

Customer & Competitive Analysis

ROM *(Read-Only Memo)*

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23 Windows “Pains”

This document has scripts for 23 demonstrations that can be shown to customers who are considering Windows 3.0. We believe that these examples clearly show the superiority of the Macintosh.

These demonstrations assume some experience working with Windows 3.0. If you need further explanation about any of these demonstrations, either consult the Windows User Guide (the manual that comes with Windows 3.0) or link GARR1.

1. Insert a diskette and view its contents

Macintosh

Windows

1. Go to the Macintosh desktop.
 2. Insert a diskette into the floppy drive.
 3. A diskette icon appears on the desktop.
 4. If the diskette's window is not already open, then double click on the diskette to show its contents. (If a diskette's window is open when you eject it, the Macintosh remembers that and will display the open window when that diskette is reinserted.)
 5. Select the Eject command from the File menu.
 6. Insert another diskette.
 7. Double click on that diskette to show its contents (if its window is not already open).
1. Go to the File Manager.
 2. Insert a diskette.
 3. Nothing happens on screen.
 4. Click on the Drive A icon.
 5. Now you can see the root directory, which is represented as a folder.
 6. Double click to open that folder.
 7. You see the directory of that diskette.
 8. Eject that diskette.
 9. Insert another diskette into that drive.
 10. Click on the Drive A icon.
 11. Now you can see a folder.
 12. Double click to open that folder.
 13. The first diskette's directory is shown!
 14. Select the "Refresh" command from the Window menu.
 15. The directory of the new diskette is shown.

Significance: Since Apple crafts both the Macintosh hardware and software, they work together. So when you make a physical change to the hardware, like inserting a diskette, the software recognizes it and acts accordingly. In the PC world, Microsoft develops Windows, and many different manufacturers make the hardware system. So the software and hardware don't work together as well. When you put a diskette into a PC, it doesn't notice until you tell the machine that the disk is there. Even worse, when you remove the first diskette, insert a new one and try to look for a file, Windows displays the old diskette's directory on screen. The user has to use the Refresh command to look at the files that are actually in the drive. Macintosh does all of this automatically.

2. Move an application program file to a new location

Macintosh

1. Drag an application program from a folder to the desktop.
2. Double click to launch that application.

Windows

1. Go to the File Manager.
2. Move an application program to another directory.
3. Go to the Program Manager.
4. Try to launch that application by double clicking on it.
5. You'll receive an error message stating that the specified path is invalid (but you won't receive instructions advising what to do next).
6. To launch that application, you will need to enter its new pathname. To do that, highlight its icon in the Program Manager.
7. Select "Properties" from the File menu.
8. Change the Command Line to reflect the new path to the application program file.
9. Now you can launch that program by double-clicking on its icon in the Program Manager.

Significance: Within Windows, the File Manager and the Program Manager are separate programs. If you make a change in one, the other may not notice. Therefore, it's up to the user to keep them both synchronized.

3. Move an application then launch a data file

Macintosh

1. Before doing this demo, drag a data file from an application onto the desktop.

2. Go to the Finder.

3. Move that application and its data files to another location.

4. Double click on the data file which is on the desktop.

5. It will launch.

Windows

1. Before doing this demo, choose a data file that is in a subdirectory under an application folder in the File Manager. List that data file in a Program Manager window.

Here is an example of how you might set up this demo using Word for Windows: Go to the Program Manager. Select New from the File menu. Choose Program Group. Type in the Description "data files". Select New from the File menu again. This time choose Program Item. Type in the Description as "File 1" and type in the Command Line as "C:\WINWORD\LIBRARY\ARTICLE.DOC" (or whatever path is appropriate for your PC's configuration). Press OK.

2. Go to the File Manager.

3. Move that application and its data files to another location.

4. Go to the Program Manager.

5. Double click on the data file icon to try to launch it.

6. An error message appears saying that the specified path is invalid.

7. You will have to change the properties of this file (you would have to enter this new pathname for every data file of that application in the Program Manager).

8. Click on the data file (to highlight it) and then select the Properties command from the File Menu. Enter the correct pathname

where you moved the file.

