Desktop:

Whenever your PC is running, the desktop is always there. It may be hidden behind something else, but in the background it's always there. The desktop consists of three main parts: the background, the taskbar, and a number of icons. We'll examine each of these items individually.

Background:

The background may be simple - a plain colour - or may be painted with a more elaborate picture (called *wallpaper*). On a new PC the background often has the manufacturer's logo, but it can be anything. You can change the visual appearance of the background in the Control Panel (more on that later).

Taskbar:

🕴 Start 😻 🧟 👔 😻 Today's Schedul... 🙋 Polaris Shortcut... 📔 My Documents 12:40 PM The taskbar (shown above with a Classic appearance and below with an Aero theme) appears along one edge of your screen. (On a new PC it is usually along the bottom; you can move it to a different edge by dragging it there, although you may have to unlock it first.) Depending on your settings, the taskbar may always be fully visible, or it may reduce itself to a thin line (called *autohide*) until you move the mouse pointer to that edge of the screen. Either way, though, it's always there, as long as Windows is running. (A console-mode application can cover up the taskbar, but this is increasingly rare.) 📭 🔞 Mozilla Firefox Sta... 🛜 OpenOffice.org 🔌 📔 seven_screenshots 📑 🚿 aero-taskbar - Paint ▲ 🖿 🙄 🚯 6:52 PM



My Documents

The taskbar hosts three main things: the Start menu, a list of all your open windows, and the system tray. We'll talk about the Start menu soon, as well as opening windows. The system tray is the part at the right with that handy

clock in it, which also shows the date.



Desktop Icons:

My Computer



My Network Places



Your desktop may be home to any number of icons. (Several typical examples are shown at left.) These are usually shortcuts to various programs, document files, and folders. (A folder is like a container, a storage location on your computer's disk, where

documents and other files can be stored.)



Tip: If the desktop isn't visible, you can minimize whatever windows are covering it up, and it will become visible again. The windows you minimize will still be there in the taskbar. waiting for you to click and restore them to their former positions.

OpenOffice...

Writer

Mozilla Firefox Double-clicking an icon on the desktop will typically open a window; the exact nature of the window it will open depends on the shortcut. The "My Computer" icon will open a window showing the various disks and drives in your computer. The "Recycle Bin" icon will open a window listing things you've thrown away recently. A folder icon may open a folder window, which will contain icons for each of the things stored in that folder. Technically

speaking, each icon generally represents a file, or a shortcut to a file. (Technically, folders and shortcuts are special kinds of files, because they are stored on your

Page 2

computer's disk drive just like all the other files.)

By dragging an icon from one place to another, you can move or copy the file (or shortcut, or folder) from one location (folder or disk) to another. Double-clicking an icon will usually open the file associated with that icon (assuming your computer knows how to open that kind of file; the details of how such *associations* work are beyond the scope of this class).



Windows:

Now we come to the main thing that makes Windows what it is: the actual windows themselves.

A typical window is shown to the right, with several of the major parts labeled. The window's title (if it has one) is displayed in the *title bar*, at the top. You can reposition a window by dragging the title bar around the screen. If you click on the *maximize* button, the window will expand to take up more (or all) of the screen. (Click the same button again, and it

Start Menu:

We said earlier that the taskbar hosts the start menu. Normally the start menu will be hidden in that little button (the Windows logo), but if you click that, the whole menu pops out. The start menu contains the Control Panel, which will let you customise the system more to your liking, as well as the All Programs submenu (which contains shortcuts, similar to the icons on your desktop) and a number of other helpful items. Advanced users can customise some of the content of this menu, but some things (like the search box) are just always there. If you move your mouse onto the Start menu to All Programs and either click there or just wait a couple of seconds, you'll see that the menu expands (or changes) to list shortcuts to your various applications, as well as some subcategories.



```
Page 3
```

should *restore* to its former size.) The *minimize* button will reduce the window to the taskbar. You won't see it on the screen, except in the taskbar, but it <u>is</u> still open, and if you click its taskbar entry it comes back to the front. Clicking on the *close* button is a more drastic measure that you can use when you're totally finished with the window to make it go away entirely. Almost all windows (except for a few very simple or special ones) have these things in common.

