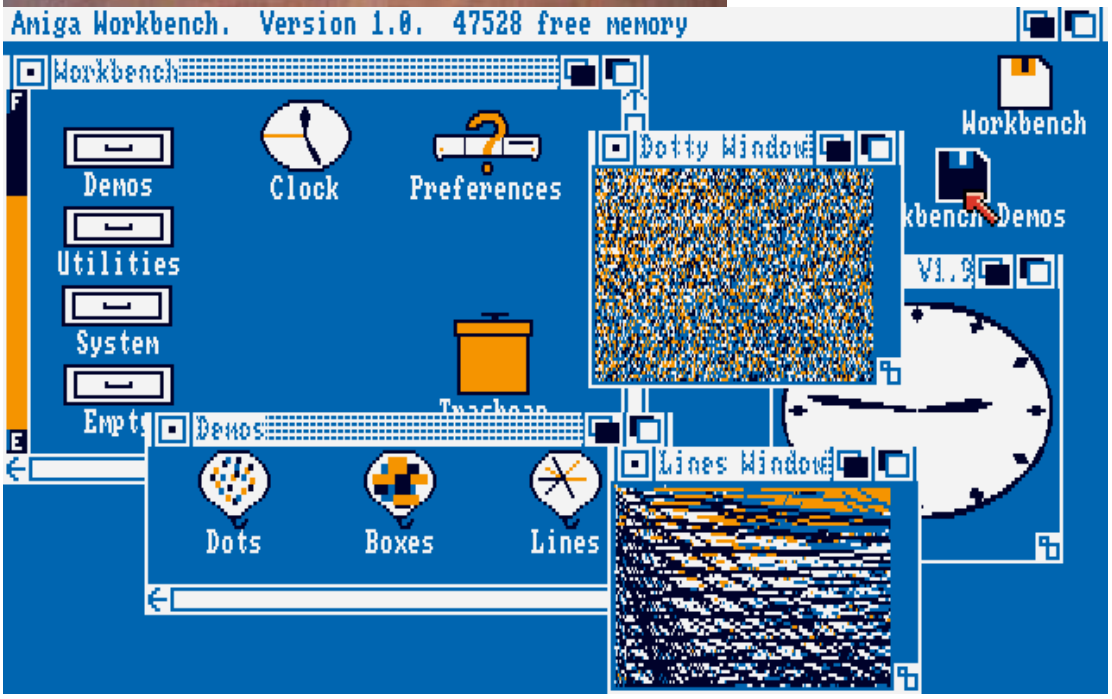
Macintosh 1984

mac system 1 – 1984

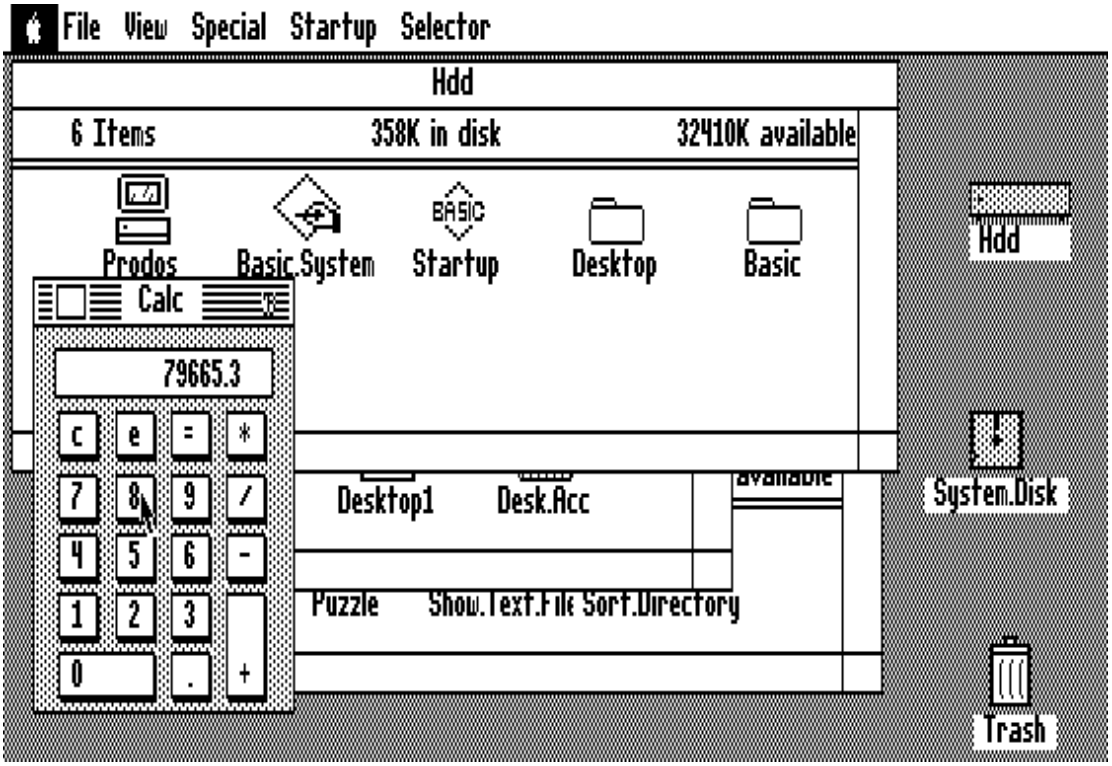



1984 – Amiga

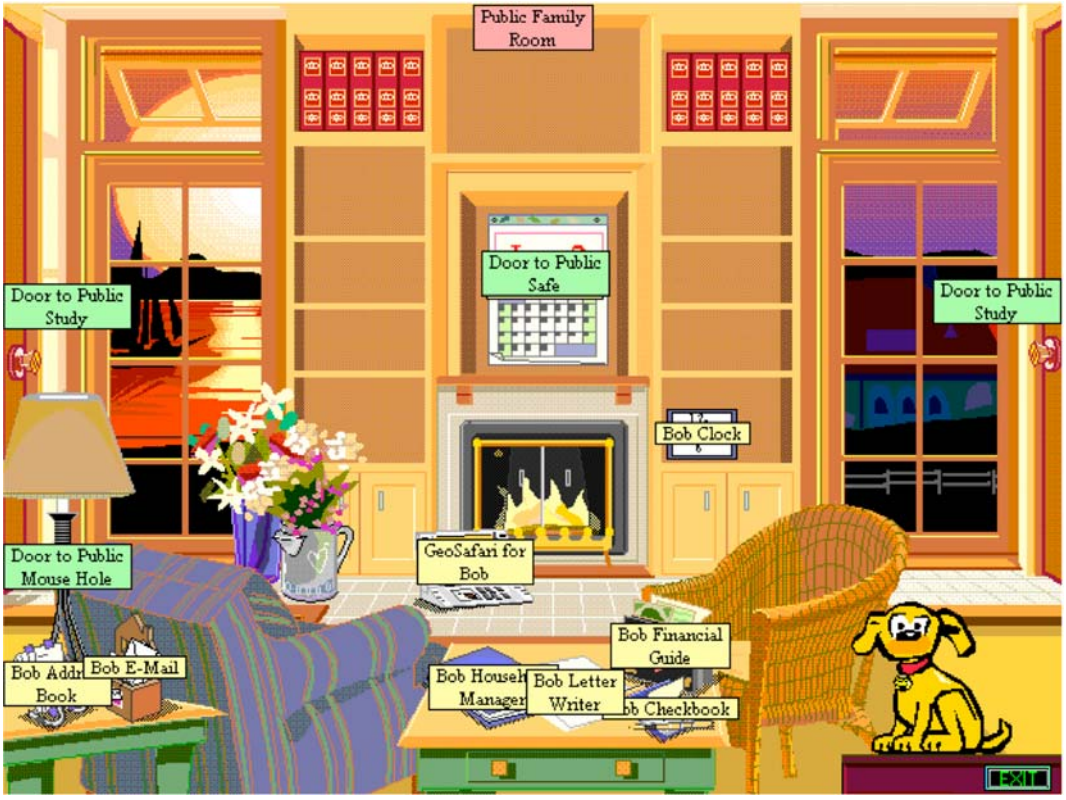
Amiga 1985



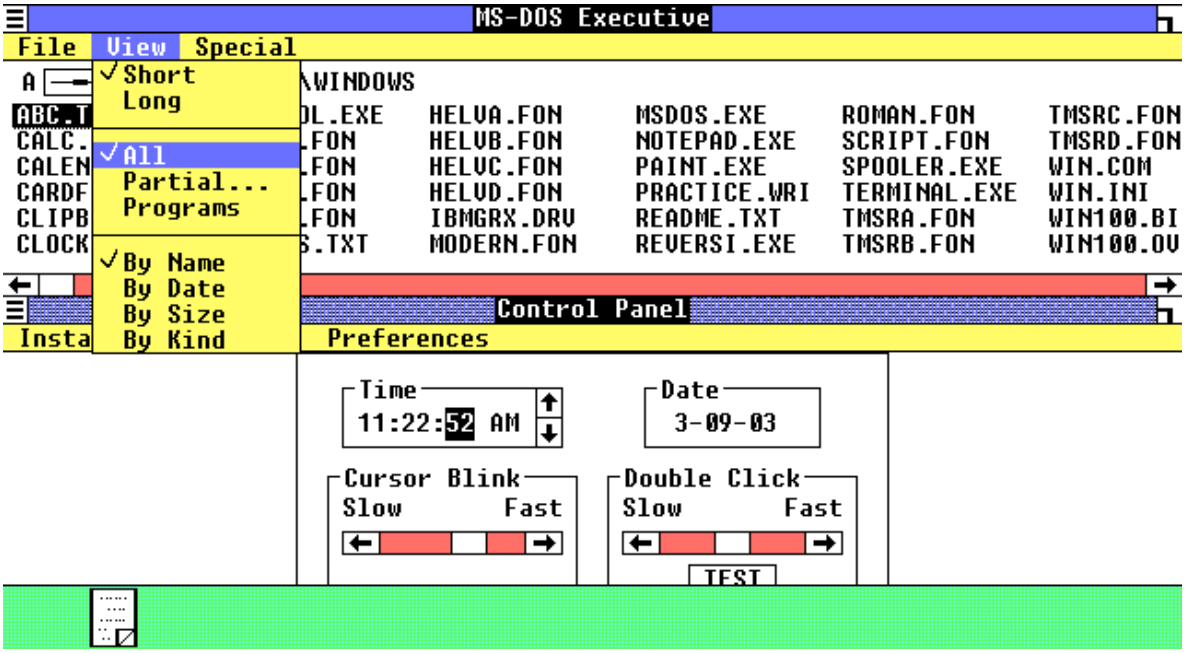

apple II 1985




Microsoft Bob 1985



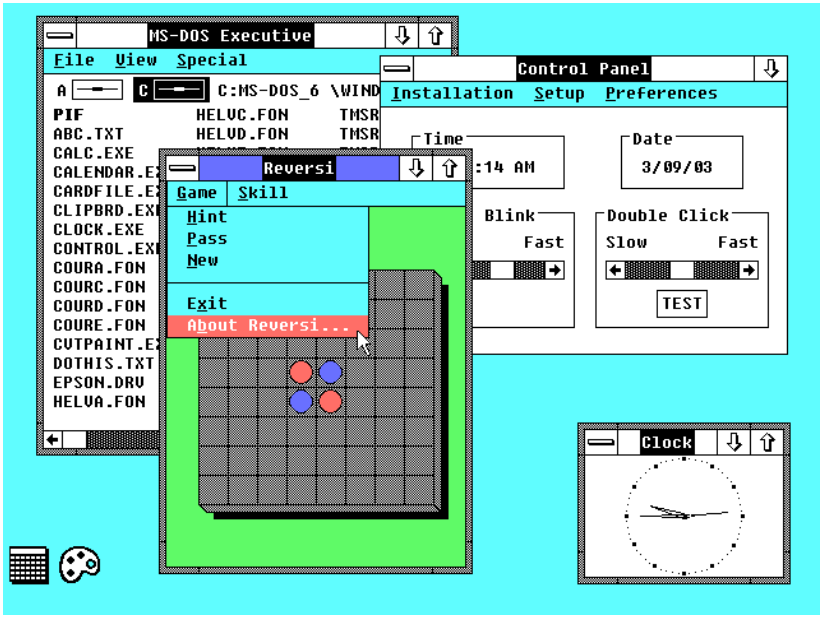
Microsoft windows 1.0 – 1985