9. Double click again to try to launch that data file.

10. It still doesn't open, even though the pathname is now correct.

11. Go to the File Manager.

12. Highlight any data file (from the application you've been working with), and select the Associate command from the File menu.

13. Type in the new pathname for the application file.

14. Go to the Program Manager.

15. Double click again on the data file. It should launch.

Significance: Since the File Manager and the Program Manager are separate programs, if you make a change in one, the other may not notice. Therefore, it's up to the user to keep them both synchronized.

This becomes a bigger problem in a networked environment. If an application is on the file server, all documents created with that application are Associated with the pathname to that application. If anyone decides to move that application to another place on the server, users will not be able to access their documents; double clicking on a document won't launch that application. Users would have to change the pathnames for *every* data file from that application that was listed in the Program Manager.

4. Use long filenames

Macintosh

1. Before doing this demo, create a file that's called: Dave's letter to Judy-draft #1
2. Highlight the "1", and type a "2" to replace it.
3. Now the file is: Dave's letter to Judy-draft #2

Windows

1. Before doing this demo, create a file in the File Manager titled: DLETJUD1.TXT
2. Go to the File Manager.
3. Click on the file DLETJUD1.TXT to highlight it.
4. Try to type a new name. It won't work.
5. Select Rename from the File menu.
6. In the "From" part of the dialog box, delete the 1 and type a 2.
7. Press Rename.
8. You receive an error message.
9. Press OK and again select Rename from the File menu.
10. In the "To" part of the dialog box, type DLETJUD2.TXT. (You cannot just change the "1" to a "2", you must type the complete name).
11. Note that Windows doesn't allow spaces, and it doesn't allow mixed case.

Significance: Since Windows is built on DOS, it can only accept the eight character DOS filenames (with three character extensions). This forces the user to create his own version of computer code. The Macintosh allows you to name files and folders in a way that is intuitive to you.

5. Rename a data file

Macintosh

1. From within an application, say Excel, save a new spreadsheet.
2. Name it "Demonstration".
3. Excel will save it as Demonstration.
4. Go to the Finder.
5. Find that file.
6. By highlighting it and typing over its name, change its name to Test.
7. Double click on it to launch it.

Windows

1. From within an application, say Excel, save a new spreadsheet.
2. Name it "DEMONSTR".
3. Excel will save it as DEMONSTR.XLS.
4. Go to the File Manager.
5. Find that file.
6. Select Rename from the File menu.
7. Type in TEST.
8. It is renamed "TEST" with no extension.
9. When you try to double click on TEST, you get the message "No association exists for this data file."
10. You must select Rename from the File menu and rename it "TEST.XLS".
11. Now when you double click on it, it will launch.

Significance: Since Windows is built on DOS, a user still has to understand filename extensions and make sure that those extensions are kept in synch with the creating application.

6. Remove a file from the system

Macintosh

1. Before doing this demo, have a file named Test on the desktop.

2. Drag the file into the trash can.

Windows

1. Before doing this demo, have a file named TEST.DOC in the File Manager, and an icon in the Program Manager (named TEST) representing that data file.

Here is an example of how you can iconize a data file in the Program Manager. Go to the Program Manager. Open one of the group icons by double clicking. Select New from the File menu. Choose Program Item. Type in the Description as "TEST" and type in the pathname to the file TEST.DOC. Press OK. You could also iconize a data file in the Program Manager by going to the File Manager, locating the file, and dragging it to the appropriate Program Manager group icon.

2. Go to the File Manager.
3. Highlight TEST.DOC.
4. Select Delete from the File menu.
5. Press the Return key to delete.
6. Go to the Program Manager.
7. Find the icon for TEST.
8. The icon is still there (even though you just deleted the file).
9. Double click on the icon to attempt to launch the file.
10. You see a dialog box saying that the machine cannot find TEST.DOC.
11. Go back to the Program Manager, highlight TEST, and select Delete from the File Menu. Now (finally) all references to that file have been removed.

Significance: Because the Macintosh was designed with an easy to use graphical user interface from the beginning, file management is more intuitive.

7. Arrange icons

Macintosh

1. Open a folder full of icons (in View by Icon mode).
2. Rearrange those icons in a way that makes sense to you (point out how nice the icons look compared to Windows' File Manager icons).
3. Restart the Macintosh.
4. The icons remain in the same place that you moved them.

