

Customizing the Windows 98 Operating System For Students with Disabilities

Preliminary Notes

1. The following information details steps for customizing the Windows 98 operating system so that students with disabilities may use it more effectively. Changes should only be made for the student using the computer.
2. Be sure to have the original Windows 98 operating system CD available.
3. Names of buttons, menu items, or commands appear in **bold**, text to be entered by the user appears in quotations. Do **not** type the quotation marks.
4. When instructed to perform a mouse click, always use the left mouse button (unless otherwise indicated).
5. Apply vs. OK: Throughout this document, steps will be given to click the OK button after settings are adjusted. The Apply button may be used instead to test your changes. Within operating system windows, (and most programs – some may differ slightly), the only difference between the OK button and the Apply button, is that while the Apply button executes any of the changes made, it will leave that particular window open – the OK button will execute any changes made **and** close that particular window.

Desktop Appearance

Auto Arrange

The Auto Arrange feature allows for the immediate reorganization of the icons when changes are made in the following sections. Similar steps need to be completed for the desktop and for individual windows.

A. Setting Desktop Auto Arrange (These steps will only need to be completed once.)

1. Click the right mouse button once on an unoccupied area of the desktop.
2. Highlight **Arrange Icons**.
3. If not presently selected, highlight and click **Auto Arrange** to place a checkmark and activate the **Auto Arrange** feature.

B. Setting Individual Window Auto Arrange

These steps will need to be completed for each window where Auto Arrange is the desired setting. For this example, the Control Panel window will be used.

1. From **Start**, highlight **Settings** and then select **Control Panel**.
2. From the **View** pull down menu, highlight **Arrange Icons**.
3. If not presently selected, highlight and click **Auto Arrange** to place a checkmark and activate the **Auto Arrange** feature.
4. Click the **X** button in the top right-hand corner to close the **Control Panel** window.

Desktop Icon Size

Consider modifying desktop icon sizing. Larger sizes may be useful for students with visual impairments. In all cases, improving the readability of the desktop display may reduce eye strain and fatigue.

1. From **Start**, highlight **Settings** and then select **Control Panel**.
2. Double click **Display**.
3. Click the **Appearance** tab.
4. From the **Item** pull down menu, select **Icon**.
5. In the **Size** box (to the right of **Item**), choose an appropriate size for the student. (The desktop icons can be resized in a wide range from 16 to 72. Experiment with sizes for each user. Start with a size within the 30 to 40 range.)
6. Click **OK**.
7. Click the **X** button in the top right-hand corner to close the **Control Panel** window.

Desktop Font Size

Modifying the desktop font size may help users with visual impairments locate and use icons. Enlarging the desktop font size may cause the icon names to be “clipped” short. This can be corrected by adjusting the icon spacing as described in the section, “Desktop Icon Spacing” below.

1. From **Start**, highlight **Settings** and then select **Control Panel**.
2. Double click **Display**.
3. Click the **Appearance** tab.
4. From the **Item** pull down menu, select **Icon**.
5. From the **Font** pull down menu, select the desired font. (Choose a font that lacks curls at the letter ends, e.g., MS Sans Serif.)
6. In the **Size** box (to the right of **Font**), choose an appropriate point size. For 15” monitors and smaller, start with a 10-point font. Click the **B** to the right of the font size to select bold. For 17” inch monitors and larger, try a bold, 10 to 12-point font.
7. Click **OK**.
8. Click the **X** button in the top right-hand corner to close the **Control Panel** window.

Desktop Icon Spacing

Users with visual impairments may benefit from spacing the desktop icons further apart.

1. From **Start**, highlight **Settings** and then select **Control Panel**.
2. From the **View** pull down menu, highlight **Arrange Icons**.
3. If not presently selected, highlight and click **Auto Arrange** to place a checkmark and activate the **Auto Arrange** feature.
4. Double click the **Display** icon.
5. Click the **Appearance** tab.
6. From the **Item** pull down menu, select **Icon Spacing (Horizontal)**.
7. In the **Size** box (to the right of **Item**), choose an appropriate size for the spacing between icons. [This number will be determined partly by the values entered for **Icon** size and **Font** size (described above). Trial and error is the only way to ensure a proper setting.]
8. From the **Item** pull down menu, select **Icon Spacing (Vertical)**.
9. In the **Size** box (to the right of **Item**), choose an appropriate size for the spacing between icons. [This number will be determined partly by the values entered for **Icon** size and **Font** size (described above). Trial and error is the only way to ensure a proper setting.]
10. Click **OK**.
11. Click the **X** button in the top right-hand corner to close the **Control Panel** window.

Renaming the Computer

If only one student is going to use the computer, it can be personalized by renaming the hard disk with the student's first name.

1. Click once on the **My Computer** icon text. (Be careful not to move the mouse pointer.)
2. Click once more on the **My Computer** icon text.
3. Type the new name (student's first name) for the computer.
4. Click once anywhere on the desktop.

