

An Introduction to Windows Vista Sidebar Gadgets

Windows Sidebar is a new feature included with the Windows Vista operating system. The Sidebar is a panel that opens on the Windows desktop and holds mini-applications called gadgets. Each gadget is usually highly specialized and performs a simple task. Some gadgets display pieces of information from the Internet while others interact with full-scale applications installed on the computer.

Sidebar gadgets are composed of HTML and JavaScript exactly like a Web page. Sidebar renders gadget HTML without the elements of a traditional Web browser window, making gadgets look more like desktop applications. Using JavaScript, gadgets can download data from the Internet. But unlike most Web pages, gadgets can also interact with some extended features of the Vista operating system, as well as with other programs installed on your computer.

Custom Sidebar gadgets are quite easy to create. You can create your own using a simple text editor such as Windows Notepad. It is also easy to adapt elements of an existing Web page to be used as a gadget. Vista includes a number of preloaded gadgets, including a clock, a system resource monitor, and an Internet-connected weather report. These preloaded gadgets offer a sample

of the functionality made possible by Windows Sidebar. Many additional gadgets are also available for download on the Internet.

Sidebar gadgets are not limited to the Sidebar panel. You can place gadgets on the desktop, and move them around just like application icons. Gadgets placed on the desktop remain open even when the Sidebar panel is hidden. You can set gadgets to always remain on top of other application windows and adjust the transparency of gadget displays. But unlike regular applications, gadgets cannot be minimized or maximized and they do not appear in the taskbar.

Web-enabled mini-applications have become very popular. Google's desktop search software, Google Desktop, supports its own brand of gadgets. Yahoo also offers a desktop application that runs mini-applications, which Yahoo calls widgets instead of gadgets. Version 10.4 and above of Apple's OS X operating system includes an application called Dashboard. Dashboard runs its own mini-applications also called widgets. While Sidebar does share many similarities with these other platforms, each implements its own set of specializations, which prevents gadgets from being interchangeable.

Gadgets and Existing Web Applications

Gadgets can be a simple way to make an existing Web application more accessible. You can open more channels for users to access data from your existing Web site by exposing selected content in a downloadable gadget. Sidebar gadgets can also allow users to post data to your Web application directly from the desktop without ever opening a Web browser. This offers your users more options for consuming an existing application.

Gadget Manifest

All gadgets require a valid XML manifest file in addition to the HTML interface files. The manifest file is a configuration file that contains base settings such as the title, author, and version. It also declares the location of component files for a gadget. This file must always be named `gadget.xml`. A gadget cannot open in the Sidebar without a valid `gadget.xml` file.

HTML

The visual elements of a gadget are defined using standard HTML documents. Sidebar actually uses Internet Explorer 7 to render gadget displays. Users never see any elements of a browser window, however. Only the visual elements you set for your gadget are shown to users.

You can safely use any valid HTML tag in a gadget. You can also use Cascading Style Sheets (CSS) to format the gadget's visual elements. Styles can be applied in-line to HTML elements, and external style sheet documents can be included through gadget display documents.

Sidebar supports three non-standard HTML tags: `g:image`, `g:background`, and `g:text`. These non-standard tags offer additional functionality not available with normal HTML.

Because Internet Explorer renders the gadget interface, cross-browser compatibility is not necessarily a concern. However, porting your gadget to other platforms may prove difficult if you rely heavily on features specific to Internet Explorer or Sidebar.

JavaScript

A gadget's functionality is driven by scripting. While Sidebar gadgets technically support Jscript and VBScript languages, JavaScript is currently the predominant choice in gadget development. This book uses JavaScript exclusively for the sake of consistency.

Vista Sidebar exposes some functionality not available to normal Web pages. This functionality can be used in JavaScript to interact with features of the Vista operating system and to manipulate a gadget at run time.

Ajax

Gadgets were designed to be connected to the Internet. As self-contained Web pages, they bring a piece of the Web to the desktop without the baggage of a browser window.

Ajax is a technique used for creating highly interactive Web pages. The term Ajax stands for Asynchronous JavaScript and XML, a technique that refers to using JavaScript to download XML data from the Web without refreshing a client browser.

Because gadgets are rendered without conventional browser functions such as refresh, forward, and back buttons, Ajax is essential for accessing and refreshing data from the Web within a gadget.

Deployment

Eventually you may want to deploy your custom gadgets to other computers. Sidebar gadgets feature a very simple deployment model. There are two options for packaging gadget files. You can combine the files into either a ZIP format archive file or a Windows Cabinet File (CAB). CAB files can be code-signed to assure users of a gadget's source.

All gadget resource files must be packaged into a ZIP or CAB format archive file. This archive file should include all HTML, image, style sheet, script, and manifest files and must be named with a .gadget file extension. Rename the archive file with a .gadget file extension.

The .gadget archive file can be distributed by way of a Web download, by e-mail, or by any form of digital media. The archive file installs your gadget to any Vista machine running Sidebar.

Localization

You can support multiple languages in your custom gadgets. Sidebar gadgets detect language-specific copies of a gadget's resource files and use the appropriate copies based on user computer locale settings. A gadget can support as many languages as you decide to include.

Microsoft Gadgets

There are three forms of Microsoft gadgets: Sidebar, SideShow, and Windows Live gadgets. Windows Live gadgets can be installed to Microsoft's Live.com Web site and are written using HTML and JavaScript. While both the Live and Sidebar platforms share similarities, they are not interchangeable. Still, Windows Live gadgets are easy to understand once you master Sidebar gadgets. The final chapter of this book covers the creation of a simple Live gadget.

SideShow gadgets are specifically designed for mobile devices and are not HTML-based. Because this type of gadget is so different from Sidebar gadgets, SideShow gadgets are not covered in this book.

Gadget State

The maintenance of user settings is referred to as "maintaining state" in gadgets, just as in Web applications. Settings and internal data are retained only as long as a gadget is open. Removing a gadget from the Sidebar immediately erases all custom setting values. The gadget returns to its default state if it is added to the Sidebar again. Gadgets do, however, retain their state when the machine is restarted or Sidebar is closed and reopened.