Windows

1. Go to the File Manager.
2. Open a folder. Windows' File Manager doesn't have a "View by Icon" mode. Therefore, the icons are not very descriptive.
3. Furthermore, you cannot rearrange them.
4. Go to the Program Manager.
5. Drag the Group icons ("Main", "Accessories", etc.) to various places in the window (note that you cannot drag more than once icon at a time, neither by SHIFT-click or by dragging over them).
6. Show how you cannot drag an item out of the Program Manager window. Therefore, you cannot customize your desktop like on the Macintosh (where you can drag frequently used applications or data files onto the desktop)
7. Close the Program Manager window to quit out of Windows (Click the box to "Save Changes").
8. When you get to DOS, launch Windows 3.0.
9. The window will have been rearranged with the Group icons back along the bottom of the window (usually with overlapping titles).

Significance: This is an example of the Macintosh being built to be a graphical machine from the beginning. Windows is built on DOS, and so doesn't allow the same flexibility to drag files to the place that is most intuitive to the user. You can't

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customize your system as much.

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8. Work with file management

Macintosh

1. Have a diskette in one of the floppy drives.
2. Go to the Finder.
3. Select multiple folders and files by SHIFT-clicking on them. Or go into View by Icon mode and select multiple folders and files by dragging across them.
4. You can move or delete them together.
5. Double click on the diskette icon to show its files. You can see the contents of the hard disk and the floppy diskette at the same time.

Windows

1. Have a diskette in Drive A.
2. Go to the File Manager.
3. Select one directory from the Directory Tree (by single clicking on it).
4. Then try to select a second directory while keeping the first selected. You cannot do it.
5. Therefore, if you want to move or delete multiple directories from the Directory Tree, you have to do them one at a time.
6. Click on the Drive A icon (to show what's on the diskette in that drive). The Directory Tree for Drive C goes away. In the File Manager, you cannot see more than one Directory Tree at a time. Therefore, it can be awkward to copy files between drives, and to do other file management activities.

Significance: The Macintosh allows the user to easily view and perform actions on multiple files, folders, and disks. By giving the user more flexibility in file management, the Macintosh saves time.

9. Move folders

Macintosh

1. Go to the Finder.
2. Double click to open a folder that contains an application and many files, such as WORD or EXCEL.
3. Drag that (now grayed out) folder to

Windows

1. Go to the File Manager.
2. Double click to open a folder that contains an application and many files (preferably choose an application that you also have on the Macintosh, such as WINWORD or EXCEL).
3. Drag that folder to another folder.

another folder.

4. Macintosh performs a move.

4. Windows performs a move (but it takes longer than the Macintosh since each file is copied to the new folder and deleted from the old folder individually).

Significance: When moving a folder in the File Manager, Windows moves each file individually. Macintosh moves the whole folder instantaneously.

10. Close windows

Macintosh

1. Close a variety of Macintosh windows (document windows, folder windows, and disk windows). Every Macintosh window closes when you click on its close box in the upper left-hand corner.

Windows

1. You cannot close some of Windows 3.0's windows.

2. Go to the Program Manager.

3. Open the "Main" group icon.

4. Double click on the close box (in the upper left-hand corner) to show how a window is closed.

5. Open the "Main" group icon again.

6. Maximize that window by clicking on the up arrow (so Main window fills the Program Manager window).

7. Try double clicking on the close box.

8. It won't close.

9. You have to close by selecting "Close" from the File menu.

10. Similarly, go to the File Manager's Directory Tree window.

11. It looks just like any other window, but it cannot be closed (neither by double clicking on it, nor even by using the "Close" selection on the File menu).

12. Another peculiarity is that if the Directory Tree window is maximized, and you double click to open a folder, the Directory Tree window shrinks.

Significance: Inconsistencies such as this make Windows 3.0 a confusing environment.

11. Copy a file from the hard disk to a diskette

Macintosh

1. Before doing this demo, have a file named Test on the desktop.
2. Start in Finder, with the icon of "Test" displayed. The user's goal is to copy the file "Test" onto a diskette.
3. Insert an unformatted diskette.
4. Click on "Two sided".
5. When formatting is finished, drag "Test" to the diskette icon.