Color Settings

Desktop Display

Certain students respond better to different color contrasts than the typical black text on white background. The background color and pattern on the desktop are visible most of the time. Do not use patterns that conflict with the desktop graphics. Select one that is neutral and pleasant in color.

The Desktop Display can be modified in two ways:

A. Using a Preset Desktop Display Scheme

1. From **Start**, highlight **Settings** and then select **Control Panel**.
2. Double click **Display**.
3. Click the **Appearance** tab. (The current color scheme and changes made are previewed in this window.)
4. From the **Scheme** pull down menu, select a scheme that is appropriate to the user, several of which include larger-sized elements.

Note: Changing schemes may override changes made in previous sections.

5. Click **OK**.
6. Click the **X** button in the top right-hand corner to close the **Control Panel** window.

B. Manually Creating a Desktop Display Scheme

1. From **Start**, highlight **Settings** and then select **Control Panel**.
2. Double click **Display**.
3. Click the **Background** tab.
4. From the **Wallpaper** scroll list, make a selection or click the **Pattern** button and make a selection. (When a wallpaper is applied, further changes to the desktop color, and pattern settings will be hidden from view.)
5. Click **Apply**.
6. Click the **Appearance** tab.
7. From the **Item** pull down menu, select **Desktop**.
8. From the **Color** pull down menu, select the desired color.
9. Click **OK**.
10. Click the **X** button in the top right-hand corner to close the **Control Panel** window.

High Contrast Display

A preset high contrast setting is available through the **Accessibility Options** control panel. These settings will override many changes made in the Desktop Appearance and Color Settings sections described above.

1. From **Start**, highlight **Settings** and then select **Control Panel**.
2. Double click **Accessibility Options**.
3. Click the **Display** tab.
4. Check the **Use High Contrast** checkbox.
5. Click **Settings**.
6. Under **High Contrast color scheme**, select either **White on black** (white text on black background), or **Black on white** (black text on white background).
7. Click **OK**.
8. Click **OK**.
9. Click the **X** button in the top right-hand corner to close the **Control Panel** window.

Sound

Assigning Audio Alerts

The alert sound is one way the computer provides feedback to the user. Sound can add excitement and motivation. Try using a very obvious sound or create a personal message using the Windows 98 Sound Recorder.

1. From **Start**, highlight **Settings** and then select **Control Panel**.
2. Double click **Sounds**. (Windows 98 offers several sound schemes, or you can assign specific event sounds.)
3. From the **Events** scroll list, click an event.
4. From the **Name** pull down menu, choose one of the available sounds.
5. Under **Preview**, click the **Play** button (▶) to test the sound.
6. Click **OK**.
7. Click the **X** button in the top right-hand corner to close the **Control Panel** window.

Recording and Assigning Custom Alert Sounds

1. From **Start**, highlight **Programs**, then highlight **Accessories**, then highlight **Entertainment**, and then select **Sound Recorder**.

Note: Steps 2 through 4 need to be performed almost immediately after each other.

2. Click the **Record** button (●).
3. Immediately speak the message.
4. Click the **Stop** button (■) when the message is complete.
5. Click the **Play** button (▶) to preview the message. (If changes are necessary, make changes. From the **File** pull down menu, select **New** and then click **No** when prompted to save changes. Repeat steps 2 through 5 to make changes.)
6. From the **File** pull down menu, select **Save**.
7. From the **Save in** pull down menu, select (C:).
8. Double click the **Windows** folder.
9. Double click the **Media** folder.
10. In the **File name** text box, type in a name for the sound.
11. Click **Save**.
12. Click the **X** button in the top right-hand corner to close the **Sound Recorder** window.
13. From **Start**, highlight **Settings** and then select **Control Panel**.
14. Double click **Sounds**.
15. From the **Events** scroll list, click an event.

16. From the **Name** pull down menu, choose the name of the newly created sound.
17. Under **Preview**, click the **Play** button (▶) to test the sound.
18. Click **OK**.
19. Click the **X** button in the top right-hand corner to close the **Control Panel** window.

Adjusting the Sound Volume

1. From **Start**, highlight **Programs**, then highlight **Accessories**, then highlight **Entertainment**, and then select **Volume Control**.
2. Move the **Volume Control** slide bar to the desired setting. (This screen can also be accessed by double clicking the **speaker icon** located next to the **Clock** on the **Taskbar**. Single clicking the **speaker icon** will activate a pop-up volume control.)
3. Click the **X** button in the top right-hand corner to close the **Volume Control** window.

Visual Alert

For students with hearing impairments or those who are easily distracted by the alert sounds, Windows 98 can be set to give visual feedback when alerting the user. Options include having the desktop, active window bar, or the active window border flash.