1986 – Video digital – Newtek
1986 – CDI

1987 – Video CD
1987 – TV LCD

Microsoft windows 2.0 – 1987




1988 – JPEG

Sun Sparc station -1989

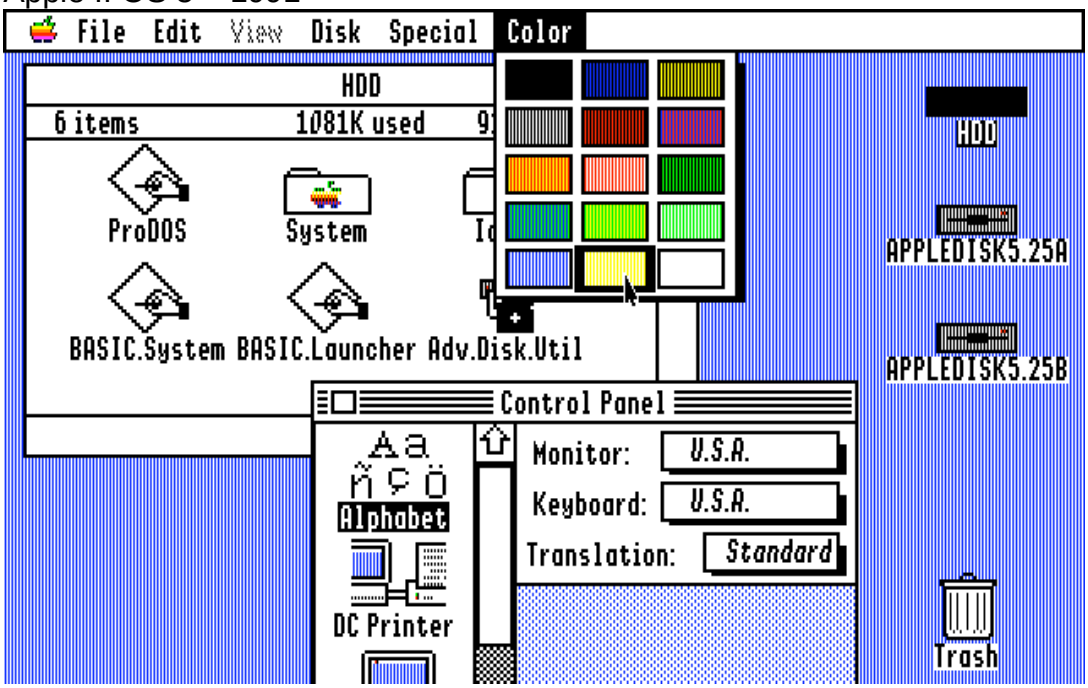
Silicon Graphics – IRIS – 1989

1990 – Photoshop 1.0

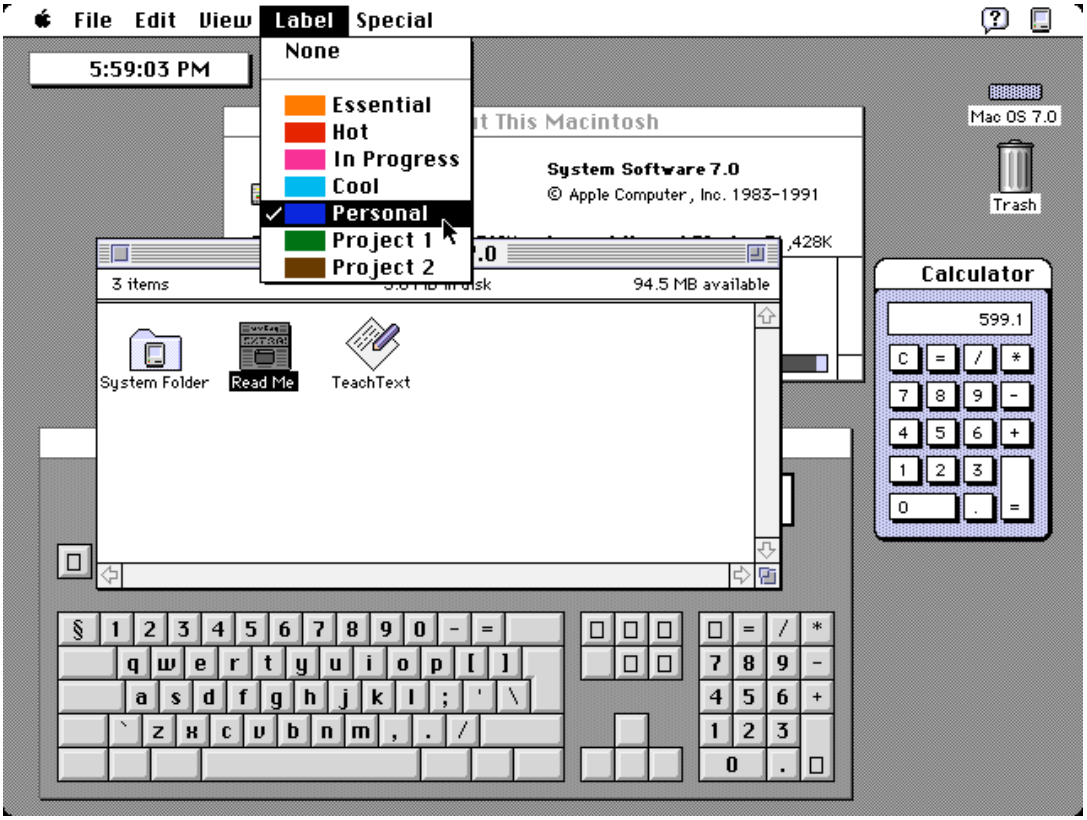
1991 - Laserdisc
1991 – Minidisc
1991 – CD-R