Each gadget runs as a self-contained application. It is possible to add multiple copies of a single gadget to the Sidebar. Each instance of a gadget retains its own state separate from any other instances of the same gadget.

Download a Gadget

You can download a variety of free Sidebar gadgets on the Web. Exploring the available gadgets gives you a better idea of the possibilities when you create your own custom gadget.

Vista comes preinstalled with a set of gadgets: a calendar, a clock, a contact address book, a system CPU usage monitor, a currency conversion utility, an RSS feed reader, a notepad, a picture puzzle game, a photo slideshow, a stock price monitor, and a local weather report display.

These preinstalled gadgets sample the range of functionality available in Sidebar gadgets. Some display data from the Web such as the stock price monitor, the RSS feed reader, and the local weather report gadgets. Others display bits of data from your local computer. The photo slideshow gadget cycles through photos stored on your computer, while the contact address book displays

information about your Vista Contacts. Other gadgets interact with the Vista operating system such as the CPU meter, which displays real-time CPU and memory usage for your system. Still other gadgets such as the notepad, the calendar, the clock, and the currency converter function as stand-alone utilities.

The Sidebar gadget panel features a clickable button to “Get more gadgets online.” This button opens a Web page, so you need to ensure your computer is connected to the Internet before attempting to download more gadgets.

You can browse through the most popular gadgets, or filter by category. When you find one you want, click the download button. You are prompted to open or save. Select the save option to download the gadget to your computer.

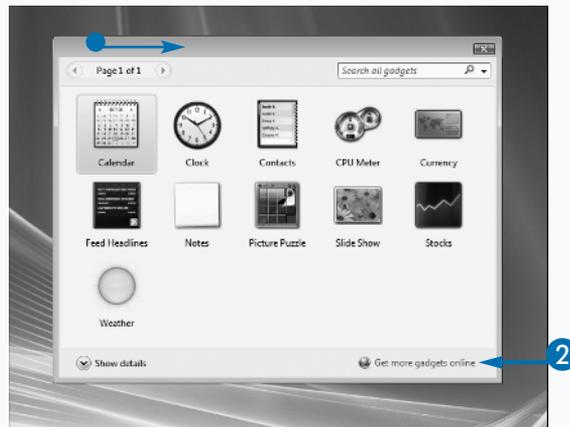
Download a Gadget

- 1 Click the plus symbol at the top of the Sidebar panel.



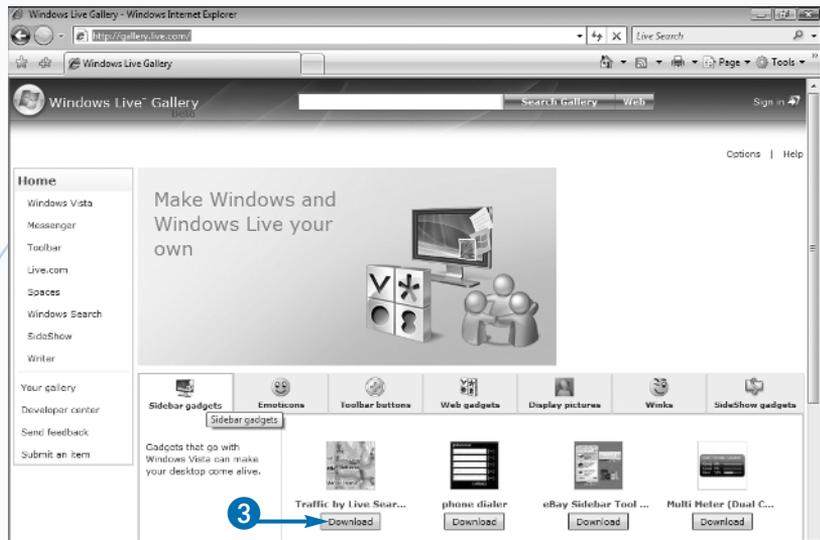
- The Gadgets window opens.

- 2 Click the Get more gadgets online button.



The Windows Vista Sidebar gallery opens.

- 3 Click to download the gadget you want.



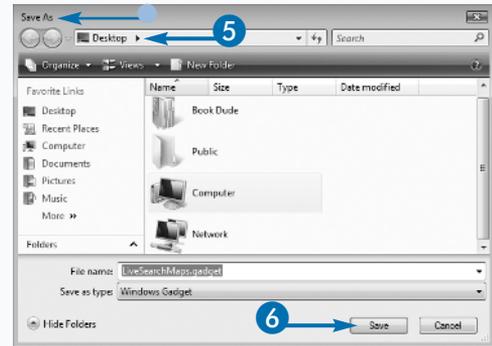
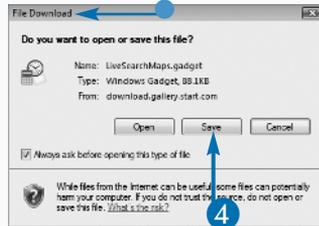
- The File Download dialog box opens.

- 4 Click Save.

Note: You could also choose *Open* to immediately open the gadget file.

- The Save dialog box opens.

- 5 Select a location to save the file on your computer.



Note: This example saves the gadget to the desktop. You could choose another location.

- 6 Click Save.

A .gadget file is saved to your computer.

Apply It

Microsoft maintains a catalog of Sidebar and Live.com gadgets on its Windows Live Gallery Web site at <http://gallery.live.com/home.aspx>. The site features hundreds of gadgets for both gadget platforms organized by categories such as “Fun and games,” “Lifestyle,” and “Search tools.” Although the site is hosted by Microsoft, all of the gadgets have been created by third-party developers.

You can access special areas of the Live Gallery site by logging in with an ordinary Windows Live account. Once logged in, you can launch Live.com gadgets, and access a special developer center section of the site. The developer center includes links to Sidebar and Live.com gadget development documentation as well as special MSDN discussion forums. And when you are ready to release your own custom gadgets, there is a form for submitting your gadget for publication in the catalog.

Microsoft plans to add more tools in the future that will help developers to publicize their custom gadgets to end users. These tools will tie into the Windows Live Spaces service, offering developers an easy way to promote their work.