The window in the screenshot also has a *menubar* (more on these in a moment), a couple of *toolbars* (below the menubar), a *status bar* (which gives additional information), and *scrollbars* (for displaying what doesn't fit in the window at first). Many windows have these components.

Menubars:

Many windows have a menu bar, just below the title bar. Each word or phrase on the menu bar will, if clicked, pull down and expand into a menu — a list of various commands and/or submenus. Here you can see that we have pulled down the Organize menu for this window. The first menu on the left (usually called File, but in this case Organize) is generally where you open and save documents (known to your computer as files). The menu on the right is usually the Help menu. There is usually an About entry in the Help menu, which will tell

Tip: Some menu entries have shortcut keys listed to the right. If you get tired of pulling a menu down for the same command all the time, you can learn the keyboard shortcut and save yourself a few seconds each time – which can really add up for things you do frequently. For example, if the Save command has the shortcut Ctrl-S, you can hold Ctrl and press S, and presto, your document is saved, without reaching for the File menu. you what application the window belongs to, and what version of that application you have. There will be other menus in between File and 🚱 🔵 🖉 🕨 🕨 Computer 🔸 Removable Disk (E:) 🔸 seven_screensho Organize 🔻 Share with 🔻 New folder Cut Сору Paste Undo Redo Select al Layout Folder and search options aero-taskbar Delete Renam Remove propertie Properties Close

Tip: Some programs, like Internet Explorer, do have a menubar but keep it hidden unless you turn it on. If you rightclick on the toolbar there's usually a checkbox to show it.

Help, which will vary from one kind of window to another. In many cases the second menu will be the Edit menu; if so, there will probably be Cut, Copy, and Paste commands there, and possibly Undo. (The Hands On Documents class covers these editing commands in greater detail.)

Below the menubar there may be one or more toolbars, which contain shortcuts for some of the more common things you might want to do with the application. Toolbars vary greatly from one application to another. Often the toolbars do not have room for all of an application's functionality, so they typically only have some of the most common things; the rest will be in the menus.



Defende De

Q

Hele and Support



Using Applications:

Any application that is installed on your computer has usually put a shortcut icon for itself on either your desktop or your start menu (under All Programs) — often both places. You can start the application by clicking its entry in



In Windows Seven, you can also *pin* an application shortcut to the start menu or to the task list. Right-click the shortcut and find the *Pin to* option on the context menu. If you change your mind later you can right-click again and *unpin* them.





Changing Settings:

In the start menu, you'll find the control panel. Here's where you can change a number of settings that impact how your whole computer operates.

For example, the Appearances and Personalization section of the control panel will let you change your desktop's background, your screen saver settings, and the colors that

all your applications use. Fooling around in the settings, you can swap your mouse buttons, set your computer to play funny sounds when you open and close windows, increase the resolution (so you can see more things at once), decrease the resolution (so things are larger, so you don't have to squint), change the date and time on your computer's clock, and so on. Some of these settings are actually useful, and others are merely amusing. (A few can even be risky: stay away from Add New Hardware unless you really



have new hardware to install.) You can also add things to (and remove things from) the Start Menu - look in the Taskbar settings.

Accessories:

There are a number of really common things that people do with computers: type up stuff to print out on paper, browse the world wide web, paint or draw pictures, and so on. For the things you do most, you'll probably want to download or purchase an application designed for those things, but if you only do something once in a while, you may find a simple app that will get you by, already installed on your system. Windows comes with a number of very simple apps: a calculator, a word processor (WordPad), a text editor (Notepad), a drawing program (Paint), and so on. Many of these can be found in the Accessories folder (under All Programs in the Start Menu). Once again, these are very rudimentary applications, without many features, a dim shadow of the much better applications that are available for download or for purchase. But the Accessories will often get you by in a pinch if you need to do some small thing and haven't installed a good application for doing it yet.



Hands On Windows Seven

Advanced Mouse Operations:

Ever get the feeling that you *should* be able to do something else here, but you don't see an option for it? Try the right mouse button, and see what new options appear. For example, in your web browser, right-clicking may let you save a copy of that picture, or open that link in a separate tab.

