

Apple, Inc.:
Strategic Management of Intellectual Property
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November 12, 2019

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Introduction

By any measure, Apple, Inc. has been an extraordinarily innovative company. Its breakthrough products and services include:

- Apple I Microcomputer (1976)
- Apple II Microcomputer (1977)
- Apple III Microcomputer (1980)
- MacIntosh Microcomputer (1984)
- iPod (2001)
- iTunes Store (2003)
- Macbook Pro Laptop computer (2006)
- Apple TV (2006)
- iPhone (2007)
- Macbook Air Laptop computer (2008)
- iPad (2010)
- Apple Watch (2015)

Most of these innovation have involved products for which there is high demand throughout the world.

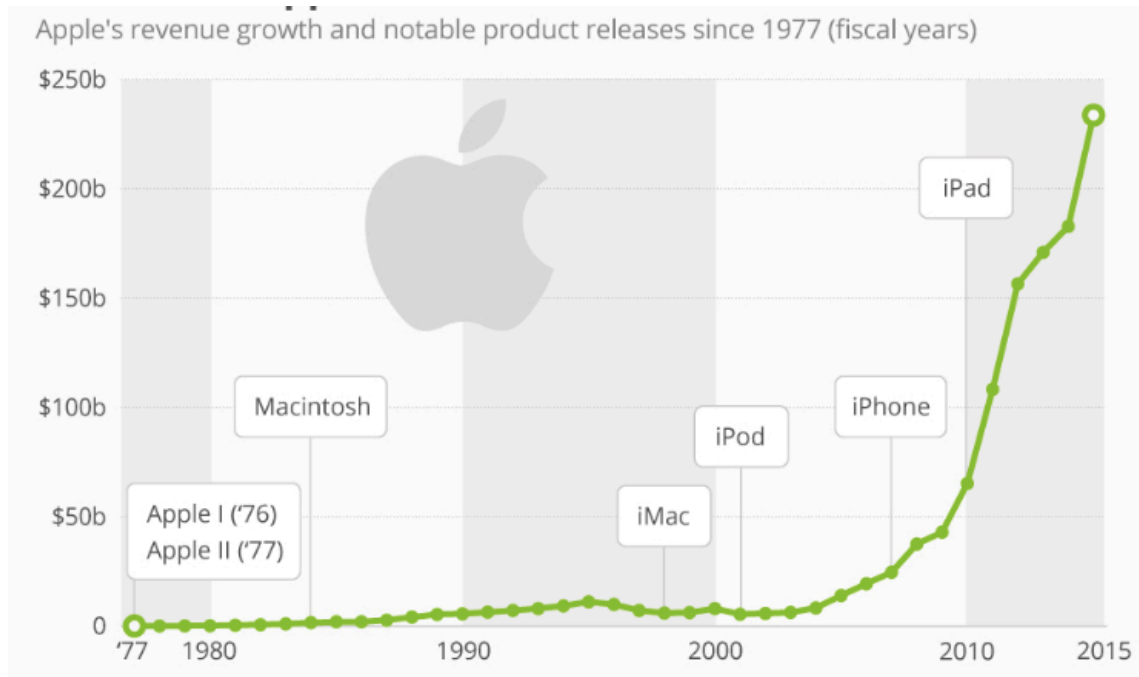
From its inception, Apple has sought and obtained a variety of forms of intellectual property protection for its innovations. Its IP portfolio includes:

- Trademark protection for the names of its products and for the many variants of its distinctive logo;
- Copyright protection for its operating systems and associated application programs;
- Utility Patent protection for its operating systems, application programs, hardware innovations, and aspects of its user interfaces;
- Design Patent Protection for many of the aesthetic aspects of its products;
- Trade dress protection for some of those same aspects.

Against this backdrop, it should not be surprising that Apple is currently the most valuable company in the world. A closer look at the history of the company, however, reveals some surprises and puzzles. Looking backward, one can identify four distinct periods in its evolution.

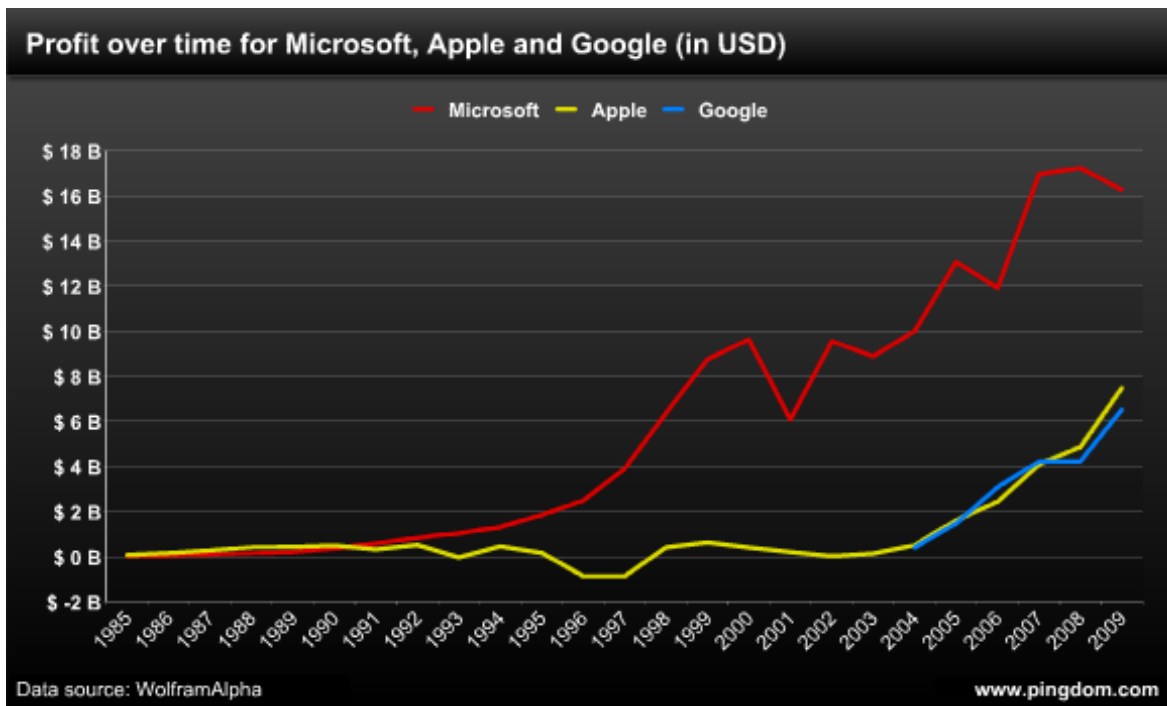
- 1) An initial period (roughly 1977-1993), when the young company was doing well;
- 2) A lull (roughly 1993-2004), when the company faltered and nearly went bankrupt;
- 3) A surge (roughly 2004-2015), in which the company rose from the ashes and grew extremely rapidly;
- 4) A mature phase (roughly 2015 to the present), in which the growth rate slowed and competitors proliferated.

