

Providing Help Balloons for Items in Dialog and Alert Boxes

For dialog boxes and alert boxes created with a dialog item list ('DITL'), you can provide help balloons for individual items in the dialog box or alert box by supplying a resource of type 'hdlg' (dialog item help). When the user moves the cursor over an item that has a help balloon associated with it, the **Help Manager** automatically displays and removes the help balloon as the cursor moves into and out of the item's rectangle. The **Help Manager** can display different help balloons for various states of a dialog item-by control value if the dialog item is a control, and by enabled and disabled states for dialog items that are not controls.

You can also provide help balloons for other areas of a dialog box or alert box using the 'hwin' (window help) resource as described in **Help Balloons in Static Windows**.

To create help balloons for items in dialog boxes or alert boxes, create an 'hdlg' resource that corresponds to a 'DITL' resource. You associate the help information defined in the 'hdlg' resource in one of three ways:

- by adding an item of type `helpItem` to the 'DITL' resource
- by supplying a resource of type 'hwin'
- by calling the **HMScanTemplateItems** function from your application

The 'hdlg' resource describes the tip, the alternate rectangle, and help information for dialog items in a dialog box or alert box. The 'DITL' resource describes the dialog items, and if it includes an item of type `helpItem`, it can contain the resource ID of a corresponding 'hdlg' resource. The **Help Manager** uses the item rectangles defined in the 'DITL' resource as the hot rectangles for the items. The **Help Manager** uses the alternate rectangles specified in the 'hdlg' resource for transposing help balloons' tips when trying to fit the balloons on screen.

If the dialog or alert box has an item of type `helpItem` in its 'DITL', help is enabled, and your application calls the `ModalDialog` procedure or the **IsDialogEvent** function, the **Help Manager** automatically tracks the cursor and displays help balloons as the user moves the cursor over items designated in the 'hdlg' resource.

If the cursor passes over any active windows, including dialog or alert boxes, the **Help Manager** searches the current resource file for resources of type 'hwin' (see **Help Balloons in Static Windows**). The **Help Manager** attempts to match either the title of the window or the `windowKind` value in its window record with the title or `windowKind` value specified in an 'hwin' resource. The matched 'hwin' resource, in turn, specifies the resource ID of an 'hdlg' or 'hrct' (rectangle help) resource that contains the relevant help balloon content.

The 'hrct' resource is also described in **Help Balloons in Static Windows**. As described in that section,

the 'hwin' resource can provide help for various elements across the entire window as well as for items in a dialog box or an alert box.

If you prefer, you can track and display help balloons for modal dialog boxes and alert boxes yourself by using a filter function and calling the **HMScanTemplateItems** function. Whereas adding a **helpItem** item to a 'DITL' or adding an 'hwin' requires only that you add resources, using **HMScanTemplateItems** requires you to modify your code. See **Getting and Setting Information for Help Resources** for a description of **HMScanTemplateItems** .

As shown here, the 'hdlg' resource contains header information, missing items information, and the help information for individual dialog items.

Component	Dialog item help resource element
Header	<u>Help Manager</u> version Index number of starting dialog item (first item is number 0) Options Balloon definition function Variation code
Missing items	Tip location Alternate rectangle Identifier for help balloon content Balloon content for missing highlighted controls, or for missing enabled items that are not controls Balloon content for missing dimmed controls, or for missing disabled items that are not controls Balloon content for missing active controls that are checked Balloon content for missing multipart controls
First dialog item	Tip location Alternate rectangle Identifier for help balloon content Balloon content for a highlighted control, or for an enabled item that is not a control Balloon content for a dimmed control, or for a disabled item that is not a control Balloon content for an active control item that is checked Balloon content for a multipart control
Next dialog item	(Same as for first dialog item) . . .

The state of a dialog item depends on whether the dialog item is a control, such as a check box or radio button, or something else, such as a static text field or an icon.

The header specifies the **Help Manager** version number, the starting index, options, the balloon definition function, and the variation code. As in the other help resources, specify the HelpMgrVersion constant in the first field of the header component of the 'hdlg' resource.

You can use the starting index field to start the help information with any dialog item and then continue sequentially. To derive a dialog item number to start from, the **Help Manager** adds the index number you specify in this field to the number of the first item in the dialog item list ('DITL') resource. So index number 0 starts with the item number 1 in the 'DITL' resource (because 0 plus 1 equals 1). For example, to describe help information for only the fifth through seventh dialog items, specify 4 as the starting index in the header and, because 4 plus 1 equals 5, provide help content starting with the fifth and proceeding through the sixth and seventh dialog items.

