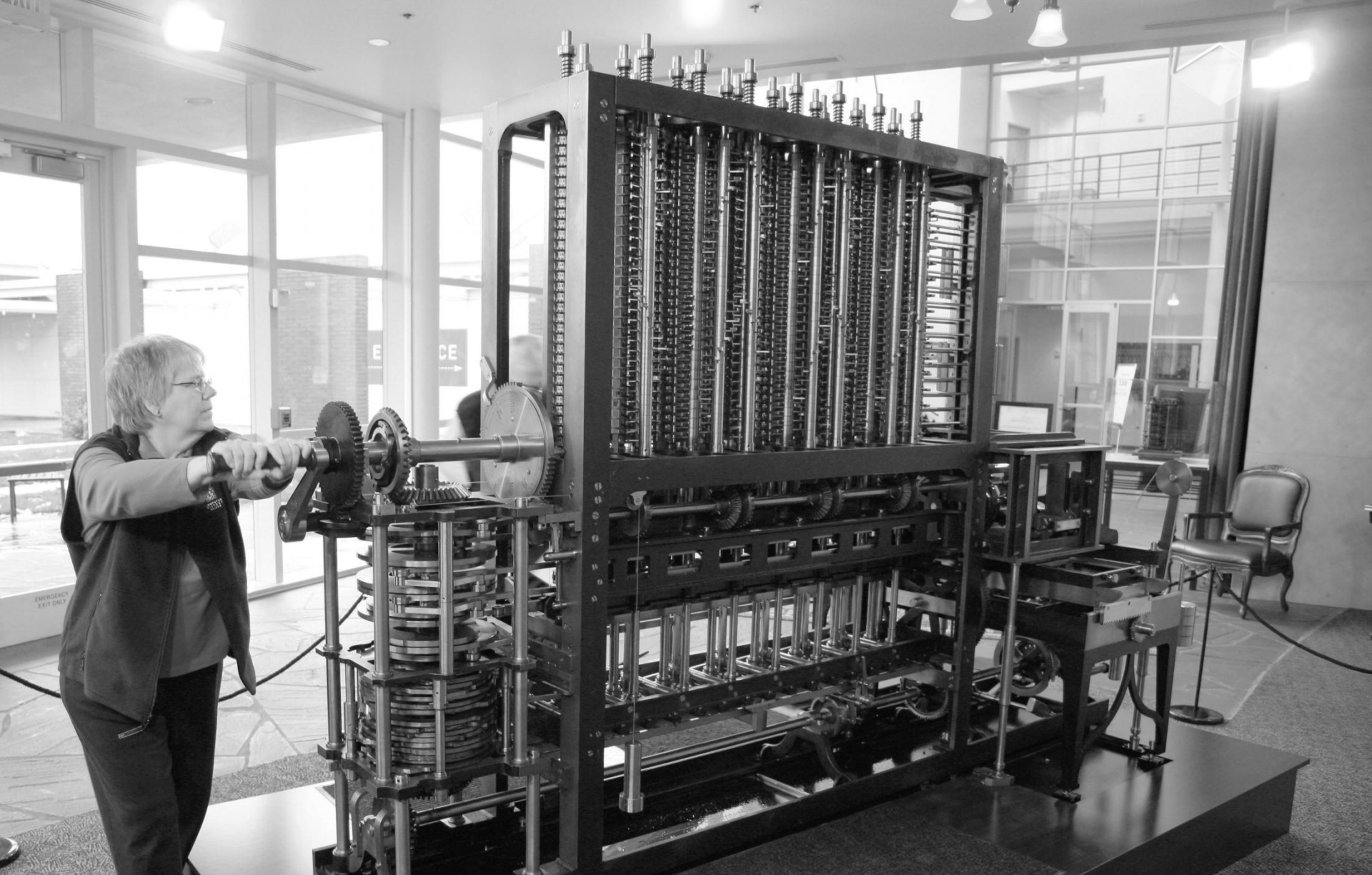


# **INTERFACE HUMANO-COMPUTADOR**

Teresa Maciel



# Babbage Engine





# Punched