1. From **Start**, highlight **Settings** and then select **Control Panel**.
2. Double click **Accessibility Options**.
3. Click the **Sound** tab.
4. Check the **Use SoundSentry** checkbox.
5. Click **Settings**.
6. Under the **Warning for windowed programs** pull down menu, select the desired option.
7. Under the **Warning for full screen text programs** pull down menu, select the desired option.
8. Click **OK**.
9. Click **OK**.
10. Click the **X** button in the top right-hand corner to close the **Control Panel** window.

For additional visual feedback, programs can be made to display captions for the sounds they make.

1. From **Start**, highlight **Settings** and then select **Control Panel**.
2. Double click **Accessibility Options**.
3. Click the **Sound** tab.
4. Check the **Use ShowSounds** checkbox.
5. Click **OK**.
6. Click the **X** button in the top right-hand corner to close the **Control Panel** window.

Control

Mouse Movement and Clicking

If the mouse pointer tracking and double click speeds are not set properly, the results may be frustration and inability to control the mouse. Consider mouse alternatives (e.g., trackball). Many mouse alternatives include their own software for further adjustment to mouse response. In addition, consider the purchase of a third party mouse driver to enlarge the mouse pointer size and/or change its color.

Often computers may be shipped with different mouse driver software. Therefore, the actual methods for adjustment may differ slightly from what is described below.

1. From **Start**, highlight **Settings** and then select **Control Panel**.
2. Double click **Mouse**.
3. Click the **Buttons** tab.
4. Under **Double click speed**, move the slide bar to the appropriate setting within the given range to adjust the amount of time allowed for double clicking. (Check this setting by double clicking in the **Test area**.)
5. Click **Apply**.
6. Click the **Pointers** tab.
7. From the **Scheme** pull down menu, select a preset group of mouse pointer icons. (Additional settings may be customized by selecting **None** under the **Scheme** pull down menu, and using the lower portion of this window.)
8. Click **Apply**.
9. Click the **Motion** tab.
10. Under **Pointer speed**, move the slide bar to the appropriate setting within the given range to adjust the tracking speed of the mouse.
11. Under **Pointer trail**, check the **Show pointer trails** checkbox to provide an additional visual feedback of mouse trails that may help locate the mouse pointer.
12. Under **Pointer trail**, move the slide bar to the appropriate setting within the given range to adjust the length of the mouse trails.
13. If available on the system, under **Smart Move**, check the **Enabled** checkbox to cause the cursor to jump to the highlighted button of a new dialog box.
14. Click **OK**.
15. Click the **X** button in the top right-hand corner to close the **Control Panel** window.

Setting Icons for Single Click

Icons on the desktop, as well as items within each folder, can be set to be opened with a single click. This may be helpful for students who do not benefit from even the slowest double click speed setting detailed in the above section.

1. Double click the **My Computer** icon.
2. From the **View** pull down menu, select **Folder Options**.
3. Click the **General** tab.
4. Under **Windows Desktop Update**, click the **Web style** radio button.
5. Click **OK**.
6. If prompted with a dialog box, Click **OK**.
7. Move the mouse pointer over any icon and single click the mouse.
8. Click the **X** button in the top right-hand corner of all open windows.

MouseKeys

The MouseKeys feature provides full mouse emulation from the numeric keypad of any standard IBM-compatible keyboard and is provided for those users who have difficulty manipulating a mouse. The numbers on the keypad are like the points of a compass. Keys **1** to **9** (excluding **5**) become the directional keys, the **5** key performs a single left click, the **+** key executes a double click, the **Ins** key begins a drag, and the **Del** key releases the drag.

To activate the right click mode, press the **-** key on the numeric keypad, and then press the **5** key. MouseKeys will stay in right click mode until the **/** key on the numeric keypad is pressed.

1. From **Start**, highlight **Settings** and then select **Control Panel**.
2. Double click **Accessibility Options**.
3. Click the **Mouse** tab.
4. Check the **Use MouseKeys** checkbox.
5. Click **Settings**.
6. Under **Keyboard shortcut**, check the **Use shortcut** checkbox to activate the capability to toggle MouseKeys on and off with the keyboard. (The keyboard shortcut is **Left Alt+Left Shift+Num Lock**.)
7. Under **Pointer Speed**, move the **Top speed** slide bar to the appropriate setting within the given range to set the mouse pointer's speed when a directional key is held down.
8. Under **Pointer Speed**, move the **Acceleration** slide bar to the appropriate setting within the given range to set the acceleration speed of the mouse pointer.
9. Next to **Use MouseKeys when NumLock is**, click either the **On** or **Off** radio button to set when MouseKeys will be available for use.
10. Check the **Show MouseKey status on screen** checkbox to be able to see when MouseKeys is available for use. (A small icon of a mouse will appear next to the **clock** on the **Taskbar**.)
11. Click **OK**.
12. Click **OK**.
13. Click the **X** button in the top right-hand corner to close the **Control Panel** window.

Keyboard

The Keyboard control panel can be used to make two adjustments to the operation of the keyboard. Repeat Rate adjusts how fast a character repeats when its key is held down. Repeat Delay adjusts how long a key needs to be held down before the character begins to repeat. Students with difficulty manipulating the keyboard may benefit from modifying these settings.

