MAC "OS X" COMPUTERS AND HOW THEY DIFFER FROM "WINDOWS.." COMPUTERS

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Web location for this presentation:

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Click on “Meeting Notes”
SUMMARY

Let's look at the pricing and models AND the user interface of Apple's Macintosh "OS X" computers and compare these features to those in "Windows.." computers.
TOPICS

• Major Differences Between Macs and "Windows.." PCs
• Models and Pricing of Macs
• User Interface of Macs
• Running "Windows.." in Macs
MAJOR DIFFERENCES BETWEEN MACS AND WINDOWS PCs

- No "Activation.." in Macs versus various schemes of "activation" in Windows PCs
Windows activation

Windows is activated  Read the Microsoft Software License Terms

Product ID: 00330-80000-0000-0A124

Change product key
Windows activation

Windows is not activated.  Read the Microsoft Software License Terms

Product ID: 00330-80000-00000-AA004
Activate Windows

This product key doesn’t work. You might need to get in touch with the store or company you bought Windows from, or you can buy a new key from Microsoft.

Error details

Learn more about why you’re seeing this issue

To activate Windows, enter a different product key or go to the Store.

Change product key

Go to Store
Enter a product key

Your product key should be in an email from whoever sold or distributed Windows to you, or on the box the Windows USB came in.

The product key looks similar to this:
PRODUCT KEY: XXXXX-XXXXX-XXXXX-XXXXX-XXXXX

Product key

Dashes will be added automatically

Cancel
MAJOR DIFFERENCES BETWEEN MACS AND WINDOWS PCs
• EULA forbids running the Mac OS X operating system on non-Apple Hardware (= EULA of OS X forbids "Hackintosh" computers)
• "Windows.." can be installed on any hardware platform
1. **Other Use Restrictions.** The grants set forth in this License do not permit you to, and you agree not to, install, use or run the Apple Software on any non-Apple-branded computer, or to enable others to do so. Except as otherwise permitted by the terms of this License or otherwise licensed by Apple: (i) only one user may use the Apple Software at a time, and (ii) you may not make the Apple Software available over a network where it could be run or used by multiple computers at the same time. You may not rent, lease, lend, sell, redistribute or sublicense the Apple Software.
MAJOR DIFFERENCES BETWEEN MACS AND WINDOWS PCs (continued)

• Windows PCs have a "BIOS" (~prior to Oct 2012) or a "UEFI"

• Macs have a "EFI" (~prior to July 2012) or a "UEFI".
MAJOR DIFFERENCES BETWEEN MACS AND WINDOWS PCs (continued)

- The end user has no access to the EFI or UEFI of a Mac while the end user has access to the BIOS or UEFI of a Windows PC.
PhoenixBIOS 4.0 Release 6.0
Copyright 1985-2001 Phoenix Technologies Ltd.
All Rights Reserved
Copyright 2000-2015 VMware, Inc.
VMware BIOS build 429

639K System RAM Passed
8667M Extended RAM Passed
ATAPI CD-ROM: VMware Virtual IDE CDROM Drive
Mouse initialized

Press F2 to enter SETUP, F12 for Network Boot, ESC for Boot Menu 0:02
CD-ROM Drive
  +Removable Devices
  +Hard Drive
  Network boot from Intel E1000

Item Specific Help

Keys used to view or configure devices:
<Enter> expands or collapses devices with a + or -
<Ctrl+Enter> expands all
<-> and <-> moves the device up or down.
<n> May move removable device between Hard Disk or Removable Disk
<d> Remove a device that is not installed.
MAJOR DIFFERENCES BETWEEN MACS AND WINDOWS PCs (continued)

• To stop hung-up processes: Control+Shift+Esc in a Windows PC versus Command+Alt/Option+Esc in a Mac
If an application doesn't respond for a while, select its name and click Force Quit.

Dreamweaver
Grab
iTunes
Preview
Safari
TextEdit
Finder

You can open this window by pressing Command-Option-Escape.
MAJOR DIFFERENCES BETWEEN MACS AND WINDOWS PCs (continued)

• Windows PCs have a registry while Macs have ".plist" files.
MAJOR DIFFERENCES BETWEEN MACS AND WINDOWS PCs (continued)

• Macs can read hard drives that are formatted with NTFS but they cannot write to them unless you install third-party software utilities.