Cards





# Comand Line Interface

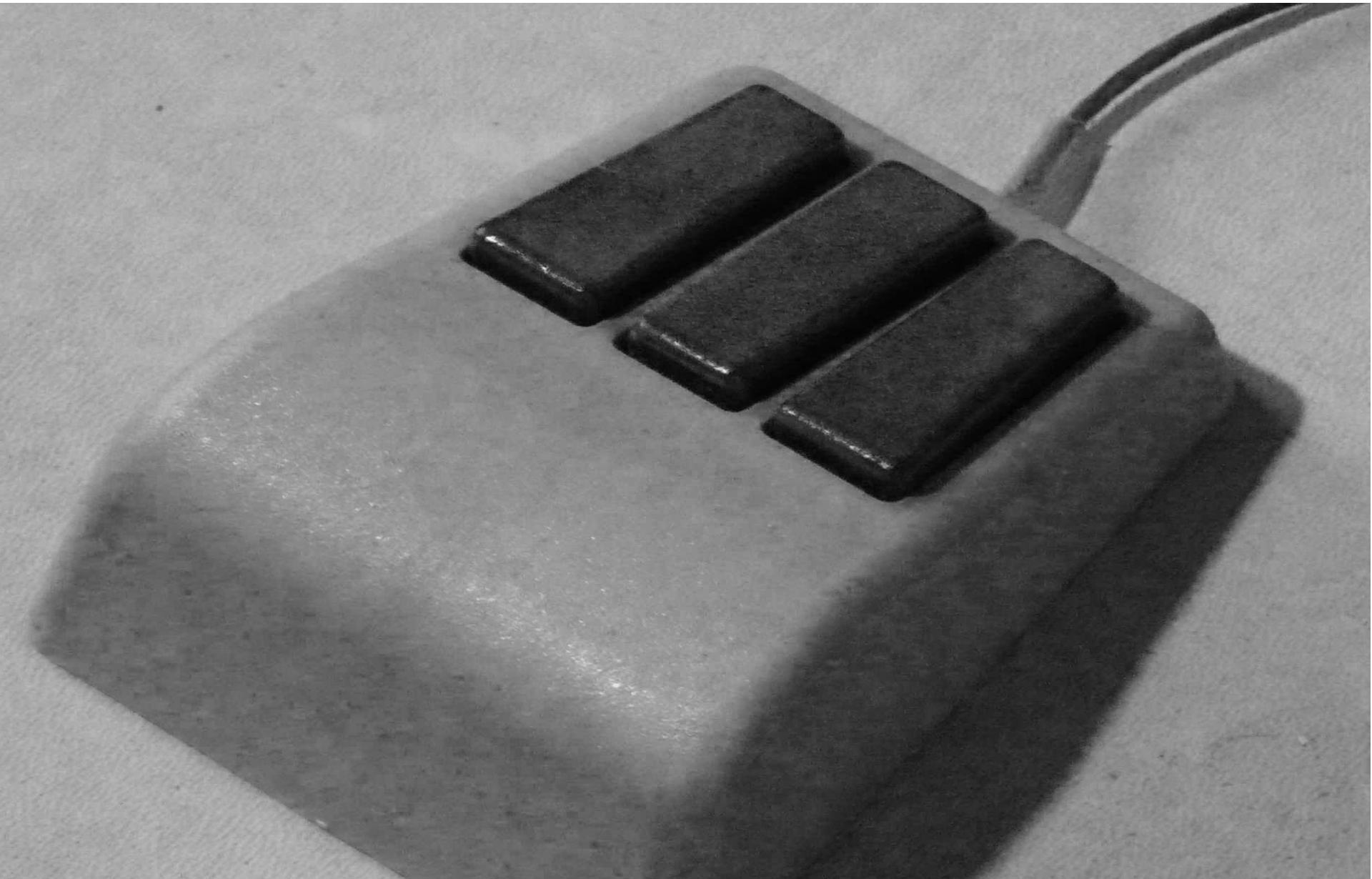


Light Pen



Mouse





Mouse



Mouse