1. From **Start**, highlight **Settings** and then select **Control Panel**.
2. Double click **Keyboard**.
3. Click the **Speed** tab.

4. Under **Repeat delay**, move the slide bar to the appropriate setting within the given range to adjust how long a key needs to be held down before its character begins to repeat.
5. Under **Repeat rate**, move the slide bar to the appropriate setting within the given range to adjust how fast a character repeats when its key is held down.
6. Click **OK**.
7. Click the **X** button in the top right-hand corner to close the **Control Panel** window.

StickyKeys

StickyKeys is used for students with physical disabilities who type with one finger/hand, use a pointing device/typing aid, or who have difficulty performing key combinations. StickyKeys will latch a modifier key (Shift, Ctrl, Alt) during times when two or three keys need to be pressed simultaneously (e.g., to type a capital letter or perform a computer command).

1. From **Start**, highlight **Settings** and then select **Control Panel**.
2. Double click **Accessibility Options**.
3. Click the **Keyboard** tab.
4. Under **StickyKeys**, check the **Use StickyKeys** checkbox.
5. Click **Settings**.
6. Under **Keyboard shortcut**, check the **Use shortcut** checkbox in order to use the keyboard shortcut to turn StickyKeys on. (To use the shortcut for StickyKeys, press the **Shift** key five times.)

Note: StickyKeys option settings can be made for a variety of users. Not all of the adjustments provided below need to be made. Select only those appropriate for the user.

7. Under **Options**, check the **Press modifier key twice to lock** checkbox. (When this is selected a modifier key will stay held down if pressed twice.)
8. Under **Options**, check the **Turn StickyKeys off if two keys are pressed at once** checkbox. (When this is selected StickyKeys may be turned off whenever any two modifier keys are pressed simultaneously.)
9. Under **Notification**, check the **Make sounds when modifier key is pressed** checkbox for audible feedback when a **Shift**, **Ctrl**, or **Alt** key is pressed.
10. Under **Notification**, check the **Show StickyKeys status on screen** checkbox to see when StickyKeys is available for use. (A small icon of a keyboard will appear next to the **clock** on the **Taskbar**.)
11. Click **OK**.
12. Click **OK**.
13. Click the **X** button in the top right-hand corner to close the **Control Panel** window.

FilterKeys

The amount of time a key must be held down before it is accepted by the computer can be adjusted through FilterKeys. This is also where adjustments can be made to slow down or completely eliminate the key repeat rate. FilterKeys may assist users who make unintentional keystrokes.

1. From **Start**, highlight **Settings** and then select **Control Panel**.
2. Double click **Accessibility Options**.
3. Click the **Keyboard** tab.
4. Under **FilterKeys**, check the **Use FilterKeys** checkbox.
5. Click **Settings**.
6. Under **Keyboard shortcut**, check the **Use shortcut** checkbox to use the keyboard shortcut to activate FilterKeys. (To use the shortcut for FilterKeys, hold down the **Right Shift** key for eight seconds.)

Note: The following Filter options settings may be made for a variety of users. Not all of the adjustments provided below need to be made. Select only those appropriate for the user.

7. Click the **Ignore repeated keystrokes** radio button.
8. Click **Settings**.
9. Under **Ignore keystrokes repeated faster than**, move the slide bar to the appropriate setting within the given range to adjust how long the computer will wait to accept the next keystroke.
10. Click **OK**.

Note: The following RepeatKeys settings will override settings made on the Keyboard control panel.

11. Click the **Ignore quick keystrokes and slow down the repeat rate** radio button. (Selecting this option will deselect **Ignore repeated keystrokes**.)
12. Click **Settings**.
13. Click the **No keyboard repeat** radio button to eliminate characters being repeated while any key is held down.
14. Click the **Slow down keyboard repeat rates** radio button. (Selecting this option will deselect **No keyboard repeat**.)
15. Under **Repeat delay**, move the slide bar to the appropriate setting within the given range to adjust how long a key must be held down before its character begins to repeat.

16. Under **Repeat rate**, move the slide bar to the appropriate setting within the given range to adjust how fast a character repeats when its key is held down.
17. Under **SlowKeys**, move the slide bar to the appropriate setting within the given range to adjust how long a key must be held down for the computer to accept its input.
18. Click **OK**.
19. Under **Notification** check the **Beep when keys pressed or accepted** checkbox for audible feedback when any key is pressed (or accepted—depending on selected settings).
20. Under **Notification** check the **Show FilterKey status on screen** checkbox to see whether FilterKeys is available for use. (A small icon of a stopwatch will appear next to the **clock** on the **Taskbar**.)
21. Click **OK**.
22. Click **OK**.
23. Click the **X** button in the top right-hand corner to close the **Control Panel** window.