Amiga 1991

Apple II OS 5 – 1991

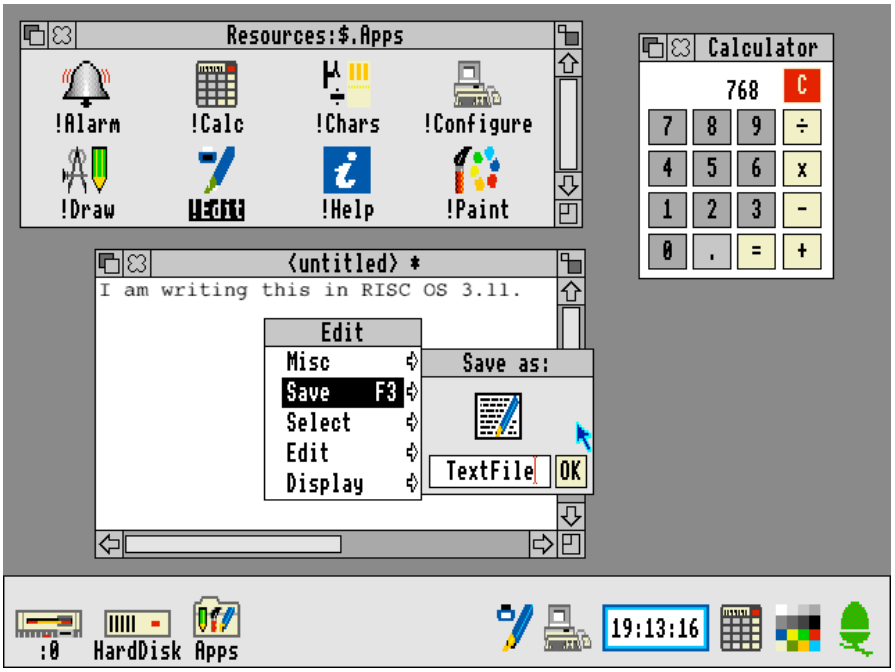



MAC OS 7 – 1991

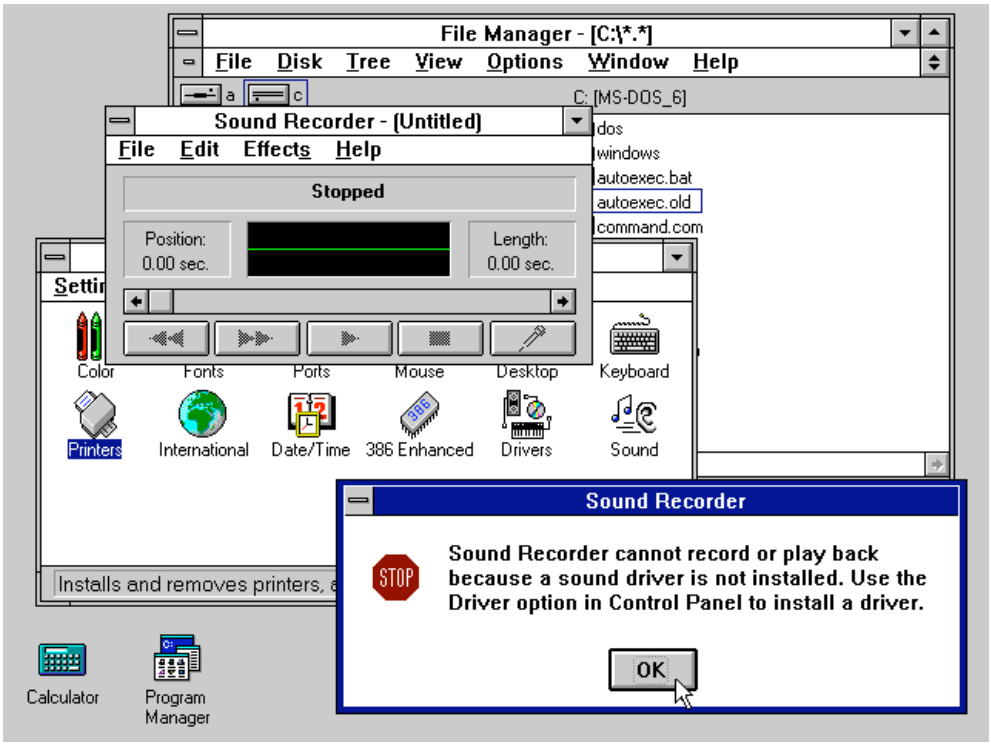



Linux 1992

risc OS 1992




Microsoft windows 3.1 – 1992



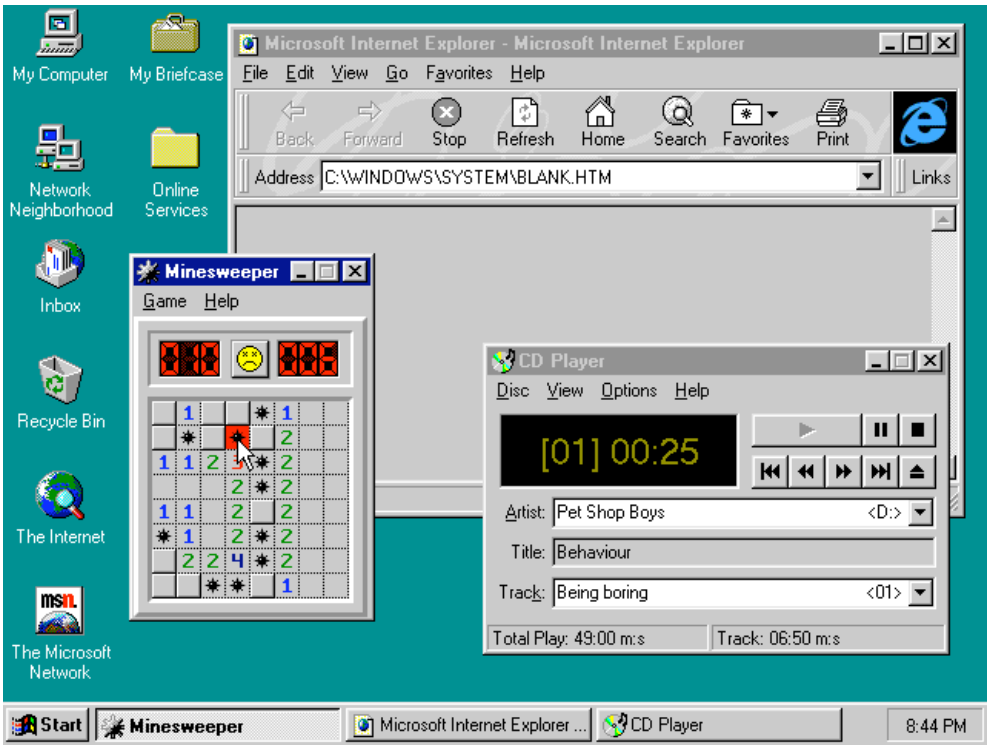

Apple Newton 1993

1994 – Compact Flash e Smartmedia
1994 – Direct TV

Apple Powermac 1994

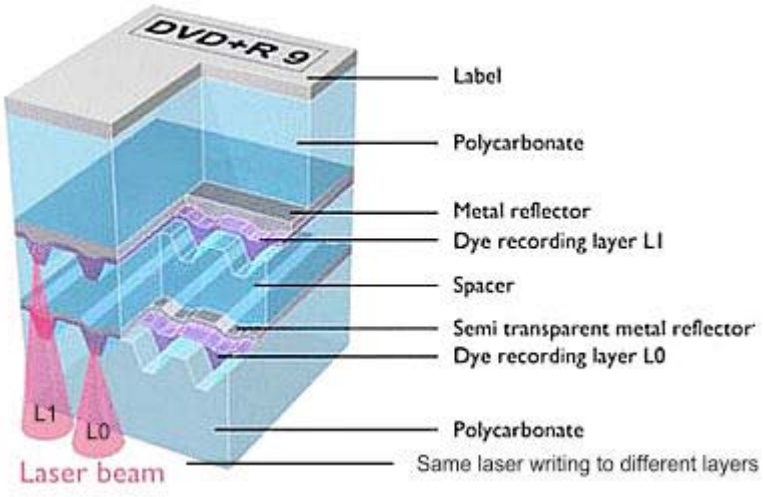
1994– Internet Brasil