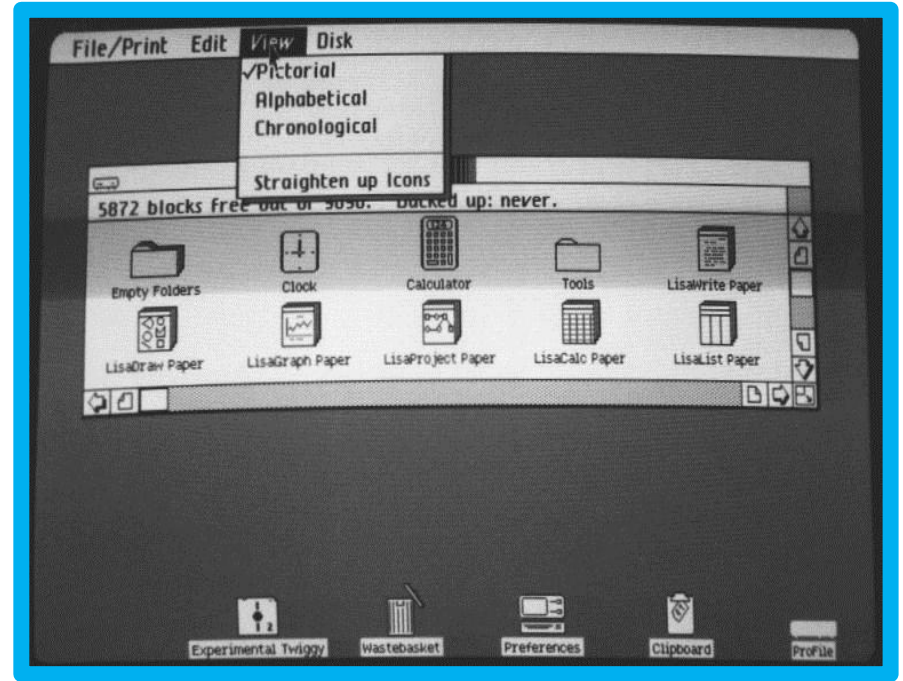




Mouse



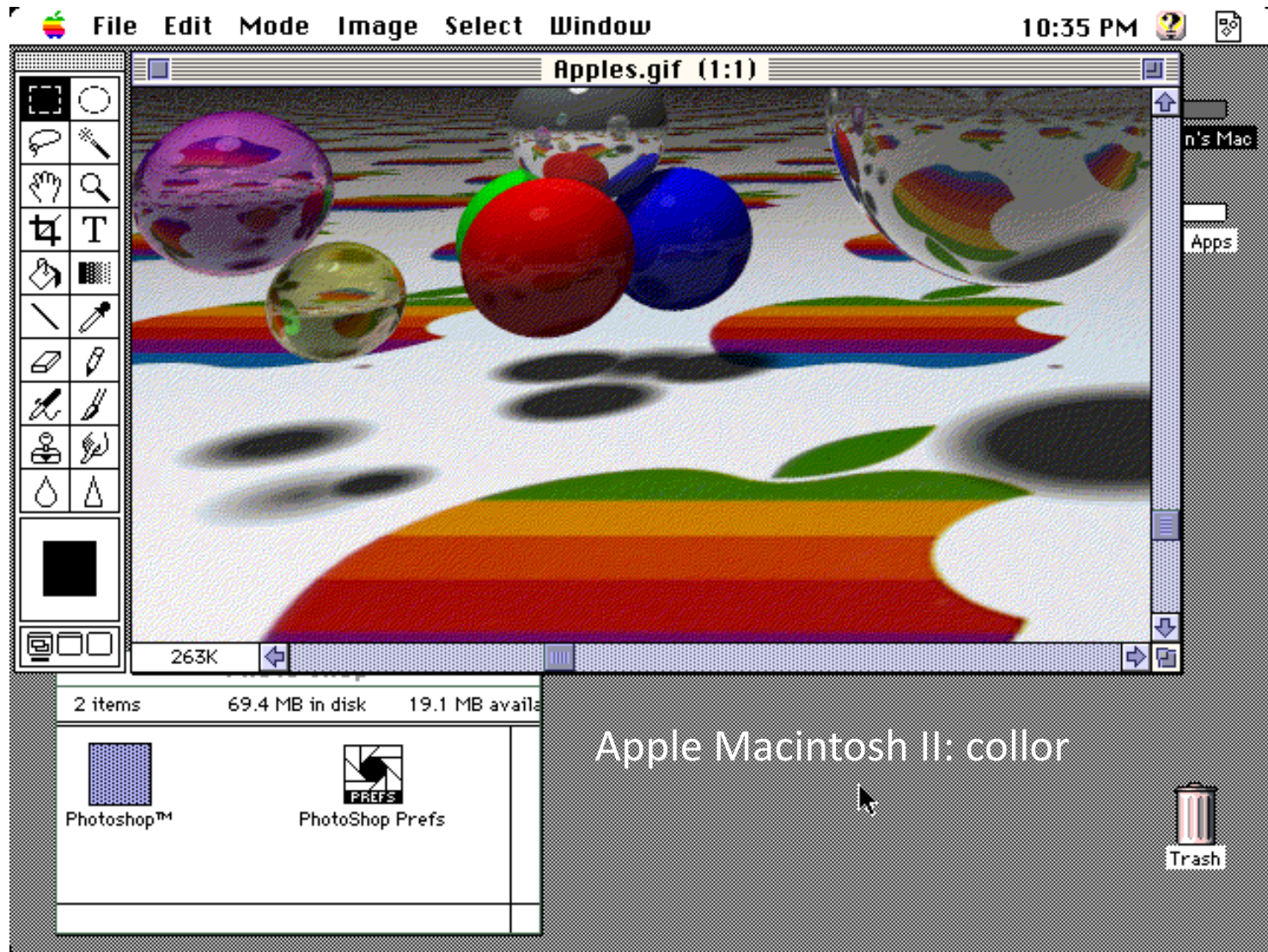
1973: Xerox PARC. first operational Alto computer