ToggleKeys

ToggleKeys provides an audible cue to tell a user when the Caps Lock, Num Lock, or Scroll Lock keys have been activated or deactivated.

1. From **Start**, highlight **Settings** and then select **Control Panel**.
2. Double click **Accessibility Options**.
3. Click the **Keyboard** tab.
4. Under **ToggleKeys**, check the **Use ToggleKeys** checkbox.
5. Click **Settings**.
6. Under **Keyboard shortcut**, check the **Use shortcut** checkbox in order to use the keyboard shortcut to turn **ToggleKeys** on. (To use the shortcut, press and hold down the **Num Lock** key for five seconds.)
7. Click **OK**.
8. Click **OK**.
9. Click the **X** button in the top right-hand corner to close the **Control Panel** window.

Organization

Desktop Items and New Programs

If the following items appear on the desktop, they should not be removed: My Computer (or other name which may be assigned), My Documents, Recycle Bin, and Network Neighborhood. Any new programs installed will be accessible from the Start menu.

Creating a Personal Work Folder

Create a new folder for each user to save work.

1. Double click the **My Documents** folder.
2. From the **File** pull down menu, highlight **New** and then select **Folder**.
3. While it is still highlighted, type in the name of the folder (e.g., student's name).
4. Click once anywhere within the **My Documents** window.
5. Click the **X** button in the top right-hand corner of all open windows.

Using Shortcuts

Shortcuts were designed to reduce the need of searching for files, folders, or programs within the computer's hard disk. They also help maintain the integrity of programs by reducing (or even eliminating) the need to open the program's folder. Shortcuts may be used on the desktop or on the Start menu. A small arrow on the lower left-hand side designates an icon as a Shortcut.

For some students, having a shortcut on the desktop that will access their personal work folder helps them to locate work more efficiently.

1. Double click the **My Documents** folder.
2. Click once on the student's personal work folder icon (to highlight).
3. From the **File** pull down menu, select **Create Shortcut**.
4. Click and drag the shortcut to the desired position on the desktop.
5. Click the **X** button in the top right-hand corner of all open windows.

For other students, placing a shortcut to their personal work folder on the Start menu may create easy access to their work. Windows 98 allows the addition of any shortcut to the Start menu, but does not allow the addition of any original folder.

1. Double click the **My Documents** folder.
2. Click once on the student's personal work folder icon (to highlight).
3. From the **File** pull down menu, select **Create Shortcut**.
4. Click the **X** button in the top right-hand corner of all open windows.

5. From **Start**, highlight **Settings** and then select **Taskbar & Start Menu**.
6. Click the **Start Menu Programs** tab.
7. Click **Add**.
8. Click **Browse**.
9. From the **Look in** pull down menu, select **My Documents**.
10. In the list view, click once on the newly created shortcut.
11. Click **Open**.
12. Click **Next**.
13. Click once on **Start Menu**.
14. Click **Next**. (If desired, rename the shortcut as directed.)
15. Click **Finish**.
16. Click **OK**.
17. Click **Start** to verify that the student's personal work folder appears on the **Start Menu**.

For some students, having shortcuts on the desktop to access programs they will use may improve their efficiency.

1. From **Start**, highlight **Programs**, then highlight **Accessories**.
2. Right click **WordPad**.
3. Highlight **Send To**.
4. Click **Desktop (create shortcut)**.
5. Click **OK**.

For some students, having shortcuts in their personal work folder to access programs they will use may improve their efficiency.

1. From **Start**, highlight **Programs**.
2. Navigate to the desired item within **Programs**. (This may include navigation through sub-menus.)
3. Right click on the desired program.
4. Highlight **Send To**.
5. Click **Desktop (create shortcut)**.
6. Click **OK**.
7. Right click the newly created shortcut.
8. Click **Cut**.
9. Double click **My Documents**.
10. Right click on the student's personal work folder.
11. Click **Paste**.
12. Double click the student's personal work folder to verify that the shortcut is now there.

StartUp Items

StartUp Items

The StartUp folder starts files, opens folders, or launches programs when the computer is started. This is recommended when only one student is using the computer or multiple students use the same program(s). Windows 98 allows the addition of any shortcut to the StartUp folder, but does not allow the addition of any original file, folder, or program. Windows 98 will automatically create a shortcut for files or programs as a result of following the steps below. (Shortcuts will need to be created for folders.)

Note: The next 6 steps are only needed when placing a shortcut to a folder within the StartUp folder.