In the options field, specify a constant (normally, hmDefaultOptions) or the sum of several constants' values from this list.

(**Specifying Options in Help Resources** describes these options.)

Specify the balloon definition function and variation code (both typically 0) in the fourth and fifth fields of the header (see **Providing Help Balloons for Menus**.)

Following the header, you can specify the help content for dialog items that are missing from the 'hdlg' resource or that are present but have no help content defined for a particular state. (The missing items component is explained in

Providing Help Balloons for Menus.) In the missing items component, you specify a single tip location and a single alternate rectangle for all help balloons described in this component.

The tip location is always relative to the item's position in the dialog window. If you specify the point (0,0) as a default tip, then it is placed 10 pixels from the right and 10 pixels from the bottom of the item's rectangle (as specified in the 'DITL' resource) for all missing items. To move the missing item's tip relative to this default location, you can specify positive or negative integers in place of the coordinates (0,0).

For the missing item's alternate rectangle, you specify offsets from the dialog items' rectangles if you want alternate rectangles that are either larger or smaller than the items' rectangles. (The alternate rectangle, you will remember, is used by the **Help Manager** for transposing the tip if a help balloon does not fit on screen.)

The **Help Manager** adds the top, left, bottom, and right offsets that you specify to the coordinates of the items' rectangles. For example, if you specify (0,0,0,0) as the missing item's alternate rectangle offsets, the **Help Manager** uses the items' rectangles as alternate

rectangles for all missing items. You can specify positive or negative integers for these parameters to move alternate rectangles' coordinates relative to the item rectangles' coordinates.

You also specify an identifier from the following list that describes the format of the help balloon content, and then, for each state of a missing dialog item, either a text string for the balloon content or the resource ID of a resource that contains the help balloon content.

Identifier	Help content format
<u>HMStringItem</u>	Pascal string within the help resource
<u>HMPictItem</u>	'PICT' resource
<u>HMStringResItem</u>	'STR#' resource
<u>HMTEResItem</u>	'TEXT' and 'styl' resources
<u>HMSTRResItem</u>	'STR ' resource
<u>HMSkipItem</u>	No content-skip this item

When displaying help balloons for a control, the **Help Manager** examines the highlight state in the contrlHilite field of the control record. An active-that is, highlighted-control has a contrlHilite value of 1. Specify the help balloon content for a highlighted control in the first field of the missing items component or the dialog item components of the 'hdlg' resource. An inactive-that is, dimmed-control has a contrlHilite value of 0. Specify the help balloon content for a dimmed control in the second field of the missing items component or the dialog item components of the 'hdlg' resource. If, as with check boxes and radio buttons, the user can turn on an off/on control, you provide help balloon content for a highlighted, "on" control in the third fields. A multipart control, such as a dial, has a contrlHilite value greater than 1. Specify the help balloon content for a multipart control in the fourth field of the missing items component or the dialog item components of the 'hdlg' resource.

(See the **Control Manager** for information about controls.)

When displaying help for dialog items that are not controls, the **Help Manager** examines only whether the item is enabled or disabled, as specified in the dialog item list ('DITL') resource. When an item is enabled, the **Dialog Manager** informs your application about events involving this item. For an enabled item other than a control, you specify help balloon content in the first field of its component in the 'hdlg' resource.

When an item is disabled, the **Dialog Manager** does not inform your application about events involving this item. You specify its help balloon content in the second field. The third and fourth fields do not apply to items that are not controls. Though the **Help Manager** never uses these states, you should supply their fields with either empty strings or resource IDs of 0, depending on the format you specify from the previous list of identifiers.

After the missing items component, you provide the help content for the dialog items, starting with the dialog item number indexed in the header and continuing in the same order in which they appear in the 'DITL' resource.

Specify the tip and an alternate rectangle for each dialog item. Use coordinates local to the dialog item's display rectangle (which is specified in the 'DITL' resource) to specify the tip. You can specify (0,0) to place the tip 10 pixels from the right and 10 pixels from the bottom of the dialog item's rectangle.

The **Help Manager** uses the item rectangles specified in the 'DITL' resource as the hot rectangles for displaying help balloons. You cannot specify different hot rectangles in an 'hdlg' resource. (If you must specify hot rectangles that are different from the items' rectangles, use the 'hrct' resource as described in

Help Balloons in Static Windows) You can, however, specify alternate rectangles in 'hdlg' resources that are different from the item rectangles defined in the 'DITL' resource. Alternate rectangles give you additional flexibility in positioning your help balloons on screen. If you make your alternate rectangle smaller than the item rectangle, for example, you have greater assurance that the **Help Manager** will be able to fit the help balloon on screen; if you specify an alternate rectangle that is larger than the item rectangle, you have greater assurance that the help balloon will not obscure some important element within the item rectangle.