1983: Apple Lisa. Pull down menus and menu bars.

# Graphical User Interface

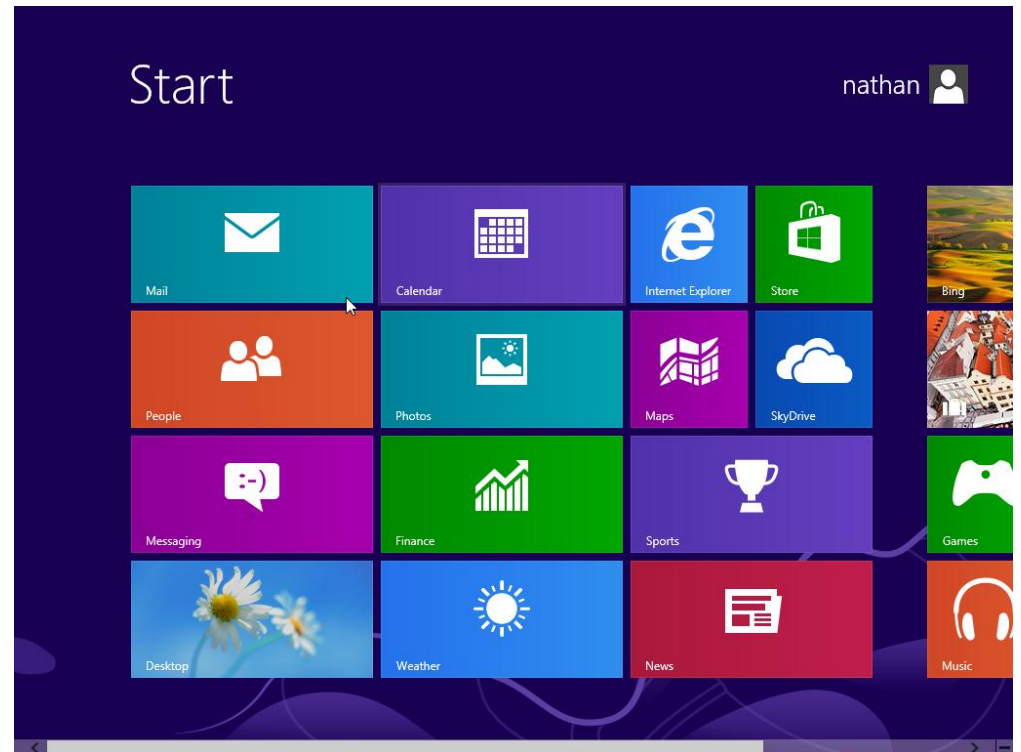
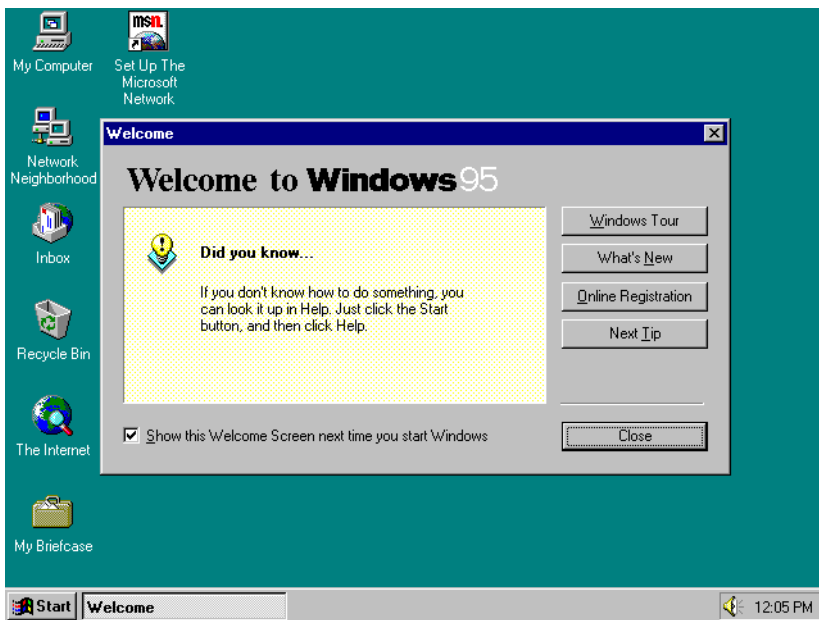
<http://toastytech.com/guis/guitimeline2.html>