When you drag a file from one window to another with the left button, you usually move it, but if you right-drag,





you get options to move it, copy it, or create a shortcut link to it. This may seem overwhelming now, but remember that right button: when you're ready to go beyond the basics, you'll be glad it's there.

Another advanced mouse operation is *multi-select*, accomplished by ctrl-clicking or shift-clicking. Many situations that require you to select an item from a list (or an icon from a window full of them) will allow you to select more than one. If you hold Ctrl while clicking, you can leave the already-selected one(s) selected, while selecting an additional one. That is, click the first one, then hold Ctrl while clicking each of the others, and you can select several. Shift-clicking is similar, but instead of selecting individual items it selects a range. If you click the first item, then hold shift while clicking the last item, you will have selected all the items in between as well. In some software this same trick even works for selecting multiple sections of text at once, by holding Crtl while dragging.



Microsoft Windows Versions

Veer(a)	DOS- based	NT-based						
rear(s)			servers					
1994-1997	Windows 95	Windows NT 3.5						
1998-1999	Windows 98		NT4 Server					
2000-2001	Windows Me	Windows 2000 Professional					Windows 2000 Server	
2001-2003	[no more versions]	Windows XP Home Edition		Windows XP Professional			Windows Server 2003	
2007-2008		Windows Vista Home Basic	Windows Vista Home Premium	Windows Vista Business	Windows Vista Enterprise	Windows Vista Ultimate	Windows Server 2008	
2009-2010		Windows Seven Home Basic	Windows Seven Home Premium	Windows Seven Profes- sional	Windows Seven Enterprise	Windows Seven Ultimate	Windows Server 2008 R2	
TBA		?	?	?	?	?	?	

In the first column of the chart you see the years that each product was released.

In the second column you see the DOS-based product line (95, 98, Me) that most home users had in the late nineties. This product was discontinued around the turn of the century, mostly because it wasn't really designed with networks and security in mind.

Everything in the remaining columns is Windows NT, the product we usually call "Microsoft Windows" today. It has become more "differentiated" over the years.

Starting with NT4, Microsoft split off the "server" product (far right column), which is intended to be used on computers that provide network services to other computers, from the main (desktop/workstation) product, which is used on computers people actually sit in front of and use directly.

Starting with Windows XP, the desktop/workstation line was further split: the professional/business versions (right) support Active Directory networking and are mainly aimed at businesses; the home versions (left) are intended for home computers, which generally do not connect to an Active Directory business network.

A more detailed history is available upon request as a separate handout.

File Management

File management in Windows is normally done using the Windows Explorer file manager that comes with Windows. You can open a Windows Explorer window by launching the My Computer or My Documents shortcut, or by specifically looking for Windows Explorer in the Accessories. Tip:

Tip: Windows Explorer is not the same as Internet Explorer.

There are visual similarities, but they are not the same. Internet Explorer is for browsing the web, but Windows Explorer (explorer.exe) is for managing files.

Your desktop is also managed by Windows Explorer,

along with any icons on it. In fact, you can treat the desktop as a special Explorer window.

Windows Explorer can show you the contents of your computer's hard drive (or any disk) in various ways, but we will start by looking at a basic icon view similar to your desktop. Doubleclick on the My Documents shortcut on your desktop. This should open a window containing some icons, just like your desktop. Each icon represents a file or a folder, or a shortcut to a file or a folder. (A folder is a special type of file that can contain other files. Folders are sometimes

C:\Documents and Settings\root\My Documents File Edit View Favorites Tools Help 🔹 🔁 Go Address C:\Documents and Settings\root\My Documents N instruction Mv Music **My Pictures** Blueish-Toll... My Videos 1 desktop.ini Jonadab-Sl... Tertiary.Th..

called *directories*.) A file is some kind of stored information, such as a text file, a picture, a configuration file, a program, or whatever. A shortcut is just a link to some other location where a file is really stored. Icons that represent shortcuts have a little arrow over their lower-left corner. Icons that represent folders look like filing folders. Other icons represent various kinds of files.

You can open any file by double-clicking it, if Windows Explorer knows how to open that

kind of file. It knows how to open folders, of course, but many applications also install something called *associations* that tell Windows Explorer how to open various kinds of files with them. Consequently, almost any file you've saved you can just doubleclick in Windows Explorer to open it, rather than having to go through the application you used to create the file. The application will start automatically and open the file.