• Windows PCs cannot read or write to external hard drives that are formatted with HFS+ unless you install third-party software utilities.
MODELS AND PRICES OF MACS
MODELS AND PRICES OF MACS

• Four Basic Models:
  "Mac Mini"
  "iMac"
  "MacBook.."
  "Mac Pro"
MODELS AND PRICES OF MACS (continued)

• "Mac Mini" is a small form factor computer.
• "iMac" is an "All in One".
• "MacBook" is a laptop.
• "Mac Pro" is a full-sized tower.
MODELS AND PRICES OF MACS (continued)

- "MacBook.." is a laptop that is available as a smaller "MacBook Air" and a larger "MacBook Pro"
MODELS AND PRICES OF MACS (continued)

• "Mac Mini" =
  $500 base price
  $700 base price
  $1000 base price
Base price does not include a monitor, a keyboard, a mouse, or a "Mic In" jack.
MODELS AND PRICES OF MACS
(continued)

• "iMac" ("all in one") =
  $1100 base price
  $1300 base price
  $1500 base price
  $1800 base price
  $2000 base price
  $2300 base price
MODELS AND PRICES OF MACS (continued)

• "MacBook" = $1300 base price
$1600 base price
MODELS AND PRICES OF MACS (continued)

• "MacBook Air" =
  $ 900 base price
  $1000 base price
  $11000 base price
  $12000 base price
MODELS AND PRICES OF MACS (continued)

• "MacBook Pro" = $1300 base price
  $1500 base price
  $1800 base price
  $2000 base price
  $2500 base price
MODELS AND PRICES OF MACS (continued)

- "Mac Pro" =
  $3000 base price
  $4000 base price
Base price does not include a monitor, a mouse, or a keyboard.
9.9 in height
6.6 in diameter
11 lb weight
MODELS AND PRICES OF MACS (continued)

• The lowest "price points" of Macs are much higher than the lowest price points for "Windows.." computers
• The lowest price points of "Windows.." computers is best seen at http://walmart.com and http://bestbuy.com
HP 251-a123wb Desktop PC with Intel Pentium J2900 Processor, 4GB Memory, 21.5" Monitor, 1TB Hard Drive and Windows 10 Home

4 stars based on 44 reviews | Q&A | By: HP

Price: $399.00
FREE shipping | FREE pickup today

Care plan (optional): None
- None
- 3 year(s) (+$39.00)

Quantity: 1
Add to Registry

Shipping
See delivery options
ASUS E402MA 14 Inch, Intel Dual Core, 2GB, 32GB Laptop, Windows 10 (64bit), Dark Blue

by Asus

50 customer reviews | 94 answered questions

Price: $199.00 & FREE Shipping. Details

Item is eligible. No interest if paid in full within 6 months with the Amazon.com Store Card. Apply now

In Stock.
Want it Tuesday, April 12? Order within 17 hrs 15 mins and choose One-Day Shipping at checkout. Details
Ships from and sold by Amazon.com. Gift-wrap available.

- Intel Dual Core N2840 2.16GHz (Turbo up to 2.58GHz).
- 2GB RAM/32GB storage. Windows 10 operation system. 14 inches compact and lightweight notebook. 1366 by 768 resolution.
- Durable, full size chiclet keyboard. 1.6mm key travel distance.
- Feature 1 x USB 3.0, 1 x USB 2.0, 1 x HDMI and VGA ports. Bluetooth 4.0. Ergonomically designed keyboard with IceCool technology keeps the palm rest at a comfortable temperature.
- This product does not have a CD/DVD drive.

See more product details

5 new from $199.00 10 used from $145.00

Special Shipping Information: Due to federal and international regulations, this product can only be shipped within the continental United States.

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ASY US E402MA 14 Inch, Intel Dual Core, 2GB, 32GB Laptop, Windows 10 (64bit), Dark Blue

by Asus

⭐⭐⭐⭐⭐ 50 customer reviews | 94 answered questions

Price: $199.00 & FREE Shipping. Details

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Ships from and sold by Amazon.com. Gift-wrap available.

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Upgrade Your Gadgets.
Shop the must-have new computer products. Learn more
MODELS AND PRICES OF MACS
(continued)

• At the higher (> $1000) price ranges, Macs and Windows PCs are very close when compared feature by feature:
See all of the comparisons at http://blog.parallels.com/2014/02/14/2014214the-real-cost-of-the-pc-verse-a-mac/
USER INTERFACE OF MACS
USER INTERFACE OF MACS

- "Menu Bar" is always visible on the top of the screen.