Install a Gadget

You can install a new gadget to your computer by simply double-clicking a .gadget install file. A Windows Security dialog box confirms that you actually want to install the gadget files to your computer. Click the install button and the gadget unpacks its files and adds itself to the list of available gadgets on the Sidebar gadget panel.

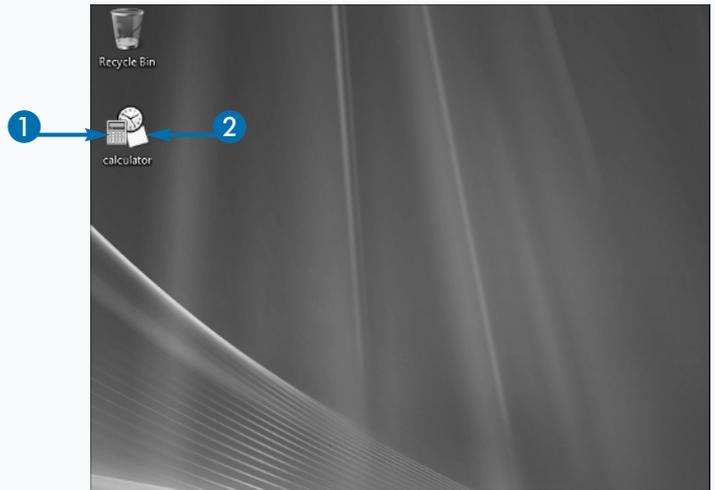
You may notice that the gadget automatically opens itself in the Sidebar after the installation finishes. The new gadget shows up as the first gadget at the top of the Sidebar panel. Installation is complete at this point and you can begin to use your new gadget. You can change the placement of the installed gadget by dragging it to a different location on the Sidebar.

Open the Sidebar gadget panel and you see that your new gadget has been added to the list of available gadgets. If you ever remove the gadget from the Sidebar, or you would like to open another instance of the same gadget, you can add it again from this panel. The gadget remains listed in the gadget panel as long as it remains installed on your computer.

The gadget installation process is different from regular application installations. When you install a new gadget, the gadget's files are placed under your user directory on the hard drive. The gadget's files cannot be placed anywhere else on your computer. Gadgets that you install are not available to other users on the same computer. This means that you can install as many gadgets as you would like without affecting other users on your computer.

Install a Gadget

- 1 Locate the .gadget file on your computer.
- 2 Double-click the .gadget file.



The Windows Sidebar – Security Warning opens.

- 3 Click Install.



- The gadget is installed to the Sidebar.
- 4 Click the plus symbol at the top of the Sidebar.



The Gadgets window opens.

- The gadget is now available in the Sidebar gadget window.



Extra

Sidebar generates its list of available gadgets by scanning defined directories on your computer for subdirectories with gadget.xml manifest files. The first of these directories, `%programfiles%\windows sidebar\gadgets\`, is shared amongst all users and contains the preloaded gadgets that come installed with Vista. Any gadget directories placed under this shared space are available to all users on your computer. The other directory is located under your user account directory: `%userprofile%\appdata\local\microsoft\windows sidebar\gadgets\`. Gadgets you install are placed here and available only to your user account.

Because you cannot select where your gadget files are placed on the hard drive, only one copy of each uniquely named gadget can be installed. When a new version of a gadget is installed, it directly overwrites any previous versions already installed.

After installing a gadget, you do not need to keep the .gadget install file. The installed gadget does not need its installation file to run. Of course, you may want to keep the install file in case you want to reinstall the gadget at a later point or move it to the Recycle Bin.

Add a Gadget to the Sidebar

You can add gadgets to the Sidebar panel with just a few mouse clicks. With the Sidebar panel open on your desktop, click the plus symbol at the very top of the panel. The Sidebar gadget window opens in the center of the desktop, showing all of the gadgets that are currently installed on your computer.

Right-click the icon of the gadget you want to add to the Sidebar. Click Add from the context menu that appears and the gadget appears at the top of the Sidebar panel. It pushes your other open gadgets downward. You can now begin using the gadget.

Clicking the Add button is not the only way to add a gadget to the Sidebar. You can also click and drag any of your installed gadgets from the gadget panel and drop them directly on the Sidebar. When you click and drag a

gadget to the Sidebar, it is added in the position where you drop it and adjusts any other open gadgets around it.

You can click and drag gadgets in the Sidebar to change their arrangement. When you move a gadget, the others flow around the one you move. If you add more gadgets than can fit in the Sidebar panel, some gadgets are moved out of sight and paging buttons are enabled at the top of the Sidebar panel. You can use these buttons to flip between sets of hidden gadgets.

Each gadget you open on the Sidebar is a completely self-contained application. You can even open multiple copies of the same gadget at the same time. Each copy you open operates independently of the other instances and retains its own settings. Once you close a gadget, however, any settings you have entered are not retained.

Add a Gadget to the Sidebar

ADD A GADGET

- 1 Click the plus symbol at the top of the Sidebar panel.

The Gadgets window opens.

- 2 Right-click a gadget, the calendar in this example, and click Add.



- The calendar gadget is added to the Sidebar.

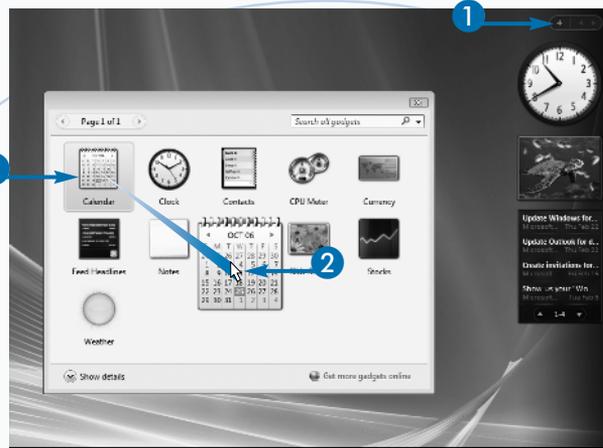


DRAG A GADGET

- 1 Click the plus symbol at the top of the Sidebar panel.

The Gadgets window opens.