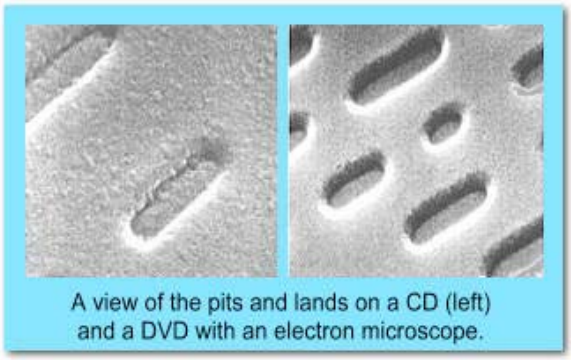
Microsoft Windows 95 – 1996

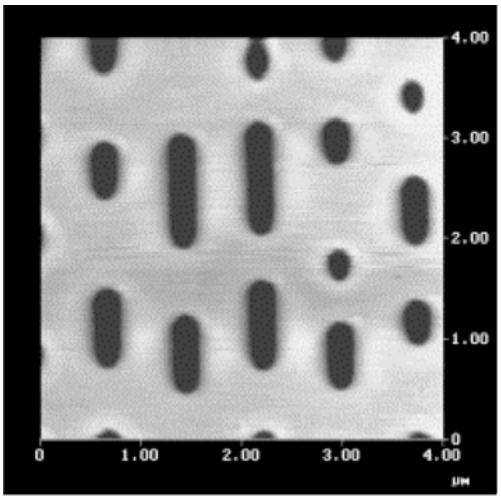



Microsoft Windows CE 1.0 – 1996

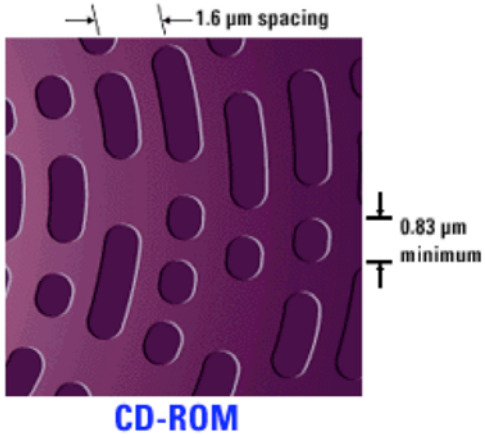
1997 – DVD



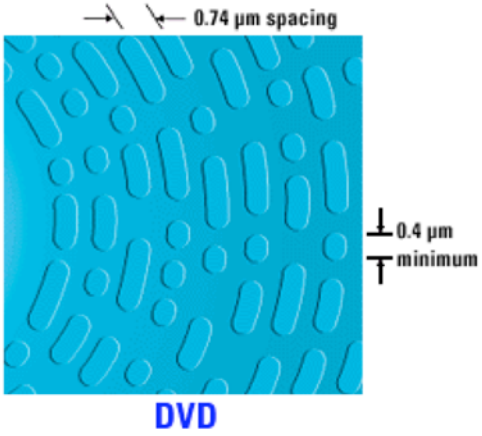


A view of the pits and lands on a CD (left) and a DVD with an electron microscope.




From Computer Desktop Encyclopedia
Reproduced with permission.
© 1998 C-Cube Microsystems