Functions of two ends of the "Menu Bar" is similar to the two ends of the "Taskbar" in "Windows.."
• The "Dock" can auto-hide, like the "Taskbar" in "Windows..": (Either right click on the vertical bar in the Dock or find and click on "Dock" in "System Preferences".)
USER INTERFACE OF MACS (continued)

• The center portion of the "Menu Bar" is context sensitive:
   It changes depending on what application's window has the "focus".
The Rochester Computer Society Inc.

The Rochester Computer Society is a non-profit group open for membership to anyone interested in computers, though our emphasis is on IBM compatibles. We have monthly program meetings as well as Special Interest Group (SIG) meetings. The majority of our members are computer novices, but we have a number of people with intermediate knowledge and even a few experts.
Welcome to Photos

To get started with Photos, do any of the following:

- Connect a camera or memory card.
- Drag pictures directly into Photos.
- Choose Import from the File menu.
- Turn on iCloud Photo Library in Preferences.
USER INTERFACE OF MACS (continued)

• The "Dock" is similar to the "Task Buttons" in the center of the "Taskbar" of "Windows..".
• The default location of the "Dock" is the bottom of the monitor screen. However, you can also put it on the left or right side of the monitor screen.
• While you can drag the "Taskbar" in "Windows.." to the top of the monitor screen, you cannot put the "Dock" of the Mac on the top of the monitor screen.
USER INTERFACE OF MACS (continued)

• "Application" icons can be made to "Keep in the Dock" which is similar to "Pin to Taskbar" in "Windows.."
• "Finder" icon in the "Dock" is similar to "Windows Explorer" in Windows XP/Vista/7 and "File Explorer" in Windows 8/8.1/10
USER INTERFACE OF MACS (continued)

• Clicking on the "Apple" in the top "Menu Bar" brings up a pull-down menu that is similar to the "Windows key"+ x "Power User's" menu in Windows 8/8.1/10.
"System Preferences" in Mac "OS X" is similar to "Control Panel" in "Windows."
USER INTERFACE OF MACS (continued)

• In prior years, the mouse on a Mac only had one button and control key + mouse click was similar to the right mouse button in "Windows".
USER INTERFACE OF MACS
(continued)

• Current Mac "OS X" computers come with a two-button mouse with the two buttons built into the single top portion of the mouse.
• Current Mac "OS X" computers default to having both mice buttons generate a "left mouse button click" but this can be changed in "System Preferences".
• If you take the two ends of the Taskbar of a Windows computer and move the two ends to the top of the monitor screen, then you almost have the "Menu Bar" of a Mac "OS X" computer.
USER INTERFACE OF MACS (continued)

• If you then leave the center portion of the "Taskbar" of a "Windows.." computer and widen it a bit, it becomes the "Dock" of a Mac "OS X" computer.
The "Dock" of a Mac "OS X" can be placed on the bottom, left, or right edges of the monitor screen. It cannot be placed on the top of the monitor screen.

In contrast, the Taskbar of a "Windows.." computer can be placed on any edge of the monitor screen.
USER INTERFACE OF MACS
(continued)

• Apple's detailed guide for comparing the user interface of a Mac to that of a Windows.. PC is located at https://support.apple.com/en-us/HT204216at
RUNNING "WINDOWS.."
IN MAC "OS X"
COMPUTERS:
RUNNING "WINDOWS.." IN "MACS"

• You can run any version of "Windows.." inside a Mac "OS X" computer.

• Apple's "End User License Agreement" forbids the installation of any version of "OS X" into a non-Apple hardware computer.
RUNNING "WINDOWS.." IN MACS (continued)

• Two ways to run "Windows.." inside a Mac "OS X" computer:
  Method 1:
  Run "Windows.." inside a virtual machine inside "OS X"
  Method 2:
  Run "Windows.." inside a "Boot Camp" partition
RUNNING "WINDOWS.." IN MACS
(continued)

• **Method 1:**
  Run "Windows.." inside a virtual machine inside "OS X":
  - Install "Parallel's Desktop", "VMware Fusion", or "VirtualBox" software
  - Create an empty virtual machine
  - Install "Windows.." into the virtual machine
RUNNING "WINDOWS.." IN "MACS" (continued)