- 2 Drag the calendar gadget to the Sidebar panel.



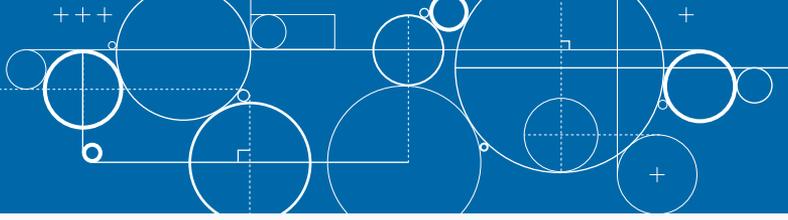
- The calendar gadget is added to the Sidebar.

**Apply It**

You can open multiple copies of the clock gadget on the Sidebar panel. This is a good way to track the local time in different cities around the world. You can add one clock to the Sidebar to display the time in New York City, USA, another to display the time in Tokyo, Japan, and a third that displays the time in Cairo, Egypt. All of these clocks can be open on the Sidebar at the same time. Each instance of the clock can display a different time even though all of the clocks are the same installed gadget.

If you open multiple gadgets, they may not all fit inside the Sidebar panel. When the panel is full and you add another gadget, the Sidebar creates an additional panel page to hold more gadgets. The panel can display one of these pages at a time and keeps extra pages hidden from view. A set of left and right arrow buttons appears, which allow you to flip back and forth between panel pages to view all of your open gadgets. Keep this in mind when you design the size of your own gadget user interface.

Open a Gadget's Settings



You can open a gadget's settings panel to change preference values for the gadget. Move your mouse pointer over any open gadget in the Sidebar. A small panel of buttons appears in the upper-right corner of the gadget display. If the button panel includes a wrench icon, the gadget has a settings panel. Click the wrench button to open a gadget's settings panel.

Configuration settings are defined by each gadget's developer. A gadget's settings are specific to the function of the gadget. Different gadgets offer different configuration settings, and some have no changeable settings at all.

The clock gadget has a settings panel. You can change the physical appearance of the clock, set a clock name, change the clock time zone, and toggle display of a second hand on the clock. The base time of the clock,

however, is determined by your computer's internal clock. You cannot change the base clock time through the gadget's settings panel.

You can open the photo slide-show gadget's settings panel to select a source directory for photos, set the display time for a single photo, apply a transition effect between photos, and toggle shuffle mode. The width and height of displayed photos are determined by the gadget's code. The developer of this gadget has decided not to allow these values to be changed by users while the gadget runs.

The feed headlines gadget's settings panel allows you to select which feeds to display as well as how many headlines to display. The gadget loads feeds from the Common Feed List. The feeds cannot be changed through the settings panel.

Open a Gadget's Settings

CLOCK SETTINGS

- 1 Move your mouse pointer over the clock gadget.
- 2 Click the wrench icon at the upper right of the gadget.



- The settings panel for the gadget opens.

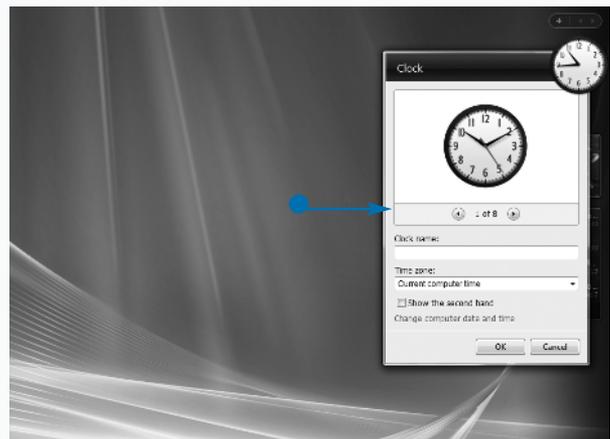
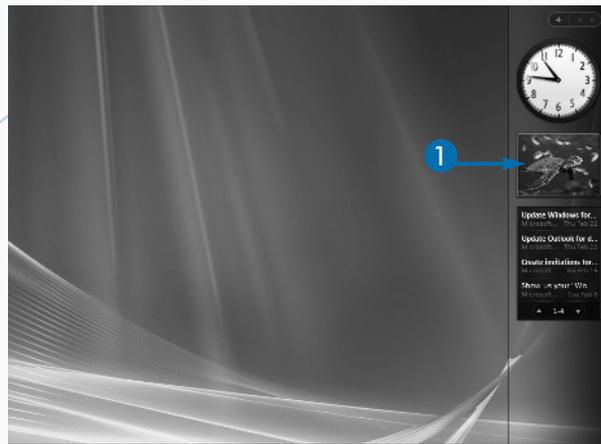
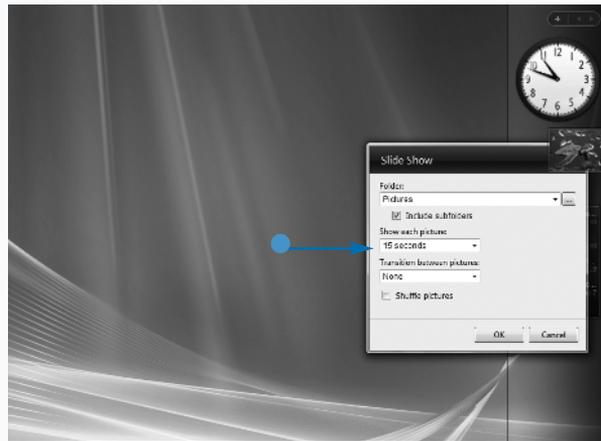


PHOTO SLIDE SHOW SETTINGS

- 1 Move your mouse pointer over the photo slide-show gadget.
- 2 Click on the wrench icon at the upper right of the gadget.



- The settings panel for the gadget opens.



Extra

The Sidebar gadget framework does not offer any support for remembering settings after a gadget closes. This is why gadgets generally do not retain customized settings after they are closed. The weather gadget, for example, does not retain your ZIP code after you close it. When you open new instances of the gadget it always defaults to Redmond, Washington.