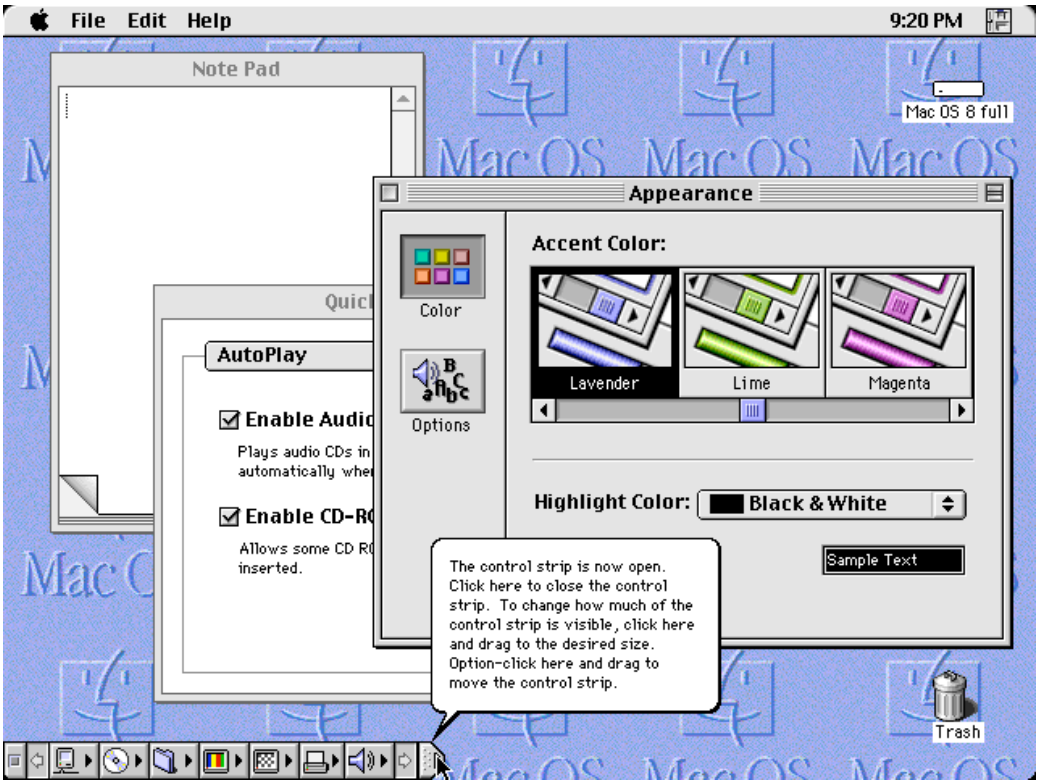
CD-ROM



DVD

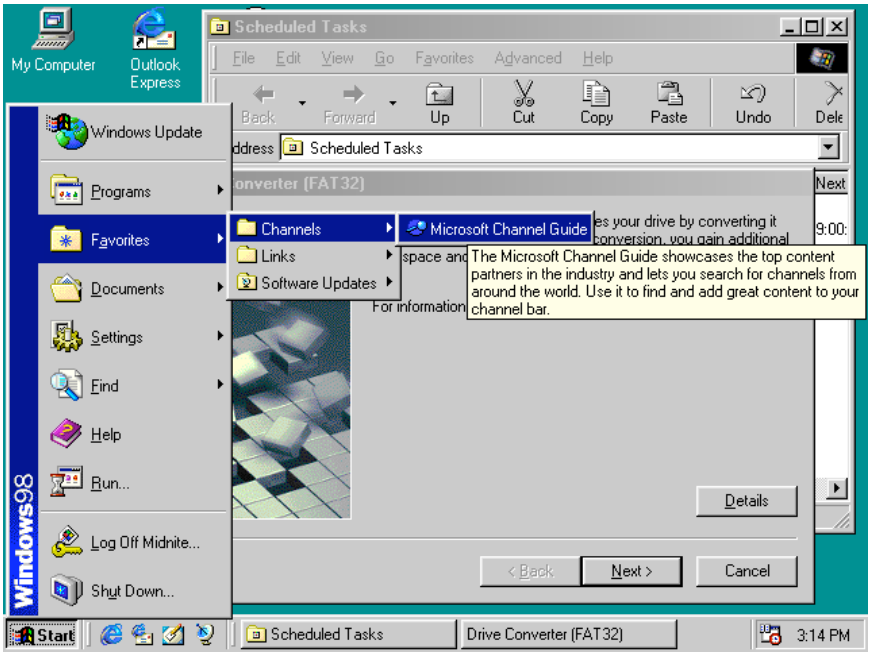
OPENSTEP 4.2 1997

Mac OS 8 – 1997




1998 – Memory Stick

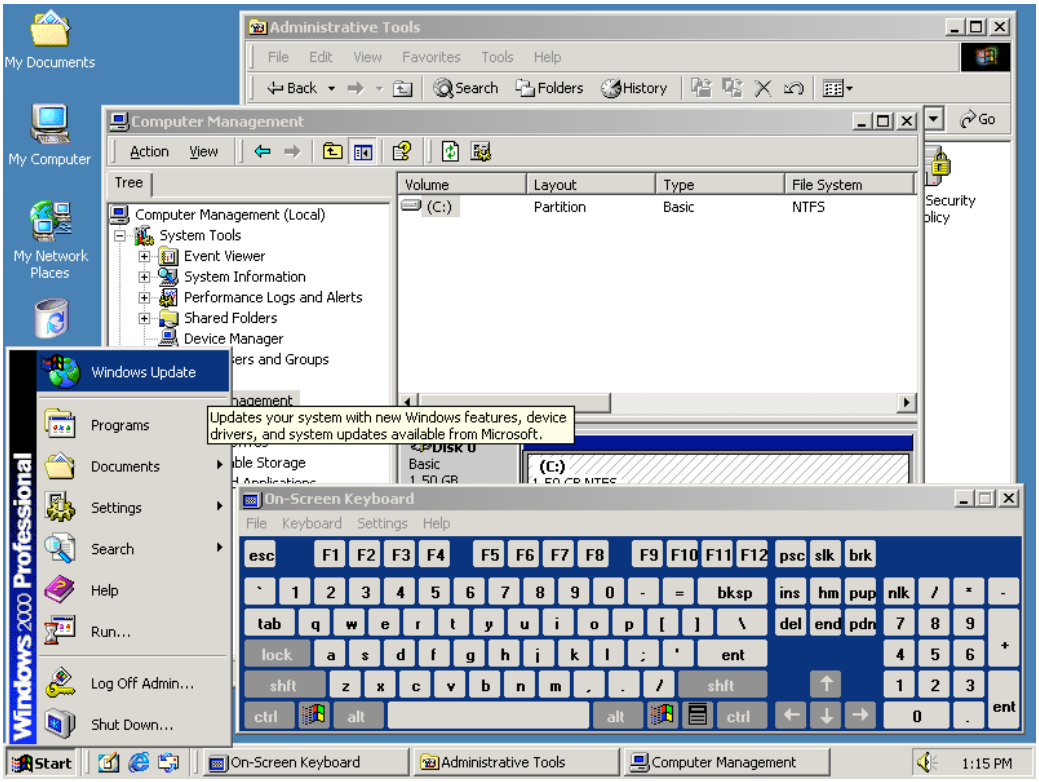
Microsoft Windows 98 – 1998



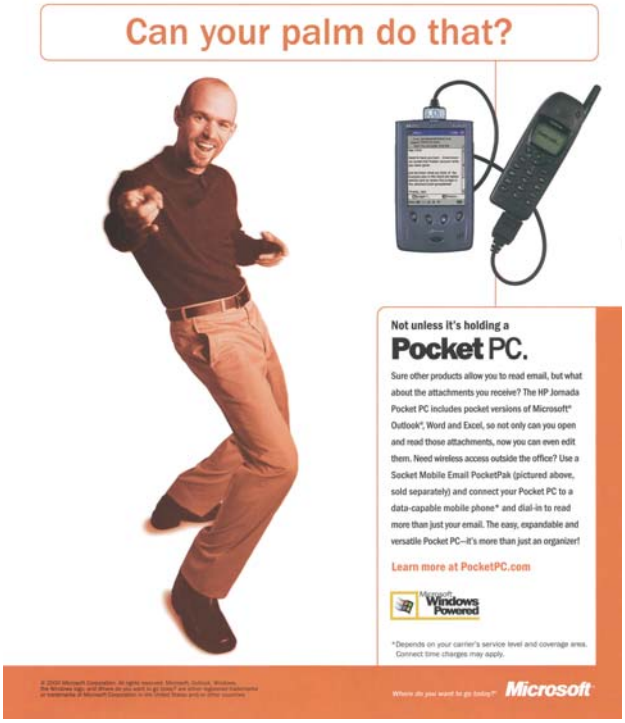

1999 – DVD-R
1999 – Divx

2000
banda larga
hdtv
mp4,wmv,

Microsoft Windows 2000 – 2000



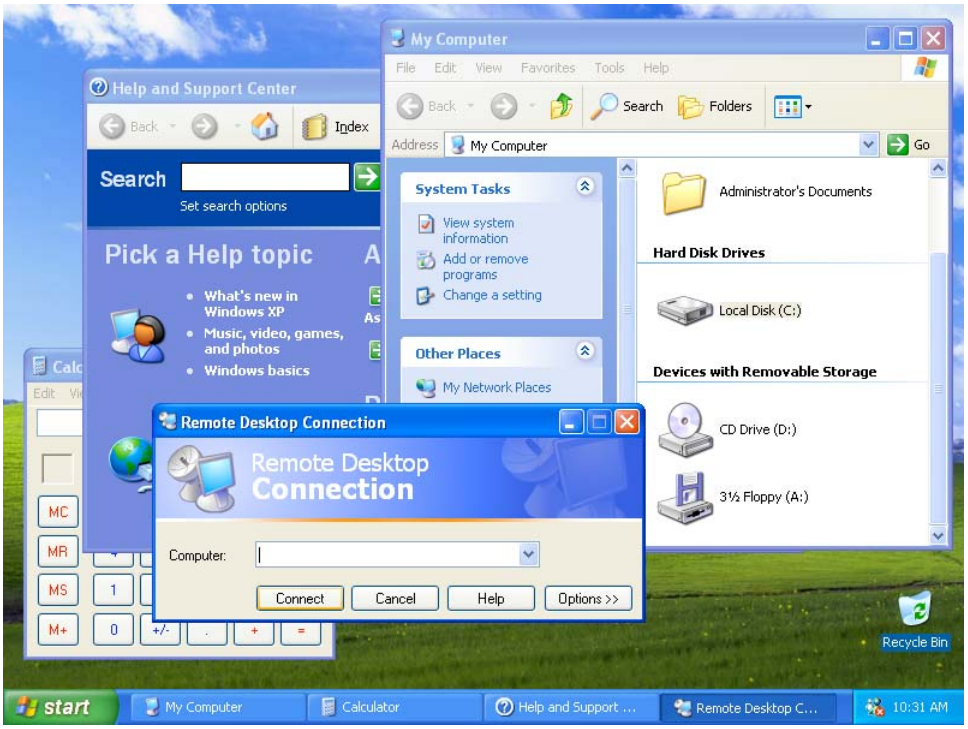

Microsoft Windows CE 5 – 2000



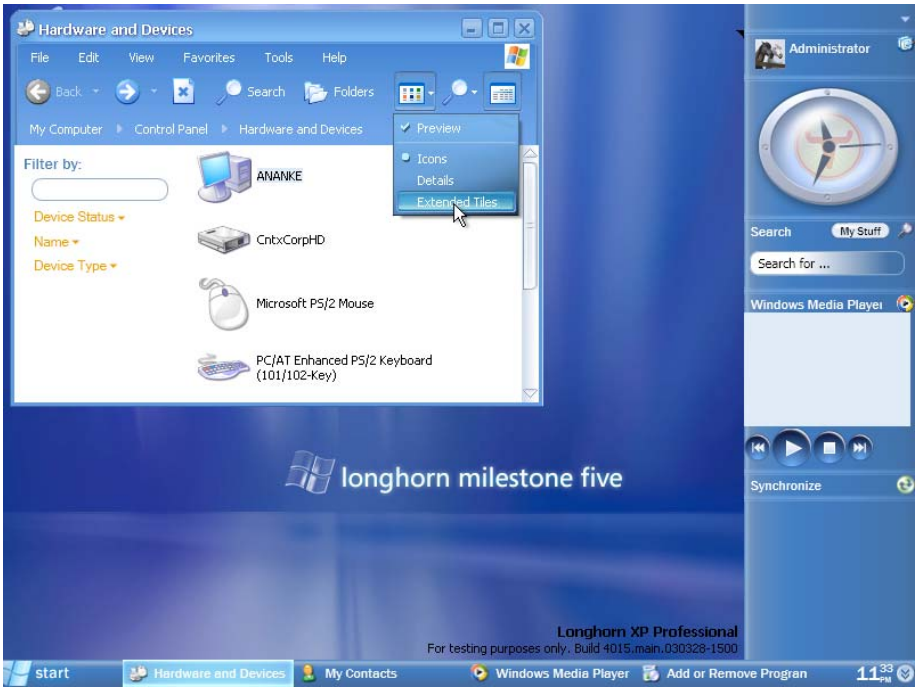

2001 sistema “How may I help you?” ATT

mac os 10.1 - 2001

Microsoft Windows XP – 2001




Microsoft Windows XP Long Horn (windows vista) – 2004