• Method 2: Run "Windows.." inside a Boot Camp partition
  o Run the "Boot Camp Assistant"
  o Install "Windows.."
  o Install Apple's "Boot Camp Support Software" as an software application inside "Windows.."
RUNNING "WINDOWS.." IN "MACS" (continued)

- Method 2 (continued): After you create a "Boot Camp Partition" with "Windows.." installed inside it, you can hold down the "Alt Option" key during the powering up of the Mac in order to get a "dual boot menu":


RUNNING "WINDOWS.." IN "MACS" (continued)

- Method 2 (continued):
  After you create a "Boot Camp Partition" with "Windows.." , you can use the "Boot Camp" applet inside "System Preferences" in "Mac OS X" to make the Mac only boot into "Windows.." if you do not have a third-party NTFS drive utility installed:
Select the system you want to use to start up your computer

- Macintosh HD
  OS X, 10.10
- Boot Camp
- My Backup

You have selected OS X, 10.10 on the disk "Macintosh HD."

Click to restart this computer in target disk mode
After you restart this computer in target disk mode, you can connect it to another computer using a Thunderbolt or FireWire cable and use it as a hard disk.

Restart...

Target Disk Mode...
Select the system you want to use to start up your computer

- Macintosh HD (OS X, 10.10)
- Boot Camp
- My Backup

You have selected OS X, 10.10 on the disk "Macintosh HD."

Click to restart this computer in target disk mode
After you restart this computer in target disk mode, you can connect it to another computer using a Thunderbolt or FireWire cable and use it as a hard disk.

Restart...
RUNNING "WINDOWS.." IN "MACS" (continued)

• Method 2 (continued):
  After you create a "Boot Camp Partition" with "Windows.." inside it, you can use the "Boot Camp" applet inside the "Control Panel" in "Windows.." to make the Mac only boot into "OS X":

Select the system you want to use to start up your computer

You have selected OS X on the disk "Mac."

Click to restart this computer in target disk mode.
After you restart this computer in target disk mode, you can connect it to another computer using a Thunderbolt or FireWire cable and use it as a hard disk.
KEYBOARD MAPPING AND EQUIVALENTS FOR RUNNING "WINDOWS.." IN MACS
KEYBOARD MAPPING AND EQUIVALENTS

- When you run "Windows.." inside a Mac you have two keyboard options:
  - Use keyboard equivalents in a Mac keyboard
  - Attach a Windows.. keyboard to your Mac
• PC keyboards that have USB connectors work fine when attached to Macs.
• All Mac keyboards work fine when connected to PCs.
A typical keyboard's keys.

A typical Apple keyboard's keys.
KEYBOARD MAPPING AND EQUIVALENTS.. (continued)

• The "alt option" key on a Mac keyboard is equivalent to the "Alt" key on a PC keyboard and vice versa.
The "command" key on a Mac keyboard is equivalent to the "Windows" key on a PC keyboard and vice versa.
• On the lower-left section of a PC keyboard, the "Windows" key is to the left of the "Alt" key.

• This means that when you use a PC keyboard on a Mac, the "command equivalent" key is to the left of the "alt / option equivalent" key.
KEYBOARD MAPPING AND EQUIVALENTS.. (continued)

• On the lower-left section of a Mac keyboard, the "alt / option" key is to the left of the "command" key.

• This means that when you use a Mac keyboard on a PC, the "alt / option" key is to the left of the "command" key.
KEYBOARD MAPPING AND EQUIVALENTS.. (continued)

• On a PC, copy is Control + c
• On a Mac, copy is Command + c
• If you use a PC keyboard on a Mac, copy is Windows key + c
• If you use a Mac keyboard on a PC, copy is Control + c
KEYBOARD MAPPING AND EQUIVALENTS.. (continued)

• On a PC, paste is Control + v
• On a Mac, copy is Command + v
• If you use a PC keyboard on a Mac, copy is Windows key + v
• If you use a Mac keyboard on a PC, copy is Control + v
KEYBOARD MAPPING AND EQUIVALENTS. (continued)

• On a PC, cut is Control + x
• On a Mac, cut is Command + x
• If you use a PC keyboard on a Mac, cut is Windows key + x
• If you use a Mac keyboard on a PC, cut is Control + x
KEYBOARD MAPPING AND EQUIVALENTS.. (continued)

- Apple's guide for keyboard equivalents is located at https://support.apple.com/en-us/HT201236t
- Command
- Shift
- Option
- Control
- Caps Lock
- Fn