The positive effect of this is that you do not need to worry about managing settings between gadget instances in your custom gadget code. You can be sure that when you store settings for a gadget they affect only that single gadget.

Although the Sidebar scripting framework does not support it automatically, you can write your own settings persistence into your custom gadgets if you choose. The Windows Sidebar team has released a step-by-step example of how to persist settings using JavaScript and settings files. The article offers code examples that provide a central API for interacting with gadget settings from a text file. You can read the article and access the related code at <http://blogs.msdn.com/sidebar/archive/2006/09/21/765604.aspx>.

Change a Gadget's Settings

You can change a gadget's settings to suit your personal preferences while it is open in the Sidebar or on the desktop. Any changes you make take effect immediately after you click to accept on the gadget settings panel.

Your customized settings remain in effect for as long as the gadget remains open. When you close the gadget, you permanently lose any setting changes you made. When you open a new instance of the same gadget, that instance opens with the gadget's default settings. Gadget settings and position are, however, retained between system restarts as well as when you close and reopen the Sidebar application.

As the task "Add a Gadget to the Sidebar" explains, you can have multiple instances of the same gadget open on the Sidebar. Any settings changes you make to one gadget have no impact on other instances of the same

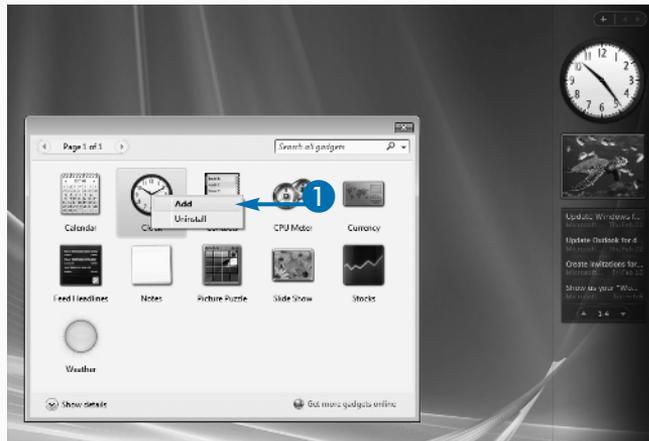
gadget that you open. Gadgets run as completely self-contained applications and do not share any settings amongst themselves.

The task that follows illustrates this concept. When you open a second instance of the clock gadget you see two clock gadgets in the Sidebar. You can change the settings on the original clock gadget, and the second clock gadget remains unchanged. Because most gadgets are designed to display a single piece of information, it can be useful to have multiple copies open with different pieces of information.

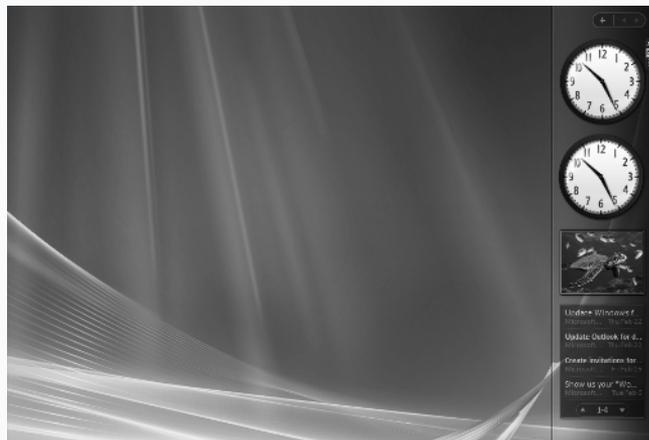
A gadget's default settings are set by the developer inside the gadget's code files. The only way to override the setting defaults is to manually change a gadget's code files. You can learn a lot about creating your own custom gadgets by exploring the code files of Sidebar's preinstalled gadgets.

Change a Gadget's Settings

- 1 Add a second instance of a gadget to the Sidebar, a clock in this example.



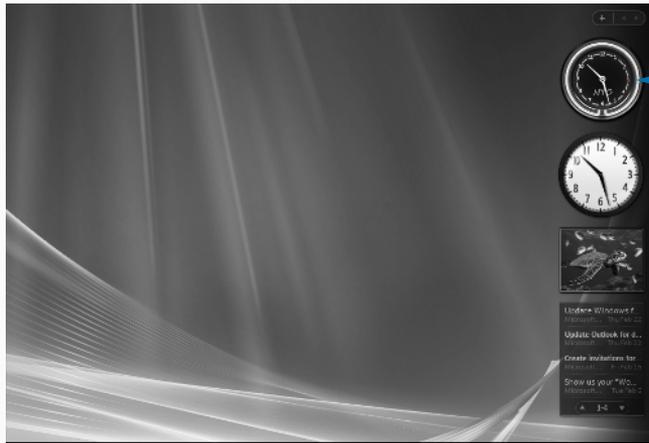
- 2 Click the second clock's settings icon.



- The settings panel for the clock opens.
- 3 Click the arrows below the clock graphic. Select a different style.
- 4 Type a name for the clock.
- 5 Click OK.



- The clock gadget now displays a name and a different style.



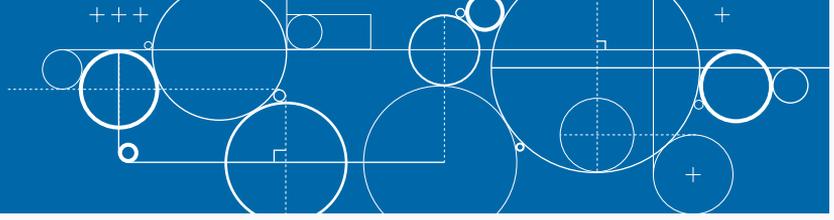
Extra

Exploring the code files of other gadgets can be a valuable learning tool. But it is not reasonable to expect users to edit your custom gadget's code files. You should always keep this in mind when deciding what your custom gadget's default settings will be and which settings to expose through the gadget.

Select default settings that accommodate the widest possible range of users. Consider which elements of your custom gadgets a user might want to customize and include those elements in your settings panel options. Balance customizations against the lifetime of these settings. You do not want to offer too many settings because a user must reapply them each time a new instance of your gadget is opened.