Your computer contains a lot of files – files that make Windows and various applications work, plus anything you or any of your software has saved. All of this is stored **somewhere** on your computer's hard drive.

Most likely the files you're interested in are the ones you've created, which will be wherever you put them – usually in the My Documents folder (although it's possible to put them in other places, such as an external hard drive or other storage device).

One problem a lot of people encounter is that the My Documents folder tends to accumulate a lot of files, so that it becomes difficult to locate a specific one. When this happens, it's time to learn to *manage* your files – that is, to organize them.

Hands On Windows Seven

One of the most useful features for managing files is the *folder*. You can create as many folders as you like and sort your files into them. For example, you can put all of your pictures into one folder, so that they don't clutter up vour My Documents folder. Windows Seven provides a special Library folder just for this, called My Pictures. You can drag your picture files into this folder and store them all in that one place together. Grab a file and drag it over a folder. When the folder is highlighted, let go. The file will be moved to that folder. If the folder is on a different disk, like a floppy disk, then the file will be copied instead of moved. Also, if the file is executable¹, then a shortcut will be created. Any time you want to choose between these behaviors, you can drag with the right button instead of the left, and when you let go you can pick between the three options.



Sometimes you want more folders than are already

present. For example, you may have different kinds of pictures and want to categorize them – family pictures in one folder, for example, and nature photographs in another.



You can create a new folder within a given folder window by right-clicking the background area of the window and choosing New Folder. You can name the folder anything you like. (If you don't give it a name, it will have a default name like "New Folder".) If you later change your mind about the name, right-click the folder and choose Rename.

You can create as many folders as you like this way – folders within folders within folders. Open your My Pictures folder and create a Family Pictures folder, for all your family pictures. Then open that folder and create another folder inside it for pictures of Uncle Eustace or Aunt Mehetabel or whomever. If you have a digital camera and have taken dozens of pictures of a particular relative, you may want to create folders inside their folder for different years or events, so that you can keep all the pictures straight.

If you have two Explorer windows open side-by-side, you can drag files from one to the other, and they will be copied or moved. (If you right-drag them, you can choose whether to copy, move, or create a shortcut.) The desktop is a special Explorer window, so you can drag files to and from it just like any other.

¹ An executable file is an application or utility or some other program, instructions for the computer. Unlike a regular data file such as a text or a picture, an executable file <u>does</u> something when opened.

Explorer also has other ways to display a folder's contents, besides just the icon view. Under the View menu you can switch between Filmstrip, Thumbnails, Tiles, Icons, List, and Details. Details lets you see things like when a file was last modified. You can also sort the Details view by a column, by clicking on the column name at the top of the list.





The Explorer windows we have looked at so far have been single-pane views. Explorer also has a twopane *tree view* (sometimes called *explore view*) that is useful for looking at your *directory hierarchy* (that is, folders inside of folders inside of folders) at a glance.

Right-click on any folder and choose Explore. You should see something like the window shown. The window has two panes: a left one containing folders, and a right one for showing the contents of a folder.

Next to each drive or folder in the left pane there is a little plus or minus thing (called an *expansion widget*) that can be used to show or hide the subfolder contents of that container. If you click on the plus, it shows the contents. If you click on the minus, it hides them. In the window shown, you see that the Documents and Settings folder is expanded, so the folders within are shown underneath. (Each level is indented slightly.)

The next several folders (All Users, Default User, etc.) are not expanded, but the folder called root is expanded, and within it the folder called My Documents is expanded. You can see that My Documents contains four folders (instruction, My Music, My Pictures, and My Videos). One of these is highlighted. The highlighted folder is the one that is selected. You can select any folder by clicking on it, and its contents will be shown in the pane to the right. In this case, the contents of the instruction folder are shown at right – two files: a shortcut to an images folder, and a document with a name that starts with "intermediat".

A file can be dragged from the pane on the right onto any folder in the left pane tree view, and the file will be moved to that folder.

Software Installation

Installing software in Windows varies a little from one software package to another, but it's not as tricky as a lot of people seem to expect.