2005
3g, blue tooth, wifi
skype
convergência (barebones e projetores)
dual core processors

200?
HDDVD/ DVD blue Ray
Computação Pervasiva
Information appliances
Internet 2

Algumas interfaces novas

side view (windows vista)
www.asus.com
W5fe

dualscreen-notebook
pré-vendas
http://www.estari.com/

Conceito
http://www.v12design.com/

cockpit do 787

http://www.bmwusa.com/bmwexperience/bmwindepth/BmwTechnology/Luxury

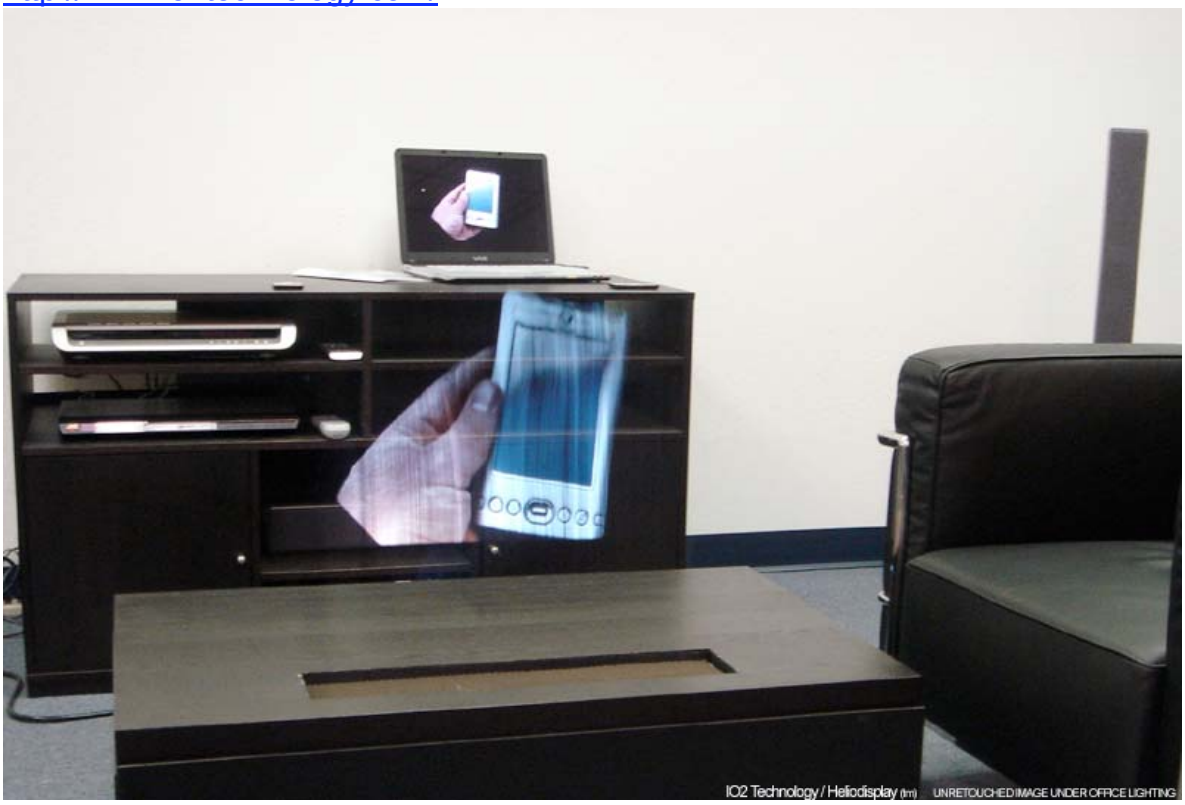
Telas LCD em 3D (simulado em 2D)

http://dti3d.com/
http://www.sharpsystems.com/products/pc_notebooks/actius/rd/3d/