The clock gadget offers a reasonable compromise between customization and defaults. The default time is obtained from the computer's clock and users can adjust this time according to their preferred time zone. If the clock gadget required users to manually input the current time every time they opened a new clock, the gadget would not be so easy to use.

Open a Gadget Flyout Panel



You can extend the display area of a gadget outside the regular boundaries of the Sidebar panel.

Gadgets are best suited to display small chunks of information. However, there are times when a user might want to retrieve extended information from a gadget. The width of the Sidebar panel is not always large enough to display extended amounts of information.

A flyout panel extends the visual display of a gadget outside the boundaries of the Sidebar. It is called a flyout panel because it appears to “fly out” from the gadget. Some gadgets include a flyout panel that opens when a user clicks inside the regular gadget display. The flyout panel then disappears after the mouse pointer is removed or clicked elsewhere.

The feed headlines gadget has a flyout panel. The gadget’s main display contains a list of news headlines.

This list is condensed to fit in a small area. Only a portion of each headline is shown in the display. The list can be paged through using the two small arrow buttons at the bottom of the gadget display. The gadget also automatically pages through headlines over time.

Roughly 30 characters of each story can be displayed inside the boundaries of the standard Sidebar panel. Some stories cannot be adequately summarized in fewer than 30 characters.

Click a single headline and a panel slides out from the gadget display. This flyout panel displays an extended summary of the story while the gadget’s main display remains unchanged. Click your mouse outside of the gadget and the flyout panel disappears back into the main gadget display.

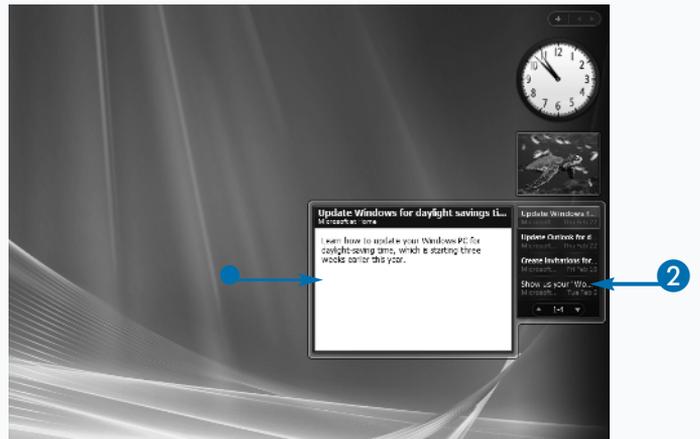
Open a Gadget Flyout Panel

- 1 Click a headline in the feed headline gadget.

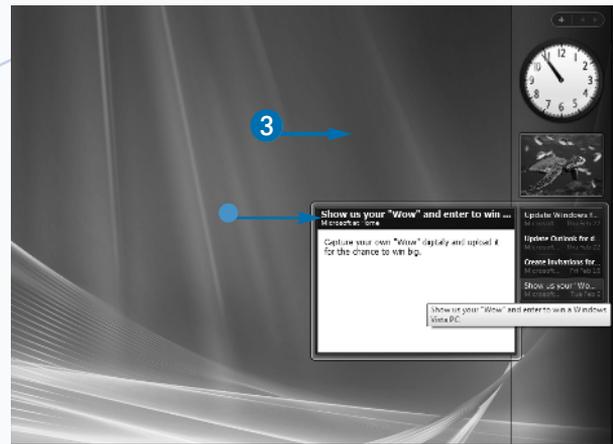


- A flyout panel emerges with a full story summary.

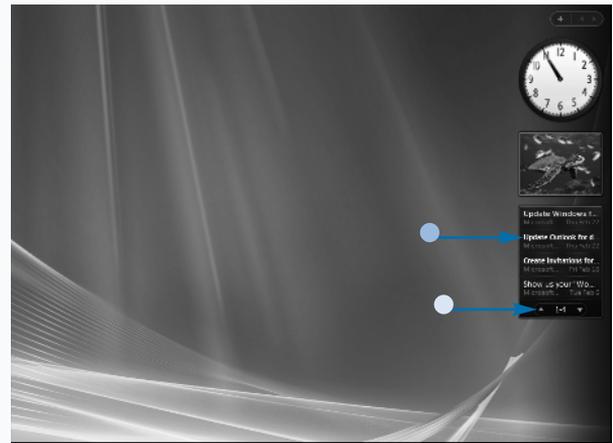
- 2 Click a different headline.



- A flyout panel emerges with a different full story summary.
- 3 Click outside the boundaries of the gadget display.



- The flyout panel rolls back into the main gadget display.
- Notice the paging arrows at the bottom of the feed headline gadget.



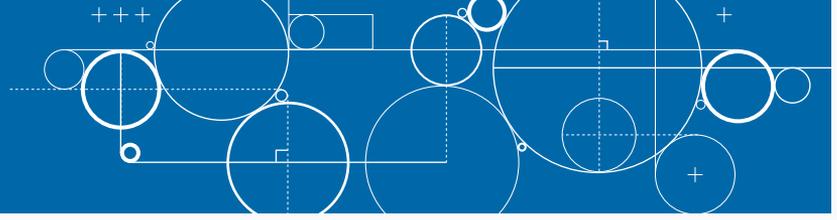
Extra

Gadgets are most useful when they display small pieces of information that a user can review quickly. There are times when a user wants extended information. Using a flyout panel, you can meet both of these needs in your custom gadget.

The flyout interface can be designed in an HTML file separate from the main gadget interface. This HTML display is shown directly to the side of the gadget when opened. The flyout height and width can extend beyond the dimensions of the main gadget interface without affecting the placement of the gadget or other surrounding gadgets in the Sidebar panel.

Because the flyout is a different HTML file, it does not automatically share the same script variables and data as the main gadget interface. Variables created in the main gadget interface and script files included are not automatically available in the flyout panel. You must include any scripts and functionality necessary for the flyout to access its own data. You can access the document object model of the main gadget interface from JavaScript within the flyout through the `System.Gadget.document` namespace.