This periodization is apparent in the history of the company's revenues,



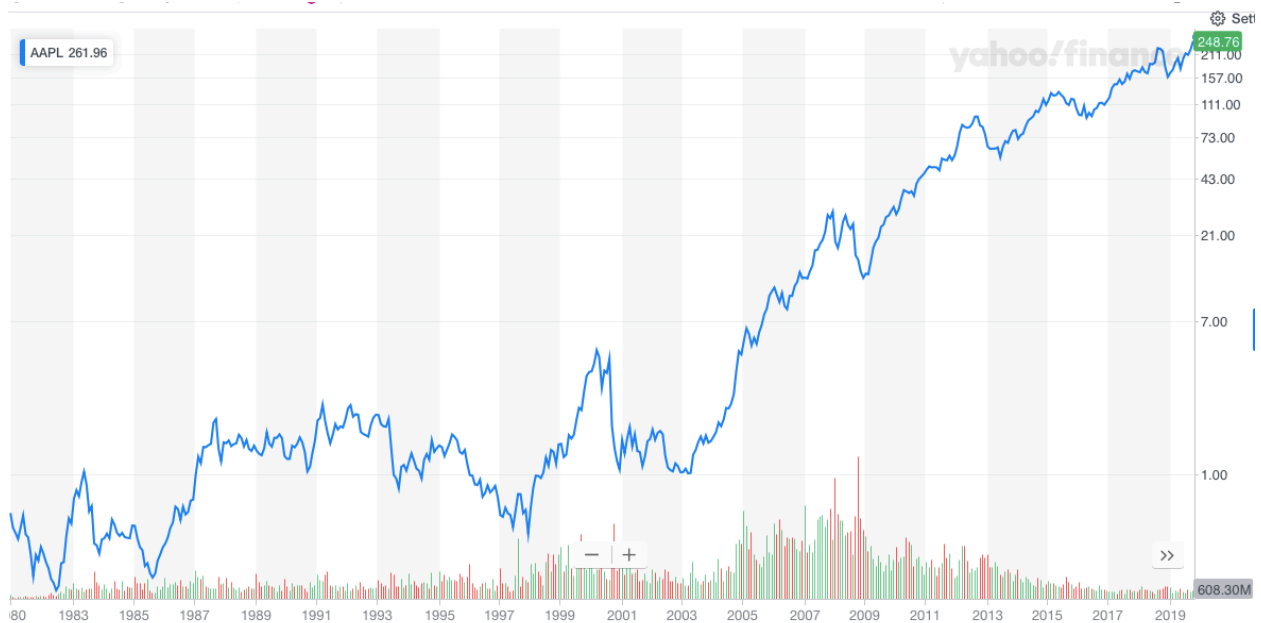
Source: <https://www.statista.com/chart/4574/apples-revenue-since-1977/>

...profits,...



Source: <https://royal.pingdom.com/the-money-made-by-microsoft-apple-and-google-1985-until-today/>