# Graphical User Interface

<http://toastytech.com/guis/guitimeline2.html>





# Graphical User Interface

<http://toastytech.com/guis/guitimeline2.html>

**iPad**  
with Retina display



**iPad mini**

**Multitouch**



Multitouch





Multitouch

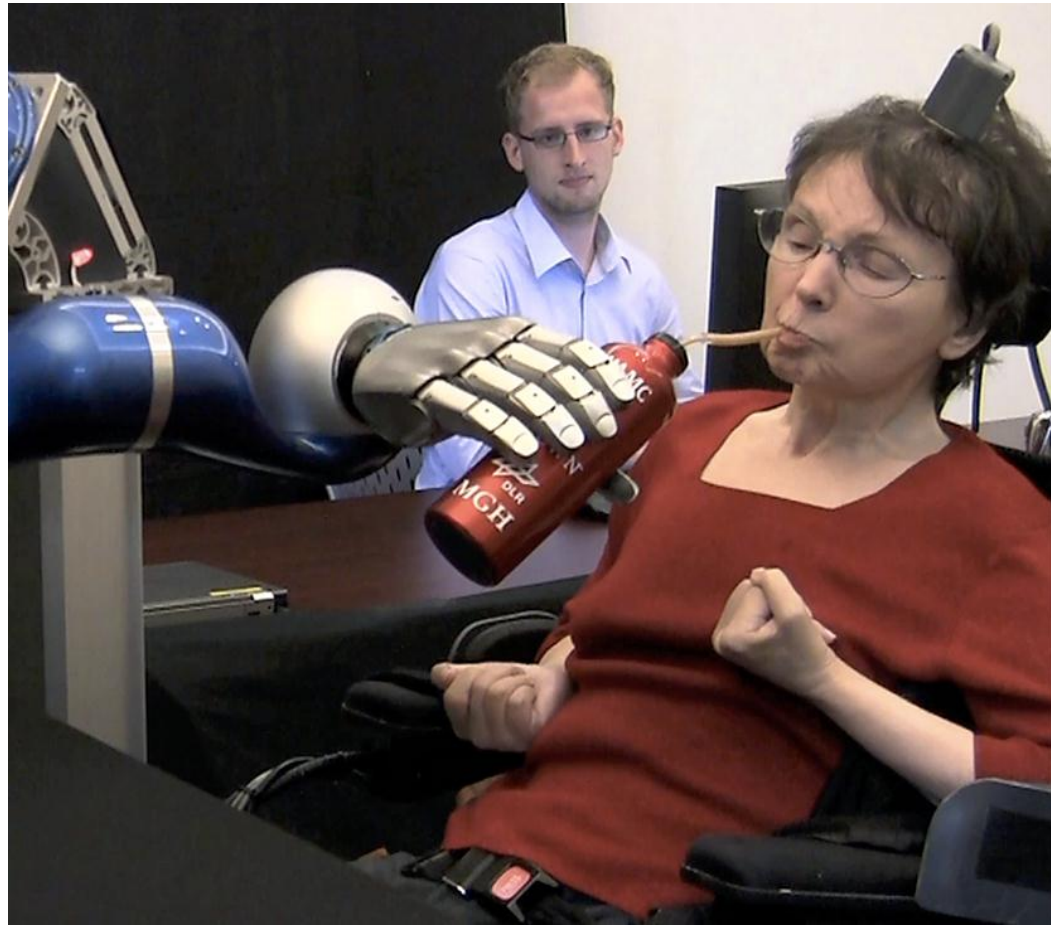


Natural User Interface



# Brain Computer Interface





Brain Computer Interface