Drag a Gadget to the Desktop



You can drag a Sidebar gadget out of the Sidebar panel. The Sidebar panel is a powerful tool. However, the panel can really display only a few gadgets at once. And not everyone prefers to keep the panel open on their desktop at all times. Luckily, gadgets can be placed directly onto the Vista desktop.

You can drag a gadget from the Sidebar panel to anywhere on the desktop. Once on the desktop, you can move the gadget anywhere you like. The gadget's settings panel and close button are still accessible when the gadget is on the desktop.

When you drag a gadget to the desktop, it retains any custom settings that you have assigned to it as long as it remains open. These settings, along with the position of the gadget on the desktop, are retained between system restarts and when you close and open the Sidebar application.

Many gadgets have an alternate display that is shown when the gadget is moved to the desktop. Some gadgets simply expand in size, while others completely change the visual display of the gadget.

The weather report gadget completely changes when you drag it to the desktop. When attached to the Sidebar panel, the weather report gadget displays location and a temperature reading over a graphic that depicts current conditions.

When you drag the weather report gadget to the desktop, it immediately expands. The expanded display includes the same location and temperature information but also shows a much larger graphic, today's temperature range, and forecast reports for the next three days.

You can use a gadget's desktop display in your own custom gadget to include extended information that might not fit into the boundaries of the Sidebar panel.

Drag a Gadget to the Desktop

- 1 Add a weather gadget to the Sidebar.
- 2 Drag the weather gadget to the desktop.



- The weather gadget is now detached from the Sidebar and can be moved around the desktop.



Return a Gadget to the Sidebar

You can move a gadget from the desktop back to the Sidebar panel any time you want. It is useful to freely move gadgets around the desktop completely independent of the Sidebar panel. But sometimes you may want to return a gadget to dock in the panel.

Make sure the Sidebar panel is open and visible and then click and drag the gadget back to the Sidebar panel. Just as when adding a gadget, the other gadgets on the panel arrange themselves around the gadget you return to the Sidebar. If the gadget has a different interface display when it is loaded on the desktop, it returns to its regular Sidebar display as soon as it is dropped on the panel.

Dragging a gadget between the desktop and the Sidebar panel does not have any impact on the gadget's settings. However, inside the gadget,

scripting code events occur whenever a gadget leaves or returns to the Sidebar. You can assign a scripting function to each event to execute whenever the specific event occurs. These events are called `onDock` and `onUndock`. There is also a status indicator you can use throughout your code to check a gadget's dock status. You can use these events and attributes to accomplish the user interface changes covered in the previous task, "Drag a Gadget to the Desktop."

You can change attributes of the gadget's display when each event fires. Many gadgets resize and some completely change their appearance, including displayed background and content. It is not generally a good idea to change anything other than the display of a gadget based on its docking status. The tasks in Chapter 7 can help you make use of this functionality in your custom gadgets.

Return a Gadget to the Sidebar

- 1 Drag a weather gadget to the desktop.
- 2 Drag the weather gadget back to the Sidebar.



- The weather gadget is now reattached to the Sidebar.



Change a Gadget's Opacity

You can adjust the opacity of a gadget display. Decreasing the opacity percentage allows elements located under the gadget display to be increasingly more visible through the gadget display. Each gadget's opacity can be set to 20%, 40%, 60%, 80%, or 100%. The default opacity setting for a gadget is full opacity at 100%.

Opacity can be set for gadgets both in the Sidebar panel and on the desktop. This is a powerful feature, especially for gadgets placed onto the desktop. Gadgets can overlay other open application windows, while still allowing users to at least partially see underlying windows.

A gadget can also be set to “Always on Top” mode from the right-click menu when it is on the desktop. In this mode, the gadget always remains placed over other open application windows. Combine transparency with “Always on Top” mode, and gadgets can be placed over

areas of the desktop where infrequently used portions of application windows extend.

The task that follows illustrates this concept. You can see the feed headline reader placed over an open Notepad window with the gadget's opacity set to 60%.

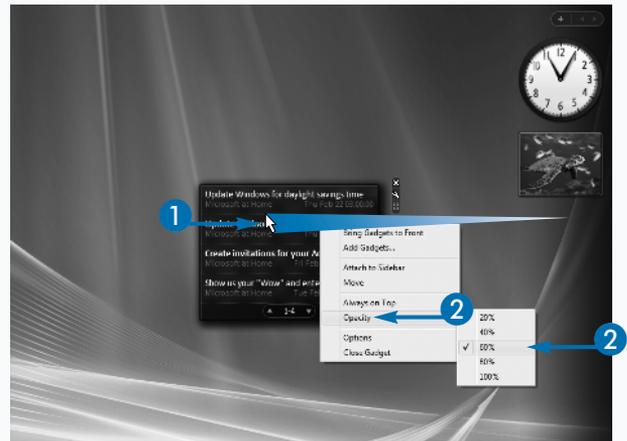
Vista's new Aero user interface engine introduced application window transparency to the Windows operating system. However, Sidebar gadget transparency is not dependent on the Aero system's activation. Users with Aero disabled for any reason can still set opacity for their Sidebar gadgets.

Gadgets retain their opacity setting when moved between the Sidebar panel and the desktop. Gadgets also retain their transparency setting between system restarts and when Sidebar is closed and reopened.

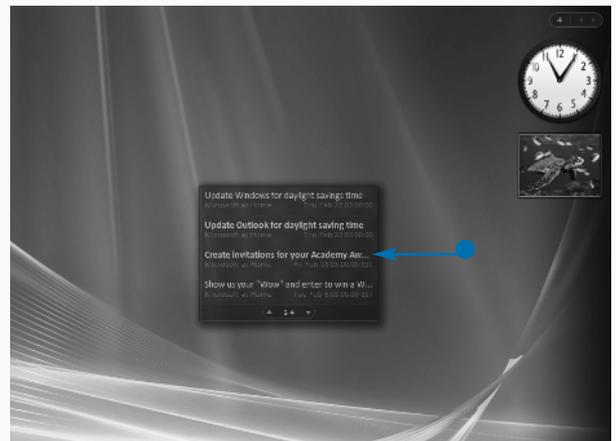
Gadget transparency increases the possibilities for how people can actually use custom gadgets that you create.