Windows

1. Before doing this demo, create a file named TEST.DOC in the File Manager, and an icon in the Program Manager (named TEST) representing that data file.
2. Start in Program Manager, with the icon of an Item "TEST" displayed. The user's goal is to copy the file "TEST" onto a diskette.
3. Insert an unformatted diskette into the floppy drive.
4. Nothing happens on screen.
5. Try to drag the file TEST to Drive A, but there is no disk icon to drag it to.
6. An experienced user would know to go into the File Manager. An inexperienced user might be stuck.
7. Go to the File Manager.
8. Click on Drive A and get the message "Cannot read from drive A:". (The user doesn't know if there is data on that diskette which the system just can't read right now, or whether it is unformatted.) If you have a Drive B, click on the icon for Drive B. You get the same error message, even though there is nothing in that drive. Again, this illustrates the problem of the hardware not being tightly integrated with the software.
9. Assume the user takes a risk and decides to format that diskette. Select Format Diskette from the Disk menu.
10. Press OK to select diskette A.
11. Select Format.
12. Press OK for the next dialog box.
13. Formatting begins (it may take a long time).
14. When the formatting is done, go to the Program Manager. Try to drag the "TEST"

document from the Program Manager window to the Drive A icon in the File Manager. You'll get the not allowed symbol.

15. The user must try to find the TEST file.

16. Highlight the TEST icon and select the Properties command from the file menu. This will show you the pathname to the file.

17. Go to the File Manager and locate that file.

18. Can now drag that file to the Drive A icon to copy it to the floppy.

Significance: A beginning user would have great difficulty accomplishing this relatively simple task in Windows 3.0.

12. Test the consistency between applications

Macintosh

1. Launch PowerPoint, Excel, and Word. For each of those applications, have a document on the screen, and type the word "Demonstration" into that document.
2. In PowerPoint, double click to highlight the word Demonstration.
3. Press the "Delete" key.
4. The entire word is deleted.
5. Move to Excel.
6. Highlight the word Demonstration.
7. Press the "Delete" key.
8. The entire word is deleted.
9. Move to Word.
10. Highlight the word Demonstration.
11. Press the "Delete" key.
12. The entire word is deleted.

Windows

1. Launch PowerPoint, Excel, and Word for Windows. For each of those applications, have a document on the screen, and type the word "Demonstration" into that document.
2. In PowerPoint, double click to highlight the word Demonstration.
3. Press the "Backspace" key.
4. The entire word is deleted.
5. Move to Excel.
6. Highlight the word Demonstration.
7. Press the "Backspace" key.
8. The final "n" is deleted.
9. Move to Word for Windows.
10. Highlight the word Demonstration.
11. Press the "Backspace" key.
12. Nothing is deleted, but the cursor moves to the beginning of the word.

Significance: Macintosh provide consistency across applications. So once you learn your first Macintosh application you'll be well on your way to learning them all. Windows is

supposed to introduce consistency to the DOS based world. But the fact is, even with Microsoft's own Windows applications, there are inconsistencies that could confuse users. This poses the question: If Microsoft doesn't make Windows applications consistent, what chance is there that anybody else ever will?

13. Launch applications

Macintosh

1. Go to the Finder.
2. Launch Excel.
3. Go back to the Finder.
4. Try to launch Excel again.
5. You are taken to the original copy of Excel.

Windows

1. Go to the Program Manager.
2. Launch Excel.
3. Go back to the Program Manager.
4. Launch Excel again.
5. Press CTRL-ESC to see that you have two copies of Excel running. Quit both of those applications.
6. Go to the Program Manager.
7. Launch Wingz.
8. Go back to the Program Manager.
9. Try to launch Wingz again.
10. You get the message "Cannot start more than one copy of the specified program".

Significance: Macintosh applications work the same way. To avoid confusion, Macintosh applications only launch once. There is not the same degree of consistency in Windows applications. Some Windows applications only launch once, while others can be launched multiple times. Inconsistencies such as this can be confusing to the user.