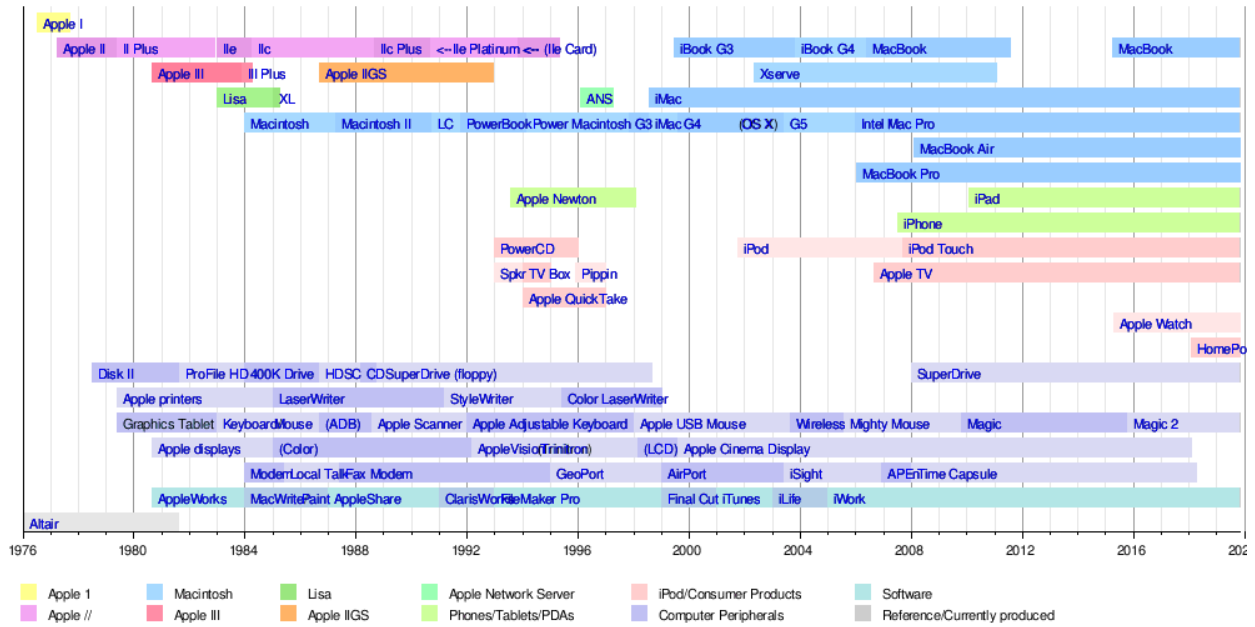
... and stock price:



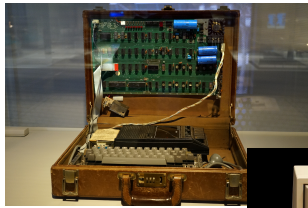
Set forth below are some materials that might help to make sense of these fluctuations. After examining them, try to answer the following questions:

- (1) What caused Apple's near collapse during the lull (1994-2003)?
- (2) Might Apple have exploited its intellectual-property assets in some other fashion that would have avoided the collapse and instead maintained the vitality and growth of the company?
- (3) What lessons concerning strategic uses of intellectual property can be gleaned from Apple's remarkable revival beginning in 2004?
- (4) What lessons can be gleaned from the strategies pursued by Apple's principal competitors in recent years?
- (5) How, if at all, should Apple alter its business model in the future?

I. Apple's Products



Source: https://en.wikipedia.org/wiki/History_of_Apple_Inc.



Apple I (1976)



Apple II (1977)



Macintosh II (1987)



Macintosh (1984)



Powerbook 100 (1991)



Powerbook 540C 1994



Power Macintosh G3 1997



Powermac G4 1999



Powerbook G4 2001



iPod (2001)



iPod Nano (2005)



iPhone (2007)



Macbook (2006)



Macbook Air (2008)



Macbook Pro (2008)

II. Selected Intellectual Property

United States Patent
Wozniak

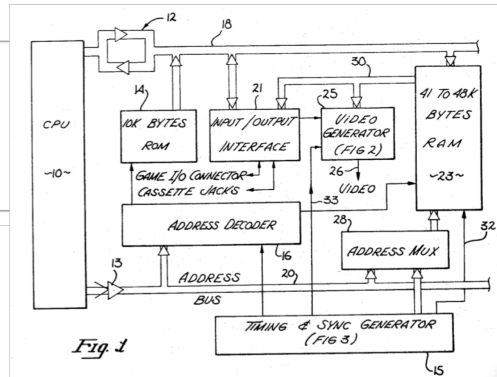
4,136,359
January 23, 1979

Microcomputer for use with video display

Abstract

A microcomputer including a video generator and timing means which provides color and high resolution graphics on a standard, raster scanned, cathode ray tube is disclosed. A horizontal synchronization counter is synchronized at an odd-submultiple of the color subcarrier reference frequency. A "delayed" count is employed in the horizontal synchronization counter to compensate for color subcarrier phase reversals between lines for the non-interlaced fields. This permits vertically aligned color graphics without substantially altering the standard horizontal synchronization frequency. Video color signals are generated directly from digital signals by employing a recirculating shift register.

Inventors: Wozniak; Stephen G. (Cupertino, CA)
Assignee: Apple Computer, Inc. (Cupertino, CA)
Family ID: 25137868
Appl. No.: 05/786,197
Filed: April 11, 1977



United States Patent
Jobs, et al.

D268,584
April 12, 1983

Personal computer

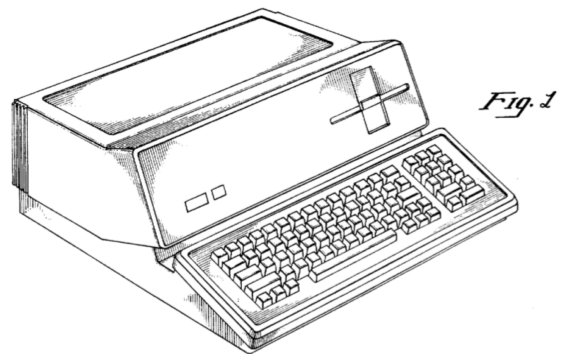
Claims

The ornamental design for a personal computer, substantially as shown.

Inventors: Jobs; Steven P. (Los Gatos, CA), Manock; Jerrold C. (Palo Alto, CA), Hovey; Dean A. (Los Altos, CA), Kelley; David M. (Palo Alto, CA)

Assignee: Apple Computer, Inc. (Cupertino, CA)
Appl. No.: 06/203,502
Filed: November 3, 1980

Current U.S. Class: D14/333
Current International Class: D1402
Field of Search: ;D14/100,101,102,103,105,106,107,111,113,114 ;364/419,708,709,900 ;340/365R ;D18/7





United States Patent
Manock , et al.