Specify offsets from the dialog item's rectangle if you want an alternate rectangle that is different from the item rectangle. The **Help Manager** adds the top, left, bottom, and right offsets that you specify to the coordinates of the item rectangle. For example, if you specify (0,0,0,0) as the alternate rectangle's offsets, the **Help Manager** uses the item rectangle as its alternate rectangle. You can specify positive or negative integers for these parameters to move the alternate rectangle's coordinates relative to the item rectangle's coordinates.

Specify the format for the help content using one of the previously listed identifiers. Note that for any dialog item in the resource, you can specify only one format for the content of all its states.

Each dialog item in the 'hdlg' resource has four fields that can contain descriptive information. As previously described for missing dialog items, the **Help Manager** interprets these states differently according to whether the dialog item is or is not a control. In each field of a dialog item component, supply either a text string for the balloon content or the resource ID of a resource that contains the help balloon content.

You do not have to provide help balloon content for every state of a dialog item. If you do not provide help content for a particular state, the **Help Manager** uses the help information defined in the missing items component. If the missing items component does not provide help information for that state, then the **Help Manager** does not display a help balloon for that state.

You can use the HMSkipItem identifier for dialog items for which you do not want to provide help. If you specify HMSkipItem, the **Help Manager** does not display help balloons for that dialog item, even if the missing item provides help information.

The Listing below shows a sample dialog item help resource along with its associated dialog item list ('DITL') and string list resources.

A dialog item list and its help resource

```
resource 'DITL' (145, "Spelling options", purgeable) {
    { {124, 194, 144, 254},
      Button {
          enabled,
          "OK"
      },
      {48, 23, 67, 202},
      CheckBox {
          enabled,
          "Ignore Words in All Caps"
      },
      {83, 23, 101, 196},
      CheckBox {
          enabled,
          "Ignore Valley Girl Slang"
      },
      {13, 23, 33, 254},
      StaticText {
          disabled,
          "WipeOut typing correction options:"
      },
      // item for Cancel button goes here
      {0,0,0,0},    // for help balloon: scan 'hdlg' with res ID 145
      HelpItem {
          disabled,
          HMSCanhdlg    // scan resource type 'hdlg'
          {145}        // get the resource with ID 145
      }
    }
};

resource 'hdlg' (145, "Spell options help", purgeable) {
    HelpMgrVersion, // version of Help Manager
    0,                // start help with first item in 'DITL'
    hmDefaultOptions, // options
    0,                // balloon definition ID
    3,                // variation code: hang left of items
    HMSkipItem { // no missing items help information
    },
    {                // help information for dialog items
        HMStringResItem { // store help for OK button in 'STR#' 145
            {0, 0},        // default tip: middle right edge of item rect
            {0,0,0,0},     // default alternate rectangle: use item rect
            145, 1,        // enabled OK button
        }
    }
};
```