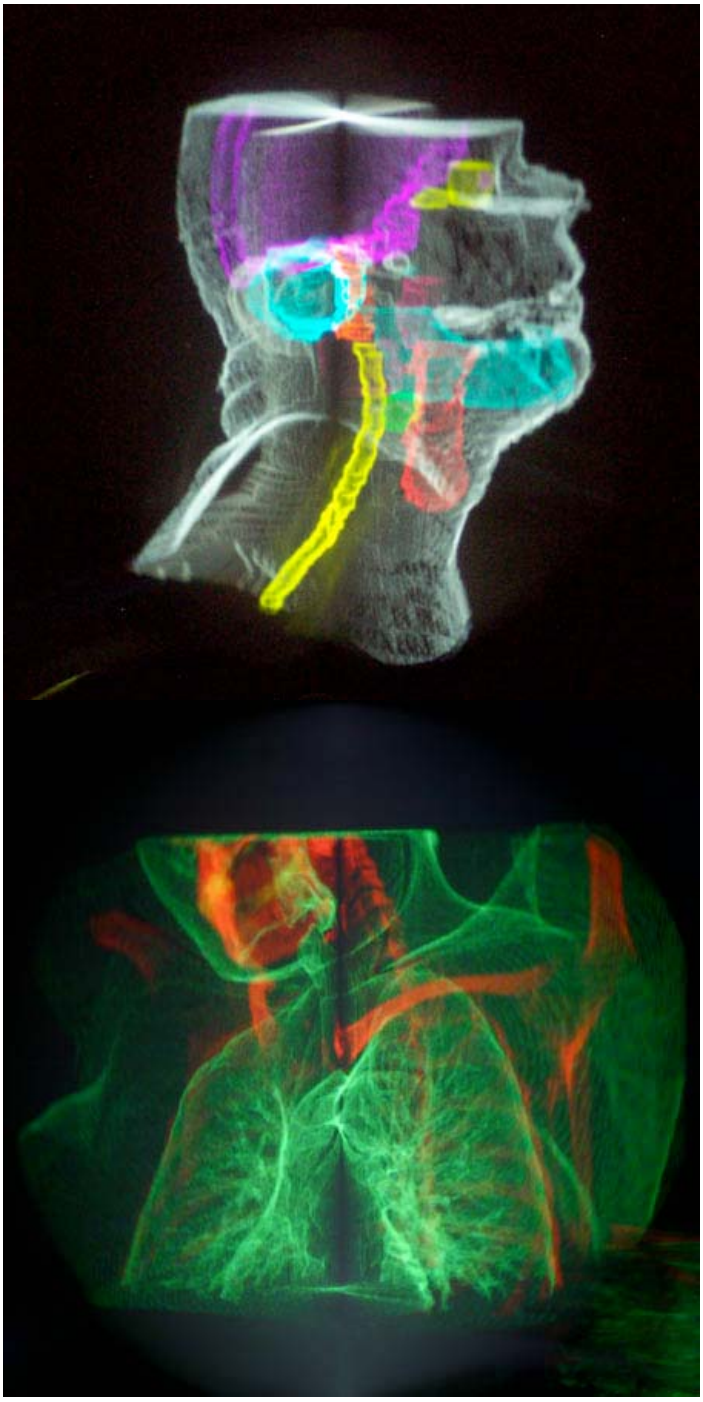
Tela flexível
http://www.plasticlogic.com/index.php

IMAGENS\flexible-screen.wmv

Projetor para o “ar”
http://www.io2technology.com/




Projetor 3D (de verdade)
http://www.actuality-systems.com/



Novas interfaces de entrada

Dispositivos para video – Sony

DMW-C2

DMW-C3

DMW-C1

interface DJ
http://www.numark.com/

Fujitsu Turntable PC – Bienal de Etienne 2006

2006 Nintendo Revolution

imagens\vimeo.8279.mov

Controle do Wii no Ubuntu
http://www.youtube.com/watch?v=ALqduQfm09c

Informações sobre o WiiMOte
http://en.wikipedia.org/wiki/Wiimote

Drivers opensource para wii no windows
http://onakasuita.org/wii/index-e.html

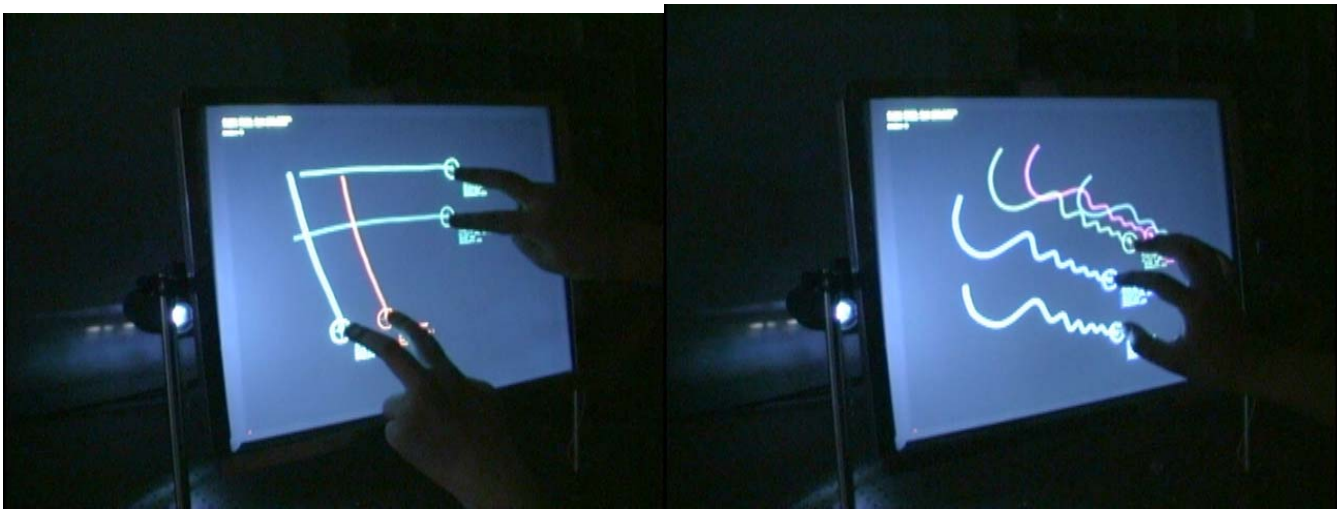
Usando o Sudden Motion Sensor do Ibook da Apple
http://www.youtube.com/watch?v=0IpKqQjcLyc
http://youtube.com/watch?v=6uvQTTPr9Rw
http://youtube.com/watch?v=i-e58s_37MQ

HTC Computador Portátil (com sensor de movimento para navegação na tela)
http://seehtc.com/index.html

Fly pentop computer (gestos e voz)
www.flypentop.com

interface táctil
http://tactiva.com/tactapad.html

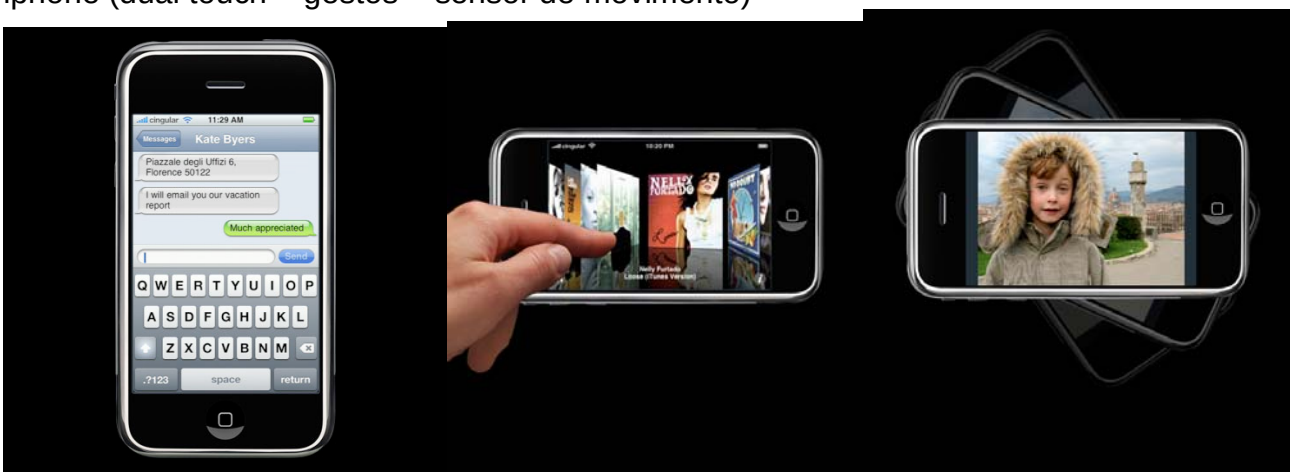
Multi touch screen e interface gestual - Perceptive Pixel



http://www.youtube.com/watch?v=ysEVYwa-vHM
multi touch antigos: http://www.billbuxton.com/multitouchOverview.html

ver também o Mouse Gestures https://addons.mozilla.org/firefox/39/

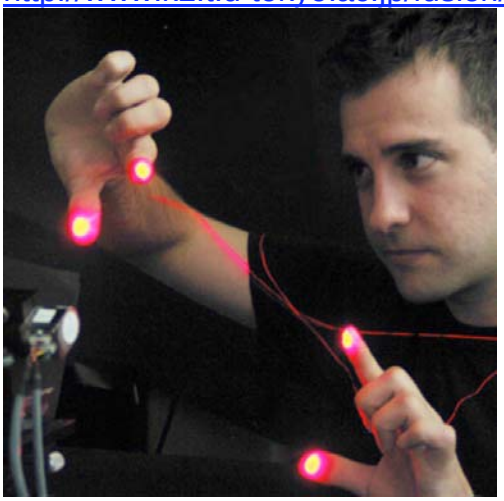
iphone (dual touch + gestos + sensor de movimento)