D285,687
*** September 16, 1986**

****Please see images for: (Certificate of Correction) ****

Computer housing

Claims

The ornamental design for a computer housing, substantially as shown.

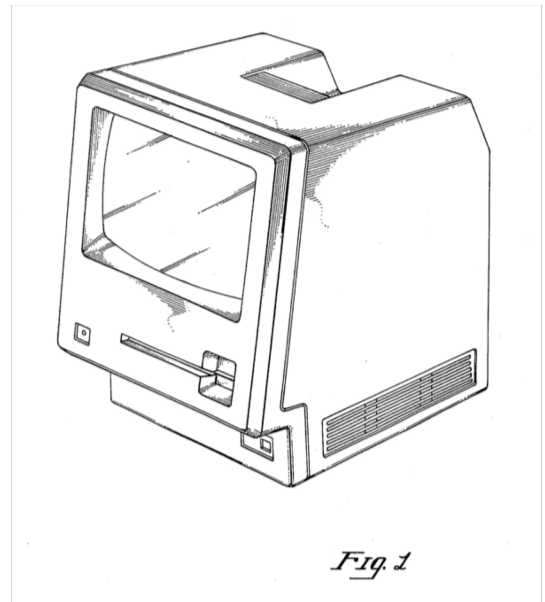
Inventors: Manock; Jerrold C. (Palo Alto, CA), Oyama; Terrell A. (Los Altos, CA), Jobs; Steven P. (Los Gatos, CA)

Assignee: Manock; Jerrold C. (CA)

[*] Notice: The portion of the term of this patent subsequent to September 16, 2000 has been disclaimed.

Appl. No.: 06/541,714

Filed: October 13, 1983



Utility Patent on “Bounceback Function”

- Claim 19. A device, comprising:
- a touch screen display;
- one or more processors;
- memory; and
- one or more programs, wherein the one or more programs are stored in the memory and configured to be executed by the one or more processors, the programs including:
- instructions for displaying a first portion of an electronic document;
- instructions for detecting a movement of an object on or near the touch screen display;
- instructions for translating the electronic document displayed on the touch screen display in a first direction to display a second portion of the electronic document, wherein the second portion is different from the first portion, in response to detecting the movement;
- instructions for displaying an area beyond an edge of the electronic document and displaying a third portion of the electronic document, wherein the third portion is smaller than the first portion, in response to the edge of the electronic document being reached while translating the electronic document in the first direction while the object is still detected on or near the touch screen display; and
- instructions for translating the electronic document in a second direction until the area beyond the edge of the electronic document is no longer displayed to display a fourth portion of the electronic document, wherein the fourth portion is different from the first portion, in response to detecting that the object is no longer on or near the touch screen display.

Utility Patent on “Zoom/Scroll Function”

- Claim 8. A machine readable storage medium storing executable program instructions which when executed cause a data processing system to perform a method comprising:
- receiving a user input, the user input is one or more input points applied to a touch-sensitive display that is integrated with the data processing system;
- creating an event object in response to the user input;
- determining whether the event object invokes a scroll or gesture operation by distinguishing between a single input point applied to the touch-sensitive display that is interpreted as the scroll operation and two or more input points applied to the touch-sensitive display that are interpreted as the gesture operation;
- issuing at least one scroll or gesture call based on invoking the scroll or gesture operation;
- responding to at least one scroll call, if issued, by scrolling a window having a view associated with the event object; and
- responding to at least one gesture call, if issued, by scaling the view associated with the event object based on receiving the two or more input points in the form of the user input.

Utility Patent on “Tap to Zoom Function”

- Claim 50. A portable electronic device, comprising:
- a touch screen display;
- one or more processors;
- memory; and
- one or more programs, wherein the one or more programs are stored in the memory and configured to be executed by the one or more processors, the one or more programs including:
- instructions for displaying at least a portion of a structured electronic document on the touch screen display, wherein the structured electronic document comprises a plurality of boxes of content;
- instructions for detecting a first gesture at a location on the displayed portion of the structured electronic document;
- instructions for determining a first box in the plurality of boxes at the location of the first gesture;
- instructions for enlarging and translating the structured electronic document so that the first box is substantially centered on the touch screen display;
- instruction for, while the first box is enlarged, a second gesture is detected on a second box other than the first box; and
- instructions for, in response to detecting the second gesture, the structured electronic document is translated so that the second box is substantially centered on the touch screen display.

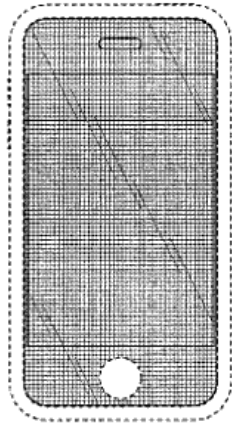


FIG. 3

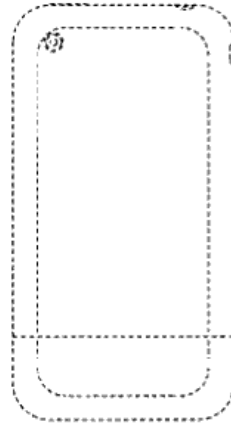


FIG. 4

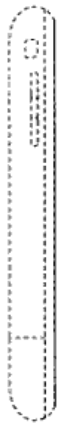


FIG. 7



FIG. 8

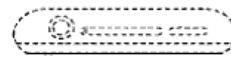


FIG. 5

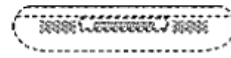
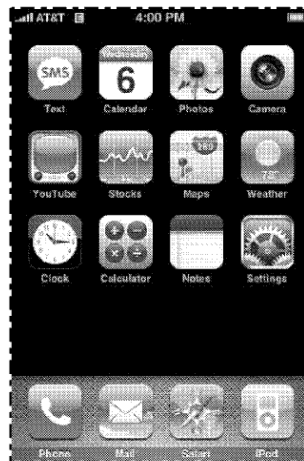