Most software comes packaged in an automatic installer program that does most of the work for you. Usually, you download the installer by clicking a link in your web browser, saving the installer to your computer someplace (the desktop is as good a place as any). After the download finishes you doubleclick on the installer icon, which typically asks you to agree to a license agreement, click "Next" a couple of times, answer a handful of easy questions, and it's done. Sometimes it'll ask you to reboot afterward.

Sometimes the installer will come packaged inside a .ZIP file². Recent versions of Windows can automatically open this as a "Compressed Folder".

Installing OpenOffice is fairly typical. You unzip the .ZIP file, which contains a number of files inside it. One of them is called setup. You double-click on this, and (as of version 1.1) click Next twice, scroll down the license agreement, check "I Accept", click Next again, optionally fill out your name and stuff, click Next three



Tip: If you are looking for software to install, you may like the following:

OpenOffice.org offers a suite of office applications for word processing, presentations, spreadsheets, etc.

www.pmail.com offers the Pegasus Mail reader, a convenient and featureful way to read your email.

www.mozilla.org distributes an excellent web browser.

corefonts.sourceforge.net has the Core Fonts that Microsoft used to have at their typography site. These are some of the nicest-looking fonts you will find anywhere.

http://gimp-win.sourceforge.net/ offers the Gimp Image Manipulation Program, for editing photos and other images.

more times, click Yes, click Install, click Ok twice, wait a minute for the progress bar, click Yes if it asks you to replace a file, wait a minute again, and click the Complete button.

That may sound like a lot of questions it's asking you, but the answer is always "Yes" or "Next". The times when you have to click other buttons (like "Ok" or "Install" or "Complete"), it's the only button available.

Software that comes packaged in a self-extracting executable installer package, like Mozilla, is even easier. Often, the hardest part is waiting a few minutes for the download to complete.

Uninstalling

Most software that you install gives instructions to Windows for how to uninstall it automatically. Windows keeps track of this information for you. When you want to uninstall some software, you go to your control panel, choose Add or Remove Programs, select the program you want to uninstall from the list, and click the Remove button. Sometimes the uninstaller will ask you a couple of questions, like whether you want to delete the program's files.

² ZIP is a special type of file that contains other files. Websites that are distributing multiple files together will often package them as a ZIP file. Windows will call it a "Compressed Folder".

Command Prompt

If there's one feature of Windows that frightens newbies the most, it's probably the command prompt (sometimes called the "MS-DOS Prompt" or simply "DOS", after an older operating system that used a command prompt interface exclusively). It's not really something to be afraid of, but it is true that the command prompt is a more advanced feature, and so it takes more effort to learn to use it really effectively. It's flexible, and advanced users can do quite a lot of stuff with it. Also, in an emergency, Windows can often be started in command prompt mode in order to fix problems, even if the rest of Windows is unable to finish starting.

We're not going to cover the command prompt in detail here, just enough of the basics to get by in a pinch. At the command prompt, you type a command and hit the Enter key. The command then does something and displays some kind of answer or result.

Probably the most useful command for a beginner is the help command, which displays a list of the other commands. Each command also has its own built-in help. To get help on a specific command, type the name of the command followed by a space and /?

For example, to get help on the dir command, type dir /? and press Enter. The response will say that this command "displays a list of files and subdirectories in a directory". (Remember that *directory* is another term for *folder* – a special kind of file that contains other files. The command prompt always uses the term *directory*.) To look at files and directories on a different drive, type the drive letter followed by a colon and press Enter. For example, you might type C: to look at the main hard drive or A: to look at a floppy disk.

In addition to the built-in commands, you can use any program that's installed on the computer as a command. The command prompt will find the program and run it if it is in the current directory (or in one of several special directories listed in the *PATH* environment variable).

When Things Go Wrong...

If Windows starts acting up, the first thing you want to try to clear things up is to shut it down and restart the computer. It continually amazes me how many problems crop up in Windows that can be solved just by restarting the computer.

Process Management

Sometimes, however, you don't need to restart the whole computer. Sometimes you don't **want** to restart the whole computer, because you're in the middle of something. Sometimes you only need to restart one application that has stopped responding. This is where the Windows Task Manager comes in. You can invoke the Task Manager by holding the Ctrl and Alt keys on your keyboard and tapping the Del or Delete key. The Task Manager allows you to select a certain application (presumably, one that's giving you trouble) and stop it (by pressing the End Task button). (In Windows



95, 98, or Me you may have to do this several times to get the problem task really stopped.)