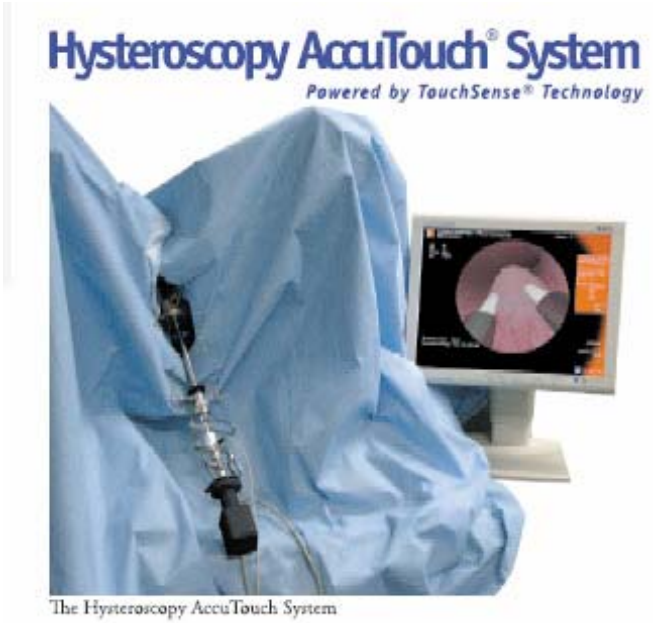

telefone com dual touch:

http://www.synaptics.com/onyx/

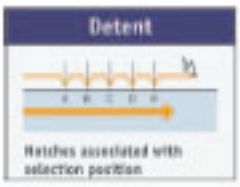
laser tracking
http://www.k2.t.u-tokyo.ac.jp/fusion/LaserActiveTracking/

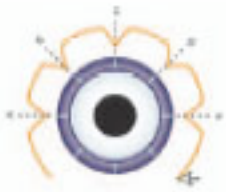


Haptics / Force Feedback
http://www.immersion.com/index.php



The Hysteroscopy AccuTouch System



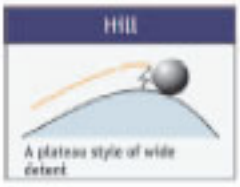



### Detent – Notches associated with selection position

Used to mark fine or coarse increments or selections, detents can be customized in size, shape, and number to suit context-sensitive requirements.

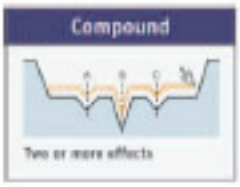
### Barrier – Sensation of hitting a hard stop

Barrier effects restrict the user's motion, and are useful for indicating first and last items, minimum and maximum, or the edge of an area. Range of rotation is programmable.



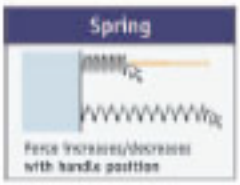
### Hill – A plateau style of wide detent

A hill effect could be used for menu wraparound, letting the user know they have moved from last to first menu item. A hill can also be used to indicate a return from a sub-menu back to the main menu or to signal the crossing of a boundary.



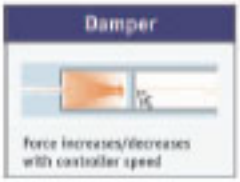
### Compound – Two or more effects such as barriers and detents

A compound effect, like small detents with a deeper center detent and barriers on both sides, would be appropriate for a balance control, for example. Compound effects help designers closely match tactile sensations to operational steps, which can enhance usability.



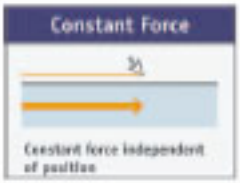
### Spring – Force increases or decreases with handle position

A spring provides a good return-to-center or default position such as for a shuttle control used to regulate speed.



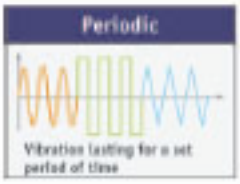
### Damper – Force increases or decreases with controller speed

Damper effects create the sensation of drag or weight, and can be used to emulate the feel of high-quality controls such as those found on expensive audio equipment. A damper effect might also emulate a jog control used to move through video frames or data stacks.



### Constant Force – Continuous force independent of position

Constant force can be used to simulate dynamics such as gravity, friction, or momentum.

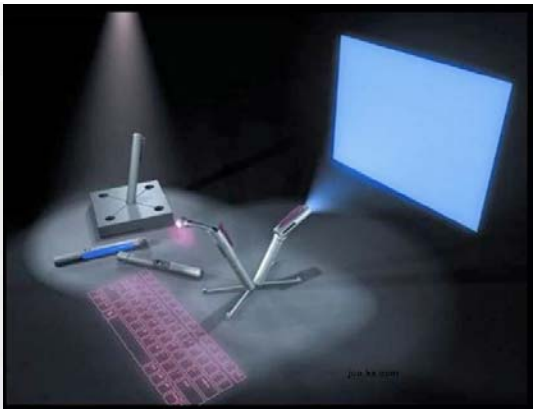


### Periodic – Vibration lasting for a set period of time

A periodic of sine, square, or triangular waves can be triggered by an event to alert users to a specific situation or control position.

*Note: Not all haptic effects are possible on all TouchSense modules.*

Pen computer



## Outros links:

### Interfaces

- Tipos de dispositivos de entrada: http://www.billbuxton.com/InputSources.html
- Dispositivos para uso com sistemas como o MAX MSP: http://www.infusionsystems.com/
- Teclados e mouses para usos diversos: http://www.infogrip.com/

### Computadores e interfaces

- História das GUI's: http://arstechnica.com/articles/paedia/gui.ars
- Galeria de GUI'S: http://www.guidebookgallery.org/
- Old computers... http://www.old-computers.com/
- História das invenções da ATT: http://www.att.com/attlabs/reputation/timeline/
- O homem dos vestíveis (Steve Mann): http://wearcam.org/mann.html

### Áudio e vídeo

- História das gravações: http://history.sandiego.edu/gen/recording/notes.html
- Digital needle – tentando reproduzir um LP utilizando um scanner!: http://www.cs.huji.ac.il/~springer/
- Tutoriais técnicos de vídeo: http://www.mediacollege.com/
- Tutoriais de softwares gráficos e fórum: http://forums.creativecow.net/index.html

## Bibliografia interessante:

- MURRAY, Janet. *Hamlet on the Holodeck: the Future of Narrative in Cyberspace*. MIT Press, 1997.
- MANOVICH, Levy. *Generation Flash.* Whitneybiennial, 2002. Disponível em: http://www.manovich.net/DOCS/generation_flash.doc.
- STEUER, Jonathan. *Defininig Virtual Reality: Dimensions Determining Telepresence*. Journal of communications 42, pág. 72-93, 1992. Disponível em: www.presence-research.org/papers/steuer92defining.pdf