FIG. 6



“the ornamental design for a graphical user interface for a display screen or portion thereof”





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US Registration Number: 3470983			Registration Date: Jul. 22, 2008		
Register: Principal					
Mark Type: Trademark					
Status: Registered. The registration date is used to determine when post-registration maintenance documents are due.					
Status Date: Jul. 22, 2008					
Publication Date: May 06, 2008					
<ul style="list-style-type: none"> ▲ Mark Information ▲ Related Properties Information ▲ Goods and Services ▲ Basis Information (Case Level) ▲ Current Owner(s) Information ▲ Attorney/Correspondence Information ▲ Prosecution History 					

III. Competitive Products



Franklin Ace 1200 (1983)
(clone of Apple II)



Samsung SPH-1300
(October 2001)



Samsung SGH-i607
BlackJack
(November 2006)



Samsung Instinct
(June 2008)



Samsung Omnia
SCH-i910
(December 2008)



1st Samsung Galaxy smartphone by Samsung

(June 2009)



BrokenLCDs.com

Galaxy S (March 2010)

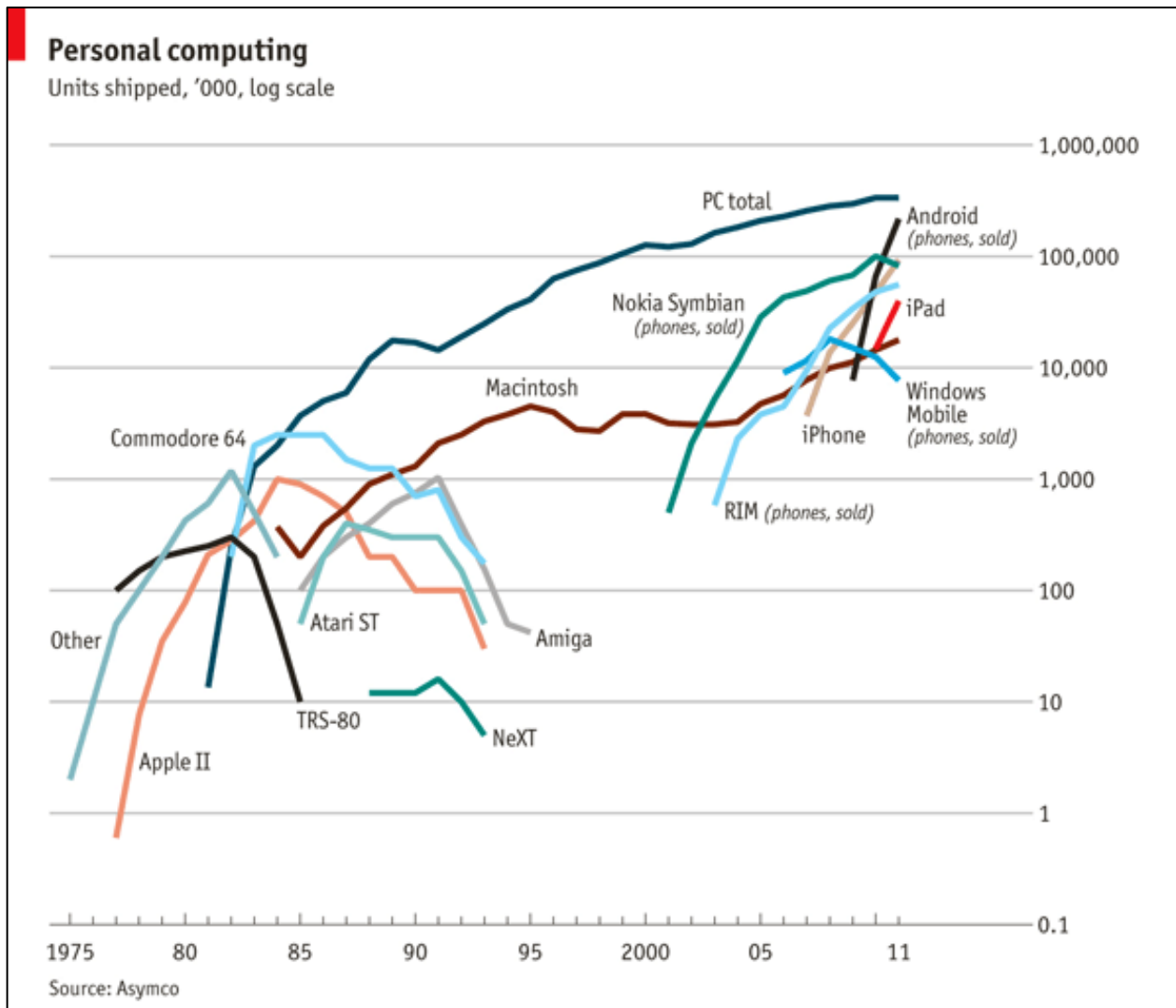


Galaxy S II



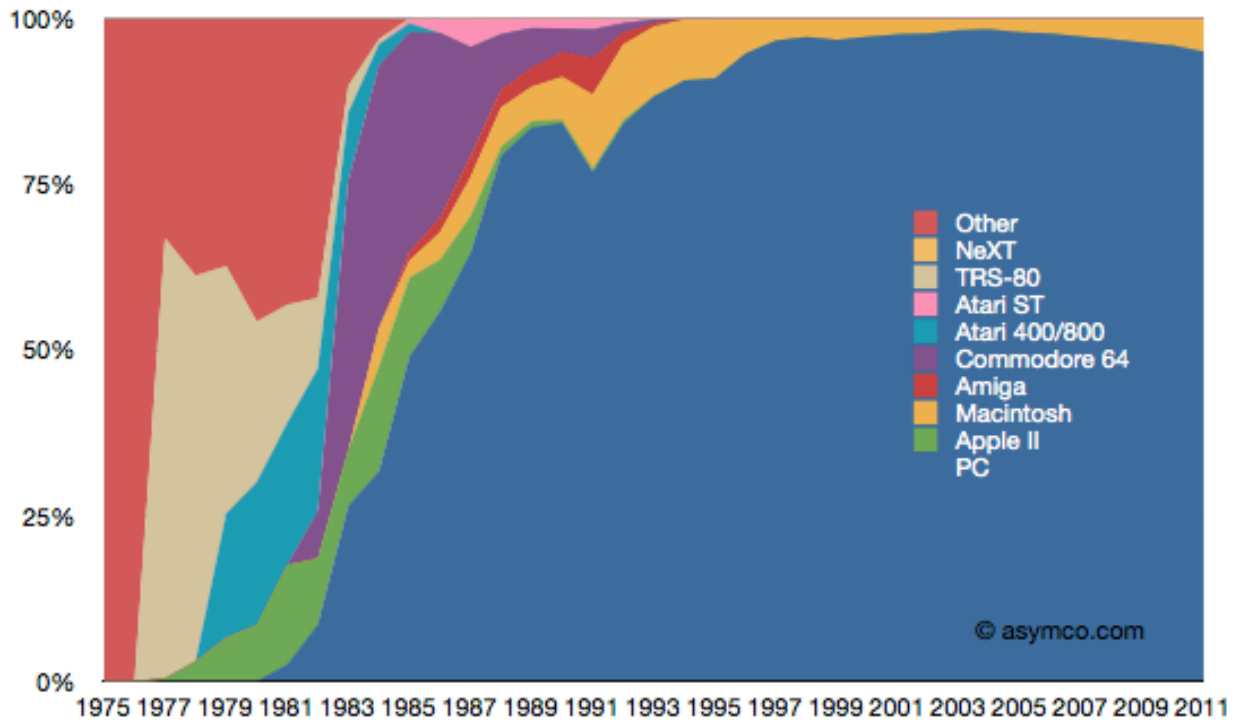
IV. Markets and Market Shares

Unit sales to global PC market																				
	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Units (M)	70.9	80.6	92.9	113.5	134.7*	128.1	132.4	168.9	189.0	218.5	239.4	271.2	302.2	305.9	351	352.8	352.7	316	315.9	288.7
Growth (pct.)	17.8	13.7	15.3	22.2	18.7*	-4.9	3.4	27.6	11.9	15.6	9.6	13.3	11.4	1.2	14.7	0.5	0.0	-10.4	-0.2	-8.0