Housecleaning

Sometimes a piece of software decides it ought to run all the time, even when you're not using it. Maybe it's software you really do use sometimes, like instant messaging software, but it slows your computer down even when you're not using it. Maybe it's some adware or spyware that isn't useful itself but came bundled with some other software you installed. If it starts up when your computer starts, and you don't want it to, you can stop it, by removing its entry from the registry run keys. Tools like Ad-Aware are available that can do this automatically for some software, or if you are brave you can do it manually with regedit. (An extra page of handout is available on this topic. Ask me.)

Associations

Fold	der Options		?	×						
G	ieneral View	File Types								
	Registered file	: types:								
	Extensions	File Types								
	🥶 TIFF 👘	GIMP image								
	🖬 TTC	TrueType Collection Font file								
	🖬 TTF	TrueType Font file								
	🗐 TXT	Text Document								
	🖳 UDL	Microsoft Data Link								
	🖉 ULS	Internet Location Service								
	📓 HRI	Internet Shortcut	•							
	New Delete Details for TXT' extension Opens with: Notepad Files with extension TXT' are of type Text Document. To change settings that affect all Text Document Nies, cick Advanced Advanced									
_	L	OK Cancel A	ply							

It is possible to change the associations that determine which program is used to open each type of file. For example, text files ending with the .txt extension always open in Notepad when you doubleclick them. You can change this.

In an Explorer window, pull down the Tools menu and choose Folder Options (or just Options in some versions). Explorer has a number of settings you can change. Under the General tab you can choose between classic folders or the newer view with the common tasks on the side. Under the View tab you can change things like whether "hidden" files are shown and whether the extension (like .txt) on the end of filenames is shown or hidden. Under the File Types tab is where you can change associations. You will see a long list of file types. Scroll down to the one you

want (say, Text Document) and click the Change or Edit button (or, if you want to get into details, the Advanced button). This will allow you to change what application is used to open files of this type.

Editing the Registry

Windows stores a lot of settings in your registry – how your computer starts up, how various applications behave, even how Internet Explorer identifies itself to websites you visit. Before you make any changes to the registry, you should always export a backup of its current state. If something goes wrong, it is possible to restore the registry from this backup.

Once you've exported a backup, look around a bit, just to get a feel for how much information is stored in the registry. It's a lot of stuff!

Some of the registry keys that are most useful to know about are the Run keys. Applications that are listed in these keys are automatically started by Windows when the computer is turned on.



Ok, Windows will no longer start that program when it starts up. Restart Windows to see the difference.

If you change your mind or something goes wrong, restore the registry to its former state by merging the backup you created before you made the change. Then restart Windows, and all should be as it was.

Many of the keys in the registry are obscure or technical in nature, but occasionally you will find tips on the web explaining how to change the behavior of Windows in some fashion by editing certain registry keys. For example: http://www.codeproject.com/system/modifyregistry.asp



- Click the Start button, click Run, type regedit and press Enter. This starts the registry editor.
- Pull down the File menu and choose Export.
- Under Export Range, make sure that All is selected (not Current Branch).
- For File Name, type in something like C:\backup1.reg or C:\backup2.reg

Click the Save button.

There are two major Run keys in the registry. One is under HKEY_CURRENT_USER and the other is under HKEY_LOCAL_MACHINE. Under each of these keys, look for a Software key, and under Software find Microsoft, and under Microsoft find Windows, and under Windows find Current Version. There you should find a Run key. Click it, and the right pane will show the values associated with that key. Each value lists a program or command that is run each

tinat is run each time Windows starts up. If you right click any of these, choose Modify, erase the value data, and hit

Tip: Use the merge feature of regedit to restore your registry from a backup that you exported earlier.

- Click the Start button, click Run, type regedit and press Enter. This starts the registry editor.
- Pull down the File menu and choose Import.
- Under File Name, type in the same thing you typed when exporting your backup, such as C:\backup1.reg

Click the Open button.