Change a Gadget's Opacity

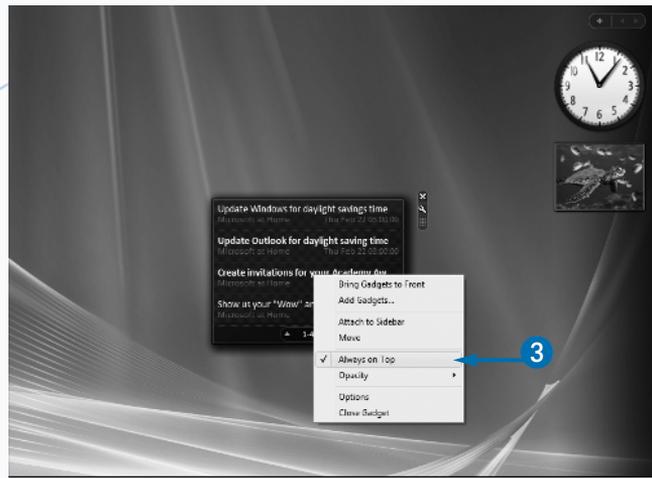
- 1 Drag a gadget, the feed headline gadget in this example, to the desktop.
- 2 Right-click the feed headline gadget and select an opacity option.



- The feed headline gadget is now partially transparent.

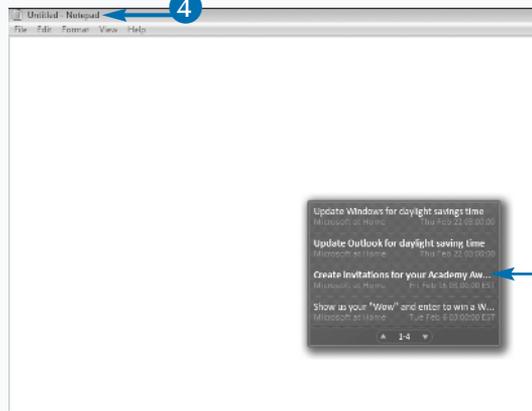


- 3 Right-click the gadget and click Always on Top.



- 4 Open Windows Notepad.

- The feed headline gadget is open and partially transparent over the Windows Notepad window.



Apply It

The new user interface system introduced in Windows Vista is called Aero. Aero can be loaded only on systems with advanced graphic cards. Machines with less powerful hardware run in an alternative display mode with many features of Aero disabled.

Aero includes many new features such as dynamic window thumbnails in the taskbar, which show live content including video, a three-dimensional view for browsing of open applications, smoother window movement and sizing transitions, and a completely redesigned start menu. Aero Glass is another new feature, which makes portions of open windows translucent allowing you to see what is underneath them. This can make multiple windows on your desktop a bit easier to manage.

The Sidebar panel itself fades to complete transparency when your mouse pointer is not hovering over it. You can elect to keep the Sidebar panel partially opaque at all times. Right-click the panel and click the Properties option. Click the “Sidebar is always on top of other windows” option. When this option is checked, any windows that you maximize expand only to the edge of the panel. The Sidebar’s transparency is not dependent on Aero.

Remove a Gadget from Sidebar

You can remove any gadget from the Sidebar without uninstalling it. Gadgets were designed to be opened and closed easily. There is only so much visible space on the desktop and even less in the Sidebar panel. You will probably be selective with which installed gadgets you have open at any given moment. Right-clicking a gadget and selecting Close Gadget on the context menu closes the gadget and removes it from Sidebar. You can also click the close button at the upper right of a gadget to close it. Any custom settings you have applied to the gadget are lost when you do this. As explained in the task “Change a Gadget’s Settings,” gadgets do not retain their settings when you close them. The next time you add the gadget to Sidebar, it loads with its default settings.

Each gadget you remove from Sidebar is still installed on the machine. The gadget remains listed in the gadget panel and can be added to the Sidebar again whenever you like. There is no danger in adding and removing gadgets in the Sidebar as often as you want.

When you remove a gadget you do not affect any other copies of the same gadget open in the Sidebar. Each gadget instance runs independently. For example, if you have three different photo slide-show gadgets open and you close one, the other two remain open. This is why each gadget runs as a completely independent application.

A `Close` method is available in the gadget scripting framework that removes a gadget from Sidebar. You can use this method to include your own close button in your custom gadget, which then shows an alternate display to confirm the gadget’s closing: `System.Gadget.close()` ;.

Remove a Gadget from Sidebar

- 1 Click on the close button next to the clock gadget.



- The clock disappears from the Sidebar.

Note: *The clock gadget is still installed on your computer.*



Uninstall a Gadget

You can completely uninstall a gadget from your computer. After installing a variety of custom gadgets, you may want to clean up your hard drive and permanently remove a few from your computer. Unlike other regular Windows applications, gadget installation directories are self-contained and so you can easily remove them from your computer without worrying about leaving any remnants behind. Although gadgets can access aspects of the underlying Vista operating system, they do not install files anywhere outside of your user directory.

First, open the available gadget panel. Right-click the gadget that you want to remove from your computer and click the Uninstall button. Once you confirm that you do want to remove the gadget, all of its supporting files are deleted from your computer and its gadget icon is no longer listed in the gadget panel.

Uninstall a Gadget

- 1 Open the gadget panel.
- 2 Right-click a gadget and click the Uninstall option.
- 3 Confirm that you want to uninstall the gadget.



- The gadget is removed from your computer.



When you uninstall a gadget, it is no longer available on your computer unless you reinstall it. The uninstalled files are moved to your Recycle Bin, however. You can restore the files, which restores the gadget to the Sidebar application, if you change your mind before emptying the Recycle Bin.

You do not need to uninstall a gadget to upgrade it to a newer version. Sidebar supports direct upgrades for installed gadgets. You can run a gadget installation as described in the task “Install a Gadget” in this chapter. If an older version of the gadget is detected, Sidebar confirms that you want to upgrade the gadget and then automatically removes previous versions and installs the new version.

If you uninstall any of the default Windows gadgets and want to restore them, open the Sidebar options window and click the Restore gadgets installed with Windows button.