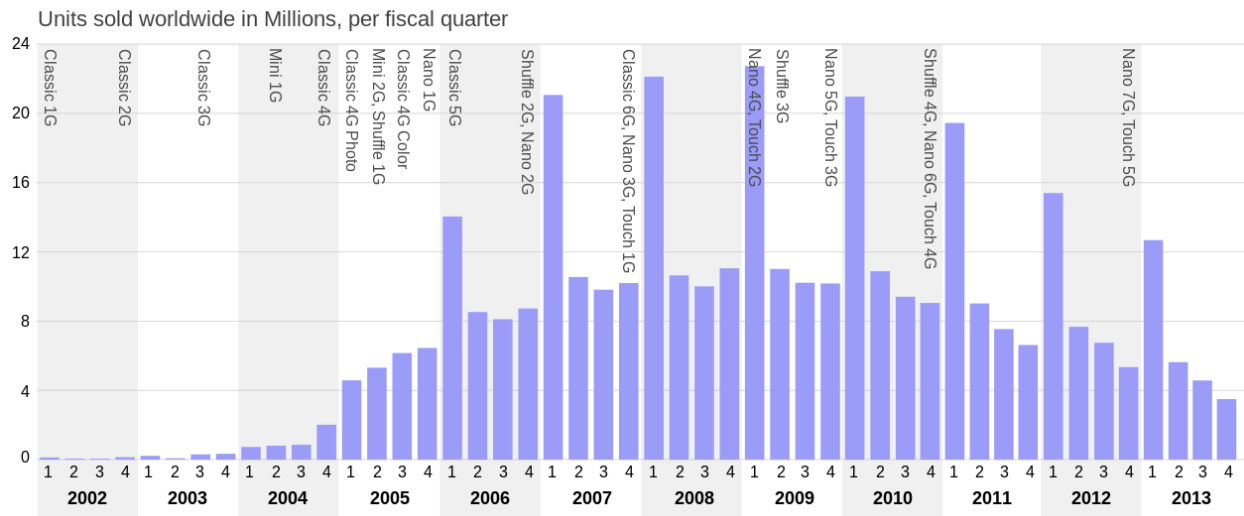


Source: <https://www.economist.com/blogs/graphicdetail/2012/02/daily-chart-13>

Traditional PC Market Shares



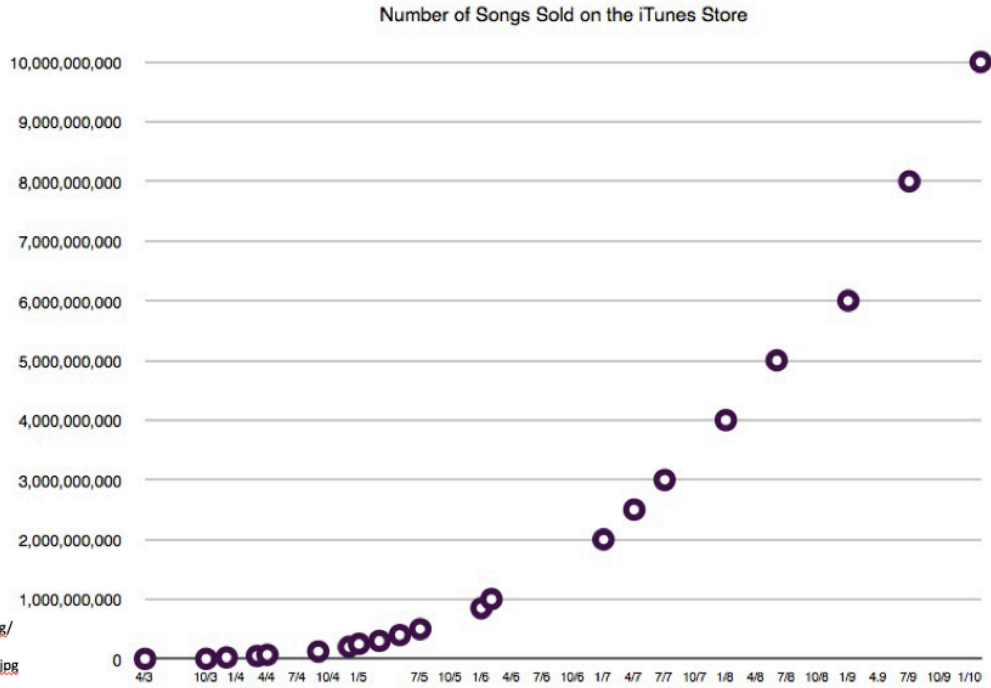
iPod Sales Chart



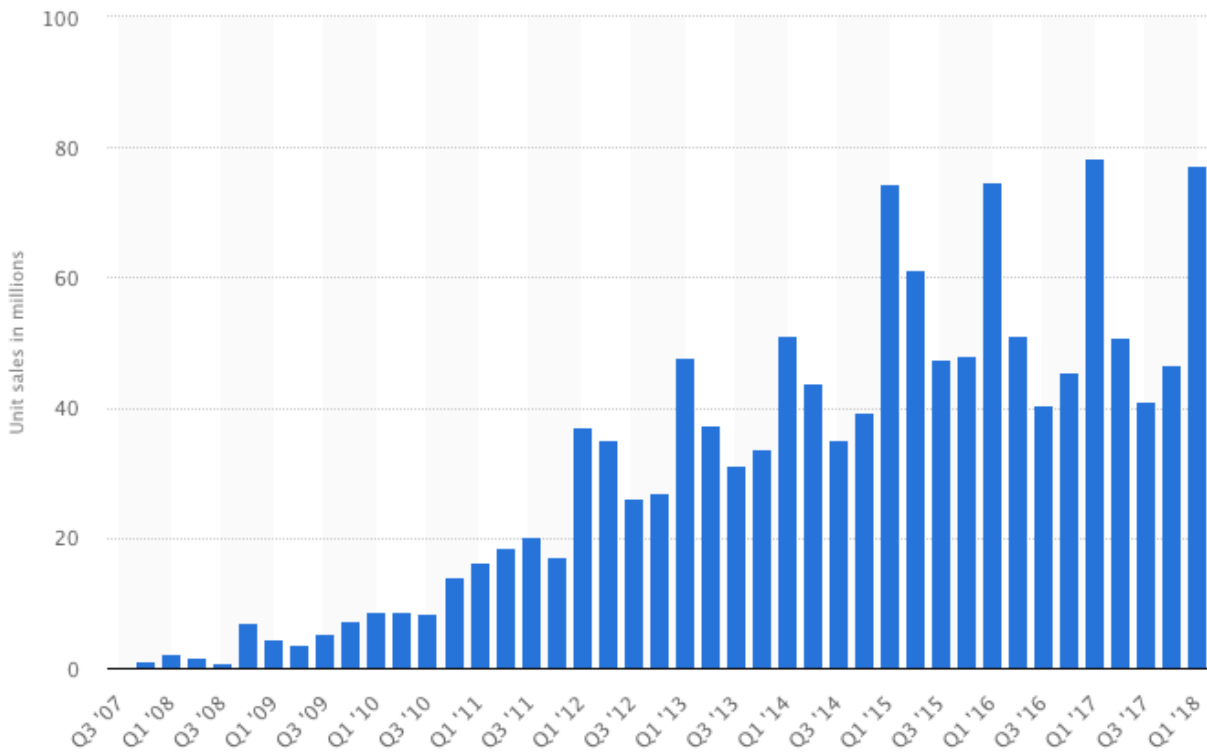


Sales of Sound Recordings on iTunes Store, 2003-2010

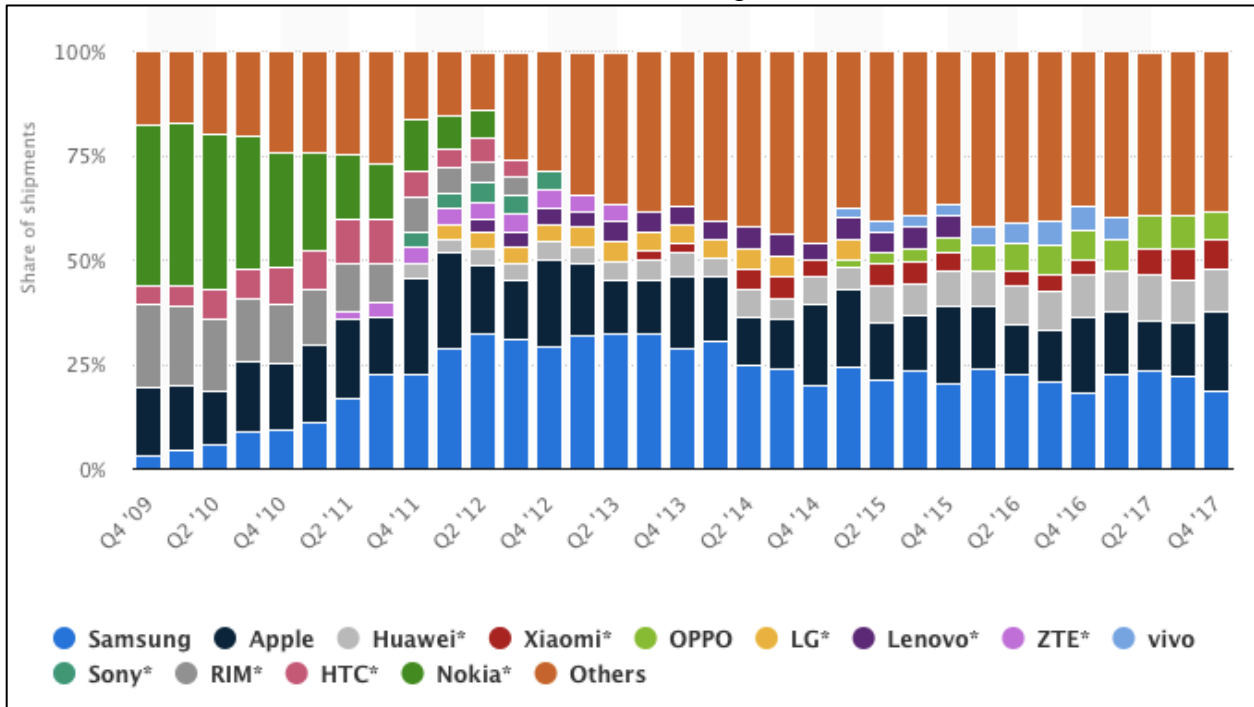