1. Double click the **My Computer** icon.
2. Double click the **(C:)** drive.
3. Navigate to the desired folder. (Double click the **My Documents** folder if the desired folder is a student's personal work folder.)
4. Click once on the folder (to highlight).
5. From the **File** pull down menu, select **Create Shortcut**.
6. Click the **X** button in the top right-hand corner of all open windows.
7. From **Start**, highlight **Settings** and then select **Taskbar & Start Menu**.
8. Click the **Start Menu Programs** tab.
9. Click **Add**.
10. Click **Browse**.
11. From the **Look in** pull down menu, select **(C:)**.
12. From the **Files of type** pull down menu, select **All Files**.
13. Use the **Browse** dialog box to navigate to the desired file, folder shortcut, or program.
14. In the list view, click once on the desired file, folder shortcut, or program.
15. Click **Open**.
16. Click **Next**.
17. Locate and click once on **StartUp** (not **Start Menu**).
18. Click **Next**.
19. Click **Finish**.
20. Click **OK**.
21. From **Start**, highlight **Programs**, and then highlight **StartUp**.
22. Verify that the desired file, folder, or program is listed.
23. From **Start**, click **Shut Down**.
24. Click **Restart**.
25. Click **OK**. (Once the computer has restarted, any items in **StartUp** will automatically run.)

Accessibility Options

General

There are general settings to be made regarding the Accessibility Options.

1. From **Start**, highlight **Settings** and then select **Control Panel**.
2. Double click **Accessibility Options**.
3. Click the **General** tab.
4. Under **Automatic reset**, check the **Turn off accessibility features after idle for** checkbox and use the **minutes** pull down menu to specify the time. Consider leaving this box unchecked to ensure that the accessibility features activated will remain on indefinitely.
5. Under **Notification**, consider checking the **Give warning message when turning a feature on** and/or **Make a sound when turning a feature on or off** checkboxes.

Note: The SerialKey devices portion of the General window is used to configure alternative input devices for the computer. Alternate input may be an alternative keyboard or an augmentative communication device.

6. Click **OK**.
7. Click the **X** button in the top right-hand corner to close the **Control Panel** window.

Microsoft has built additional options into Windows 98 to make the computer more accessible. These are standard options as part of Windows 98. The access features (and the procedures to activate them) have been presented throughout this document. In addition Windows 98 includes a Magnifier and an Accessibility Wizard.

Magnifier

Magnifier is a display utility that makes the screen more readable for students with visual impairments. It displays a magnified portion of your screen in a separate window. Magnifier also makes it possible to alter the color scheme and contrast of the magnification window. Magnifier can be moved or resized. It can also be “docked” by dragging it to any edge of the screen.

1. From **Start**, highlight **Programs**, then highlight, **Accessories**, then highlight **Accessibility**, and then select **Magnifier**.
2. In the **Magnification level** text box, type (or use the up or down arrows to select) a magnification level number between 1 and 9.
3. Check the **Follow mouse cursor** checkbox, to have the magnification window reflect wherever the mouse pointer is moved.
4. Check the **Follow keyboard focus** checkbox, to have the magnification window reflect the area of the screen that is affected by keyboard commands, such as the Tab or arrow keys.

5. Check the **Follow text editing** checkbox, to have the magnification window reflect the area of the screen where text is being entered.
6. Check the **Invert colors** checkbox, to have the magnification window (only) change its display to complementary colors, for example, blue changes to yellow, and black changes to white.
7. Check the **Use High Contrast scheme** checkbox, to have the magnification window and the entire screen displayed in the high contrast setting that is set within the Accessibility Options (Display tab) control panel.
8. Click **OK**.
9. Position and resize the magnification window as desired just like any standard Windows 98 window.

Accessibility Wizard

By prompting users to select specific needs regarding disabilities, the Accessibility Wizard helps users configure Windows 98 for vision, hearing, and mobility needs. Depending upon the choices made, changes may be made within the Accessibility Options, Mouse, or Display control panels; and/or the Magnifier. Therefore, users will not have to go to the individual control panels to make adjustments. At the completion of the Accessibility Wizard, a list of the changes made will be presented.

1. From **Start**, highlight **Programs**, then highlight, **Accessories**, then highlight **Accessibility**, and then select **Accessibility Wizard**.
2. On the **Welcome to the Accessibility Wizard** screen, click on one of the three choices presented.
3. Click **Next**.

Note: The following Text Size screen provides options for adjusting the size of text and other items on your screen. The preselected options on this screen are recommended and are based on the font size that was selected on the previous Welcome to the Accessibility Wizard screen.

4. On the **Text Size** screen, review the preselected items, and/or make changes as desired.
5. Click **Next**.
6. On the **Set Wizard Options** screen, click all of the statements that apply.

Note: The choices made on the Set Wizard Options screen determines which screens will be presented next in this Wizard.

7. Click **Next**.
8. Read each screen, make the selection(s) as they best meet the needs of the student.
9. When finished with each screen, click **Next** to move to the next one.
10. When the **Completing the Accessibility Wizard** appears, go to step 11.