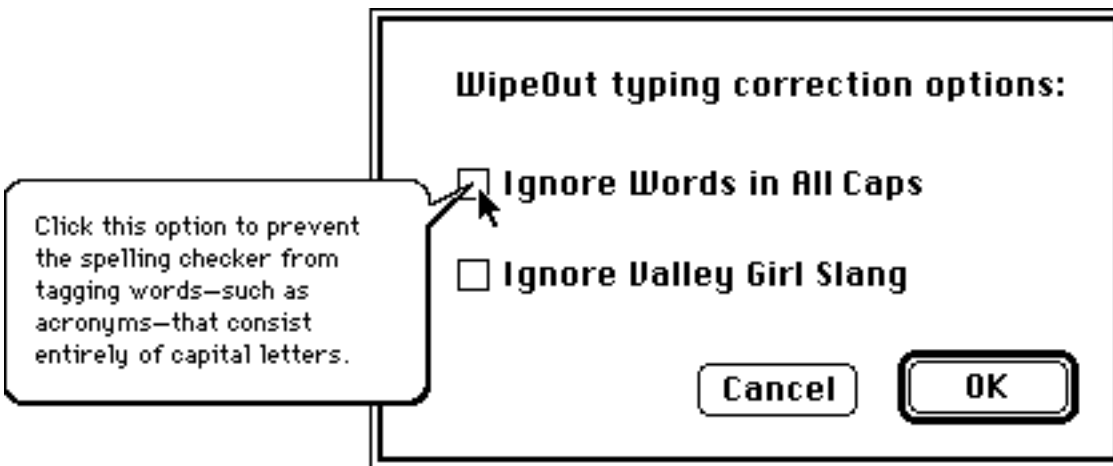
```

        0, 0,      // OK button is never dimmed
        0, 0,      // no enabled-and-checked state for button
        0, 0      // no other marked states for button
    },
    HMStringResItem { // store help for ALL CAPS option in 'STR#'
        {6, 6},      // place tip in check box
        {0,0,0,0},   // default alternate rectangle: use item rect
        145, 2,      // highlighted state of check box
        145, 3,      // dimmed state of check box
        145, 4,      // check box is checked
        0, 0         // not applicable to this control
    },
    HMStringResItem { // store help for slang option in 'STR#' 145
        {6, 6},      // place tip in check box
        {0,0,0,0},   // default alternate rectangle: use item rect
        145, 5,      // highlighted state of check box
        145, 6,      // dimmed state of check box
        145, 7,      // check box is checked
        0, 0         // not applicable to this control
    }
    // help for Cancel button goes here
}
};

resource 'STR#' (145, "Spell options help text") {
    {
        // [1]
        "Click here to accept the checked options.";
        // [2]
        "Click this option to prevent the spelling checker from tagging "
        "words--such as acronyms--that consist entirely of "
        "capital letters.";
        // [3]
        "Not available until you install the main dictionary.";
        // [4]
        "Click this option to tag words that consist entirely of capital "
        "letters--such as acronyms--during your next spelling check.";
        // [5]
        "Click this option to prevent the spelling checker from tagging "
        "words considered to be part of Valley girl slang.";
        // [6]
        "Not available until you install the dictionary of Valley "
        "girl slang.";
        // [7]
        "Click this option to tag words that are considered to be "
        "Valley girl slang during your next spelling check.";
        // help strings for Cancel button go here
    }
};

```

The 'hdlg' resource in the Listing above defines help information for the first three dialog items in the dialog item list. The Figure below shows the **Help Manager** displaying a help balloon for the second item.



A help balloon in a modal dialog box

You may notice in the Listing above that the **Dialog Manager** for system 7.0 supports a new item type for help-called helpItem. The help item is not visible to the user; it is provided so that the **Help Manager** can find the corresponding help resource.

Specify an empty rectangle—that is, one with coordinates (0,0,0,0)—for the display rectangle of a helpItem item. Specify disabled for its state. Describe whether the help resource is of type 'hdlg' or 'hrct' by specifying either *HMScanhdlg* or *HMScanhrct* in the next field of the resource.

(The 'hrct' resource is in **Help Balloons in Static Windows**). Then specify the ID of the resource that provides the help information for these dialog items.

Adding an item of type helpItem to a 'DITL' is the simplest method of associating the help balloons defined in your 'hdlg' resource with the dialog items defined in the 'DITL'. A slightly more involved method requires you to create an 'hwin' (window help) resource. The tradeoffs between the two methods are listed here.

The advantages of adding an item for help to the 'DITL' are that

- it is simple (you only have to create one resource, the 'hdlg' resource)
- it works for dialog boxes or alert boxes that have no titles and for those whose windowKind values do not adequately differentiate them from other windows (the windowKind field of window records is described in the **Window Manager**)

The disadvantages of adding an item for help to the 'DITL' are that

- it allows you to associate help balloons *only* with items listed in the 'DITL'
- it can not provide help balloons for alert boxes that have no dialog items

The advantages of using 'hwin' (window help) resources are that

- you can provide help balloons for alert boxes that have no dialog items
- you can provide a single help balloon for a group of related dialog items (rather than having separate help balloons for all the dialog items)
- you can provide help balloons for elements other than dialog items

The disadvantages of using 'hwin' resources are that

- it is slightly more complex (you must create additional resources)
- it only works for dialog boxes and alert boxes that have titles or windowKind values that differentiate them from other windows

Using the 'hwin' resource requires treating the dialog box or alert box as a static window. When the cursor passes over an active window, the **Help Manager** attempts to match either the title of the window or the windowKind value (from its window record) with a title or windowKind value you specify in an 'hwin' resource.

The section **Help Balloons in Static Windows** describes how to use 'hwin' resources for dialog boxes, alert boxes, and other kinds of static windows you may wish to define.