

**CSC 471 / 371**  
**Mobile Application Development for iOS**



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## Outline

- What is mobile computing?
- The convergence:  
 $mobile + computing$
- The story of Apple Inc.
- The story of iOS



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## What is Mobile Computing?

- Computing technologies centered around mobile devices.
- (a computing device that is)  
 $\dots$  an iPod, a Phone, an Internet communicator, ...

— Steve Jobs, 2007

Mobile Computing =  
 Computation + Mobility + Connectivity

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## Elements of Mobile Computing

- Mobile hardware, devices
  - CPU, GPU, memory, network connectivity
- Mobile software
  - Mobile platforms, and apps
- Mobile connectivity
  - Wireless Internet, WIFI, Bluetooth, cellular network
- Human Computer Interaction
  - Alternative input mechanisms: touch, motion, voice
  - User interface design

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## A Brief History of Apple & iOS, & others



1976 By Ron Wayne  
 1977 - 1998 By Rob Janoff  
 1998 Translucent Version  
 1998 - 2000 Monochrome Version  
 2001 - 2007 Aqua Version  
 Current Chrome Version

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## The Story of Apple – The Apple I, 1976



Apple I, 1976  
 Homebrew Computer Club,  
 Palo Alto, CA, \$666, ~200 units sold

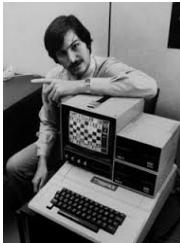


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## The Story of Apple – The Apple II, 1977

- Introduced June 10, 1977
- First highly successful and mass produced PC

**Apple II, 1977**  
Retail \$1,298, ~6 million units sold

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## Graphical User Interface (GUI) 1973-1981, Xerox PARC

- The invention of GUI
  - Windows, icons, menus, etc.
  - The Xerox Star workstation
- The invention of the mouse




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## The Macintosh Apple Computer, 1984

- Steve Jobs visited Xerox PARC in the winter of 1979  
“What is going on here? You’re sitting on a gold mine! Why aren’t you doing something with this technology? You could change the world!”
- The first PC with a Graphical User Interface (GUI) and a mouse

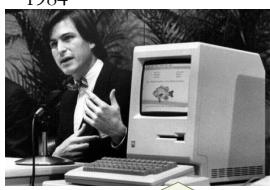


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## The Macintosh Launch, 1984

- Steve Jobs introduced the Macintosh on January 24, 1984




**Macintosh, 1984**  
Retail \$2,495, 72,000 units sold in the first 100 days

“Was George Orwell right?”

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## Motorola DynaTAC 1983, Motorola Corp.

- Inventor, Martin Cooper
- The first cell phone approved for commercial use.
- Weight: 2lb



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## The Oust of Jobs, 1985

- Steve Jobs was forced out of Apple by CEO John Sculley, May 1985
- Sold all but one of his 6.5 million shares
- Acquired Pixar (\$5 million)
- Started NeXT Inc.
  - Introduced the NeXT computer in 1988
    - Retail \$6,500, ~50,000 units sold
    - Operating System: NeXTSTEP
    - Tim Berners-Lee used a NeXT Computer in 1990 to create the first web browser and web server.



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## Newton Message Pad Apple Computer, 1993

- The first commercially available hand-held computer
- Pioneer of *Personal Digital Assistant* (PDA)
- Weight: 1.4 lb
- ARM 610 CPU, 32-bit
- 4 MB ROM, 640 KB RAM
- 336 x 240 BW display
- Handwriting recognition



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## Palm Pilot 1000 US Robotics, 1996

- The first commercially successful personal digital assistant (PDA)
- Stylus input
- Graffiti handwriting recognition
- Infrared port



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## BlackBerry Quark 2003, Research in Motion

- The first device with integrated cell phone and e-mail
- QWERTY keyboard
- SMS



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## The Rise of Windows

- Microsoft launched Windows 3.0 on May 22, 1990
  - The first Microsoft GUI Operating System
  - 2 million copies sold in the first 3 months
- Windows 3.1 released on March 1, 1992
  - Dominated the market share 85.7% (Mac OS 6.7%)
- Apple sued Microsoft for copyright infringement
- Windows 95 released on August 24, 1995
  - Windows, all versions, 88.6% (Mac OS 4.6%)
- DOJ opened investigations of Microsoft for abusing its monopoly position of Windows



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## The Return of Jobs, 1997

- Apple acquired NeXT for \$429 million, December 20, 1996.
  - Use NeXTSTEP as a foundation to replace Mac OS
- Steve Jobs back to Apple as a consultant
- Apple board ousted CEO Gil Amelio, July 9, 1997
  - Steve Jobs named *interim* CEO, later CEO
  - Until his resignation on August 24, 2011
- Microsoft invested \$150 million in Apple



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## The Comeback

- iMac, August 15, 1998
- iPod & iTunes, October 2001
  - A new spin on music in exciting times
- Mac OS X, March 2001



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## iPhone June 2007, Apple Computer

- The first integrated smart phone
- Multi-touch interface
- Virtual keyboard
- WIFI & 3G



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## iPad Tablet Computer April 2010, Apple Computer

- The first commercially successful tablet computer



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## The Most Influential Tech Products Over the Past Two Decades

### 1. Newton MessagePad (1993)

2. Netscape Navigator (1994)

3. Windows 95 (1995)

4. The Palm Pilot (1997)

5. Google Search (1998)

### 6. The iPod (2001)

7. Facebook (2004)

8. Twitter (2006)

### 9. The iPhone (2007)

10. Android (2008)

### 11. The MacBook Air (2008)

### 12. The iPad (2010)

Walter Mossberg  
WSJ,  
Dec 17, 2013

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## Apple Joins Dow Jones 30 (DJIA)

- March 19, 2015, Apple replaced AT&T in DJIA
- APPL traded on NASDAQ
  - Went public Dec. 12, 1980 at \$22 per share
  - 2-for-1 split in 1987, 2000, 2005
  - 7-for-1 split in 2014
  - 4-for-1 split in 2020
  - Closing price on Dec. 11, 2020, \$123.24 per share
- Apple is now the world's most valuable company
  - Market capitalization: ≈ \$2.081 T.

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## Next ...

- Set up the development environments
- Get to know Xcode
- Build your first iOS app

◊ Xcode, iOS, WatchOS are trademarks of Apple Inc.

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