Note: Depending on how each question is answered, the following changes may be made to Windows 98:

Low Vision:

- Font size of window title bars, menus, and other features
- Screen resolution
- Magnifier

Blind or Low Vision:

- Scroll bar and window border size
- Icon size
- High contrast color schemes

Deaf or Hard of Hearing:

- SoundSentry
- ShowSounds

Motor Needs (adjustments to the keyboard and/or mouse):

- StickyKeys
- BounceKeys
- ToggleKeys
- Extra Keyboard Help (displays button tooltips and other instructions within certain programs)
- MouseKeys
- Mouse Cursor
- Mouse Button Settings (left or right handed user setting for mouse buttons)
- Mouse Speed
- Mouse Trails

Administrative Options

- Automatic Timeouts (MouseKeys, StickyKeys, ToggleKeys, and High Contrast settings may be automatically turned off after the computer has been idle for a specified amount of time – there is also the option to leave these features turned on all the time)
- Default Accessibility Settings (provides the option of having the accessibility options that are chosen through the Accessibility Wizard applied to only the current user profile or the current and all new user profiles)
- Save Settings to File (save the settings chosen through the Accessibility Wizard to a file that can run on other computers (running Windows 98))

11. On the **Completing the Accessibility Wizard** screen, click **Finish**.

Automating the Accessibility Wizard for Individual Users

The Accessibility Wizard described in the above section can be used to automate the settings for individual users. Before proceeding with the following steps, ensure that all Accessibility Options (e.g., MouseKeys, StickyKeys, FilterKeys) are turned off. Also ensure that the following are set to normal settings on the Appearance tab of the Display control panel (normal settings are listed in parenthesis): Icon Size (32), Icon Font Size (8), Icon Spacing Horizontal (48) and Icon Spacing Vertical (48).

1. From **Start**, highlight **Programs**, then highlight, **Accessories**, then highlight **Accessibility**, and then select **Accessibility Wizard**.

Note: The first step is to create a setting that will easily switch the computer back to its original defaults.

2. On the **Welcome to the Accessibility Wizard** screen, click on the text **Use normal text size for Windows**.
3. Click **Next**.
4. On the **Text Size** screen, uncheck the **Change the font size** checkbox.
5. All other checkboxes on this screen should not be checked.
6. Click **Next**.
7. On the **Set Wizard Options** screen, check the **I want to set administrative options** checkbox.
8. All other checkboxes on this screen should not be checked.
9. Click **Next**.
10. On the **Set Automatic Timeouts** screen, click the **Turn off StickyKeys, FilterKeys, ToggleKeys, and High Contrast features after the computer has been idle for** radio button.
11. If necessary, use the **minutes** pull down menu and select **5** minutes.
12. Click **Next**.
13. On the **Default Accessibility Settings** screen, click **No** under **Do you want Windows to use your accessibility settings while you log on and to apply these settings to new user accounts**.
14. Click **Next**.
15. On the **Save Settings to File** screen, click **Save Settings**.
16. In the **Save As** window, in the **File name** text box, type **Default Settings**.
17. Using the **Save As** window, locate the desired destination to save the file.
18. Click **Save**.
19. On the **Save Settings to File** screen, click **Next**.
20. On the **Completing the Accessibility Wizard** screen, click **Finish**.

Note: The next step is to create files that contain the settings for each user.

21. From **Start**, highlight **Programs**, then highlight, **Accessories**, then highlight **Accessibility**, and then select **Accessibility Wizard**.
22. On the **Welcome to the Accessibility Wizard** screen, click on one of the three choices presented.
23. Click **Next**.
24. On the **Text Size** screen, review the preselected items, and/or make changes as desired.
25. Click **Next**.
26. On the **Set Wizard Options** screen, check all of the boxes that apply to the student, however, be sure to also check the **I want to set administrative options** checkbox.
27. Click **Next**.
28. Read each screen, make the selection(s) as they best meet the needs of the student.
29. When finished with each screen, click **Next** to move to the next one.
30. When the **Save Settings to File** screen appears, go to step 31.

Note: Depending on how each question is answered, changes may be made to Windows 98 as listed above in the Accessibility Wizard section.

31. On the **Save Settings to File** screen, click **Save Settings**.
32. On the **Save As** window, in the **File name** text box, name the file for the student for whom it will be used.
33. Using the **Save As** window, locate the desired destination to save the file.
34. Click **Save**.
35. On the **Save Settings to File** screen, click **Next**.
36. On the **Completing the Accessibility Wizard** screen, click **Finish**.

Note: If an additional file is to be set up for another using complete steps 37 – 38.

37. From the desktop, find the location of the Default Settings file (step 16).
38. Repeat steps 21 – 36 for each student.

Note: Now each file can be used to quickly switch the settings for each user.

39. From the desktop, find the location of the file (step 33) for the individual.
40. Double click the file.
41. On the **Completing the Accessibility Wizard** screen, click **Finish**.
42. Repeat steps 39 – 41 to change the settings for each user or to return to the default settings.

Appendix A

General Protection

Any user of a computer may move or delete files, change attributes, or otherwise compromise the performance of the operating system. Files, folders, or programs can be protected by making them Read-only or Hidden.

Read-Only

Files, folders, or programs can be protected from being deleted or changed by designating them as read-only.