14. Copy and paste

Macintosh

1. Copy some text from any word processing program.
2. Paste it into any painting program.

Windows

1. Copy some text from Microsoft Windows Write.
2. Try to paste it into Windows Paintbrush.
3. You can't paste into Paintbrush.

Significance: Microsoft has not published human interface guidelines specifically for Windows 3.0. Microsoft encourages developers to use IBM's SAA guidelines which were written for OS/2 Presentation Manager. Therefore, users can't expect the same consistency between applications as they can with Macintosh. An example of this is that you cannot copy and paste from Windows Write to Paintbrush, which are two applications bundled with Windows.

15. Open multiple files at once in Microsoft Word

Macintosh

1. Go to the Finder.
2. Highlight 15 Microsoft Word documents.
3. Select "Open" from the File menu.
4. All the documents are loaded.

Windows

1. Go to the File Manager.
2. Highlight 15 different Word for Windows documents.
3. Select "Open" from the File menu.
4. Only one file is opened (you can tell that from the "Window" menu in Word for Windows).
5. Now that you're running Word for Windows, select the Open command from the File menu.
6. Begin opening those files one at a time.
7. When you try to open the tenth document, you will get an error message stating that there is not enough memory to complete the operation. (This happens no matter how much memory you have on your system.)

Significance: Macintosh is flexible enough to allow users to work the way they want to, and thus save time. Here is another example of the flexibility of Macintosh: From the Finder, highlight data files from different applications. Select Open from the File menu and all the applications and appropriate data files are launched. Windows 3.0 does not allow that.

16. Run a PowerPoint slideshow

Macintosh

1. Launch PowerPoint.
2. Open the "Columbus" file.
3. Select "Slide Show" under the File menu.
4. Choose Automatically every 1 second.

Windows

1. Launch PowerPoint.
2. Open the "COLUMBUS.PPT" file.
3. Select "Slide Show" under the File menu.
4. Choose Automatically every 1 second.

5. When both systems are ready, press the return keys at the same time.

5. When both systems are ready, press the return keys at the same time.

Significance: The Macintosh is able to present the slides at a rate of about one per second, while the PC cannot keep up with that pace. On comparably priced machines, the Macintosh should finish the slide show much faster than the PC. In fact, an independent

third party, Ingram Laboratories, found that the Macintosh Classic ran a suite of PowerPoint benchmarks faster than IBM's fastest PS/2, the Model 70 486. These, and other, benchmarks indicate that the Macintosh computer's unified architecture produces better performance than a graphical interface grafted on top of old-style equipment.

17. Run HyperCard and Toolbook

Macintosh

1. Launch HyperCard at the same time as you launch Toolbook.
2. Click on the "Clip Art" icon if using HyperCard 1.x or the "Art Bits" icon if using HyperCard 2.0 to open that stack (at the same time as you double click on Toolbook's Clip Art).
3. Flip through the cards by pressing the Right arrow key (at the same time as you are using the CTRL + Right arrow keys in Toolbook).

Windows

1. Launch Toolbook (either from the Program Manager or the File Manager) at the same time as HyperCard.
2. Double click on "Clip Art" to open that book (at the same time as you click on HyperCard's Clip Art).
3. Flip through the pages using the CTRL + Right arrow keys (at the same time as you are pressing on the Right Arrow key in HyperCard).

Significance: On comparably priced machines, the Macintosh should finish each of these tasks faster than the PC. This is another example of the Macintosh outperforming the PC. An independent third party, Ingram Laboratories, found that the Macintosh IICI ran a suite of HyperCard benchmarks faster than Compaq's 486/25 ran the same suite of Toolbook benchmarks.

18. Compare color capabilities

Macintosh

1. Launch PowerPoint.
2. Open the file "(Color) Presenting PowerPoint".
3. Select Slides (#1) from the View menu.
4. Select the Full Size command from the View menu.

Windows

1. Launch PowerPoint.
2. Open the file "PRSP256.PPT" (which is in the SAMPLES folder).
3. Select Slides (#1) from the View menu.
4. Select the Full Size command from the View menu.