Source: https://en.wikipedia.org/wiki/iTunes_Store#/media/File:iTunes_Store_Songs_Sales.jpg



Global iPhone Sales

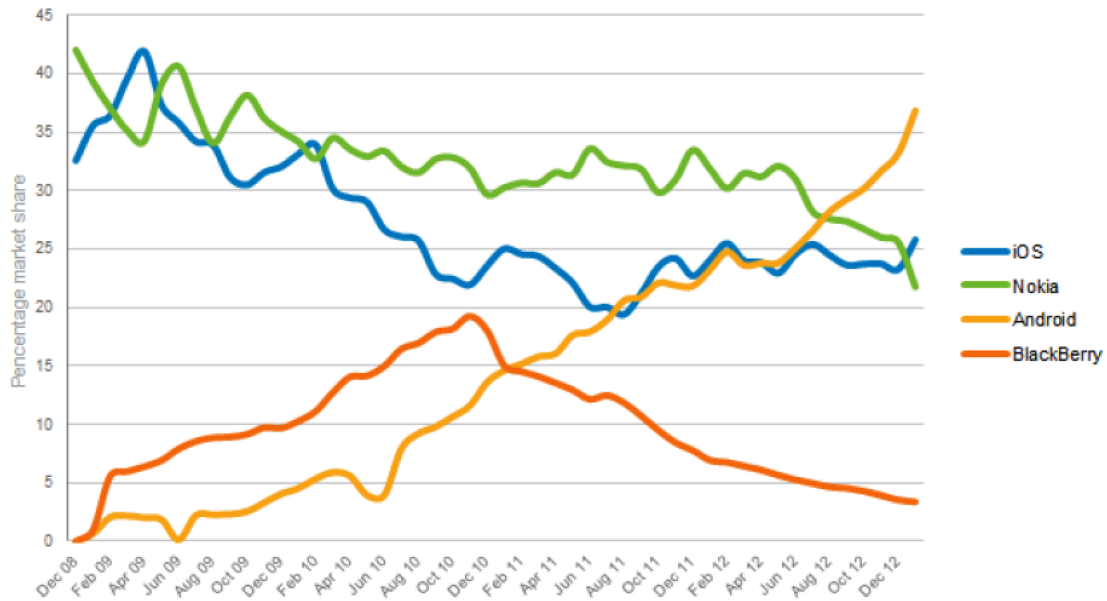


Global Market Shares of Smartphone Makers



Worldwide Mobile OS Market Share

HARVARD BUSINESS SCHOOL



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