1. Locate and single click (to highlight) the file, folder, or program.
2. Right click on the item.
3. Select **Properties**.
4. Click the **General** tab.
5. Under **Attributes**, check the **Read-only** checkbox.
6. Click **Close**.

Setting Hidden Items

Files, folders, or programs can be protected from being deleted or changed by designating them as hidden.

A. The following steps will set the computer to hide items that are marked as **Hidden**.

1. Double click the **My Computer** icon.
2. From the **View** pull down menu, select **Folder Options**.
3. Click the **View** tab.
4. Click the **Do not show hidden or system files** radio button.
5. Click **OK**.
6. Click the **X** button in the top right-hand corner of all open windows.

B. The following steps will hide a file, folder, or program.

1. Double click the **My Computer** icon.
2. Locate and single click (to highlight) the file, folder, or program to be hidden.
3. From the **File** pull down menu, select **Properties**.
4. Click the **General** tab.
5. Under **Attributes**, check the **Hidden** checkbox.
6. Click **Close**.
7. Click the **X** button in the top right-hand corner of all open windows.

Viewing Hidden Items

The following steps explain how to view items that will be still marked as hidden.

1. Double click the **My Computer** icon.
2. From the **View** pull down menu, select **Folder Options**.
3. Click the **View** tab.
4. Click the **Show all files** radio button.
5. Click **OK**.
6. Click the **X** button in the top right-hand corner of all open windows.

Note: At this point, the item is still marked as hidden, but will be displayed. Selecting **Show all files** overrides the hidden option. Once **Do not show hidden or system files** is re-selected, the hidden items will become invisible again.

Deselecting the Hidden Property

To view an item at all times, it is necessary to deselect its hidden property. Steps 1 through 6 below are not necessary if they were completed in the previous section.

1. Double click the **My Computer** icon.
2. From the **View** pull down menu, select **Folder Options**.
3. Click the **View** tab.
4. Click the **Show all files** radio button.
5. Click **OK**.
6. Locate and single click (to highlight) the file, folder, or program.
7. From the **File** pull down menu, select **Properties**.
8. Click the **General** tab.
9. Under **Attributes**, uncheck the **Hidden** checkbox.
10. Click **Close**.
11. From the **View** pull down menu, select **Folder Options**.
12. Click the **View** tab.
13. Click the **Do not show hidden or system files** radio button.
14. Click **OK**.
15. Click the **X** button in the top right-hand corner of all open windows.

Appendix B

Using Profiles for Individual Users

The desktop display can be altered to different settings for each student through the use of user profiles.

Setting Windows 98 to be Used by More Than One User

The following steps will need to be followed when initiating this feature for the first time on each computer.

1. From **Start**, highlight **Settings** and then select **Control Panel**.
2. Double click **Users**. (This initiates the **Enable Multi-user Settings** wizard.)

Note: If the **Enable Multi-user Settings** wizard does not appear at this step, the multiple users feature has already been activated. Continue with step 3 of the following “Adding Another User” section.

3. Click **Next**.
4. In the **User name** text box, type in a user name for the student.
5. Click **Next**.
6. In the **Password** text box, enter a password for this user.
7. In the **Confirm password** text box, again enter the same password.
8. Click **Next**.
9. Select the items to be personalized for the user.
10. Click **Next**.
11. Click **Finish**.
12. Click **Yes** to restart Windows.
13. In the **Select user name** text box, single click (to highlight) the newly created user.
14. In the **Password** text box, enter the password for the newly created user.
15. Click **OK**.
16. If necessary, click the **X** button in the top right-hand corner to close the **Control Panel** window.

Adding Another User

1. From **Start**, highlight **Settings** and then select **Control Panel**.
2. Double click **Users**.
3. Click **New User**.
4. Click **Next**.
5. In the **User name** text box, type in a user name for the student.
6. Click **Next**.
7. In the **Password** text box, enter a password for this user.
8. In the **Confirm password** text box, again enter the same password.
9. Click **Next**.
10. Select the items to be personalized for the user.
11. Click **Next**.
12. Click **Finish**.
13. Click **Close**.
14. Click the **X** button in the top right-hand corner to close the **Control Panel** window.

Logging In as a Different User Without Restarting

1. From **Start**, select **Log Off username**.
2. Click **Yes**.
3. In the **Select user name** text box, single click (to highlight) the desired user.
4. In the **Password** text box, enter the password for the desired user.
5. Click **OK**.
6. Click the **X** button in the top right-hand corner to close the **Control Panel** window.

Logging In as a Specific User Upon Startup

The following three steps need to be completed only if the computer is already powered on. If the computer is powered off, begin with step 4.

1. From **Start**, select **Shut Down**.
2. Click **Shut down**.
3. Click **OK**.
4. Power the computer on.
5. In the **Select user name** text box, single click (to highlight) the desired user.
6. In the **Password** text box, enter the password for the desired user.
7. Click **OK**.