5. Click on the zoom box to maximize the window.
 6. Drag the handle (on the left side of the screen) down to Slide 28, and compare this with the PC version.
 7. Drag the handle down to Slide 38, and compare this with the PC version.
5. Click on the up arrow to maximize the window.
 6. Drag the handle (on the left of the screen) down to Slide 27, and compare this with the Macintosh version.
 7. Drag the handle down to Slide 35, and compare this with the Macintosh version.

Significance: Not only does the Macintosh run PowerPoint faster than a PC with Windows, but it also makes PowerPoint (and all applications) look better as well. The color palette illustrates the advantages of the Macintosh displaying 256 colors compared to 16 on the standard VGA PC running Windows. (The PC might appear to be showing more than 16 colors, but it is simply dithering, or mixing, those 16 colors in an attempt to approximate more.) These are standard files that Microsoft ships with PowerPoint for the Macintosh and PowerPoint for Windows, and you can see how much better the colors look on the Macintosh. Which would you rather use for an important presentation? And the Macintosh can display up to 16.8 million colors on screen without special software.

19. Create multimedia presentation with MacroMind Director

Macintosh

1. Use MacroMind Director to create a multimedia presentation.

Windows

1. MacroMind's Windows Player can only play presentations created by the Macintosh version; it cannot create presentations.
2. Also, it requires Asymetrix Corp.'s Toolbook.

Significance: When Macintosh applications get ported to Windows, they sometimes lack the capabilities of the Macintosh version.

20. Connect to a network

Macintosh

1. Connect the LocalTalk cable.
2. Turn on AppleTalk in the Chooser and type in your user name.

Windows

1. Open the computer case.
2. Configure any jumpers or dip switches on the network interface board.
3. Install the network interface board.
4. Close the computer case.
5. Connect the network interface cable.
6. Turn on the computer.
7. Install the network software (configure network parameters).

8. Run Windows Setup to load driver for installed network software.

Significance: Because a network connector is built into every Macintosh ever sold, and because a native networking protocol (AppleTalk) is incorporated into the Macintosh operating system, users can access networking services and features very easily.

21. Use sound capabilities

Macintosh

1. Play some sounds.
2. Do this however you want. You could simply go to the Control Panel and play the different sounds.

Windows

1. Go to the Program Manager.
2. Open the "Main" group.
3. Open the Control Panel.
4. Launch Sound.
5. Click OK for the Warning Beep (you don't hear anything).

Significance: Because Apple has foreseen the importance of sound in computing, every Macintosh comes with sound hardware and software built-in. Additionally, the Macintosh LC and the Macintosh IIsi includes the hardware and software to record sounds. In contrast, the standard IBM compatible PCs can't do much more than beep.

22. Add an external peripheral (such as hard disk, scanner, or CD-ROM drive)

Macintosh

1. Attach the peripheral to the SCSI connector.
2. If necessary, drag the appropriate driver file to the Macintosh System Folder.
3. Reboot the Macintosh.

Windows

1. Open the computer case.
2. Configure any jumpers or dip switches on the peripheral interface card.
2. Install the card.
3. Close the computer case.
4. Attach the peripheral to the interface card.
5. If necessary, run the appropriate configuration program provide by the computer manufacturer. (For example, the PS/2s with Micro Channel require the IBM Reference Diskette to be run.)
6. Run peripheral's installation program.

7. Reboot the PC.

Significance: The Macintosh is easier to expand than a Windows 3.0 system. And because every Macintosh has SCSI, you could just as easily attach another six peripherals to the one you just added. Further, expanding the Macintosh using the SCSI connector doesn't use any expansion slots.

23. Add a second monitor

Macintosh

1. Open the Macintosh case.
2. Install a video board.
3. Close the Macintosh case.
4. Connect the second monitor to the card.
5. Reboot the Macintosh.
6. After adjusting the monitors in the Control Panel, both monitors work together.

Windows

1. Open the computer case.
2. Install a monitor card.
3. Close the computer case.
4. Connect the second monitor to the card.
5. Reboot the PC.
6. Only one monitor works .

Significance: Standard IBM PCs aren't designed to use more than one monitor at a time (although specific applications have been written to support two monitors). In contrast, as this demonstration illustrates, the Macintosh allows users to easily expand and configure their systems.