PopupMenu

COLLABORATORS

	TITLE : PopupMenu		
ACTION	NAME	DATE	SIGNATURE
WRITTEN BY		December 31, 2022	

REVISION HISTORY

NUMBER	DATE	DESCRIPTION	NAME

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1.2   What is this??

 Introduction

 This is The One and Only Popup Menu Library you use when you want a nice
 popup menu in your programs!
 The included examples are compiled using SAS/C 6.55, they should work with
 other compilers. If they don't, let me know.

 Features

 * User configurable.

 * Support for pulldown menus.

 * Unlimited number of submenus.

 * Unlimited number of mutually excluded items.

 * Supports MultiSelect.

 * Supports images and icons.

 * MagicMenu images by Mario Cattaneo.

 * Bold, italic, underlined and shadowed text.

* Coloured text.

1.3 Requirements

PopupMenu.library requires the following:

* AmigaOS 3.0 or higher.

Recommended:

* AmigaOS 3.1

* Picasso96 or CyberGfx

1.4 Author

——,,,^..^,,,————————

This is where you send things that can't be digitized:

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You might reach me here too:

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This is the official popupmenu homepage:

 http://www.algonet.se/~henisak/pm/pm.html

1.5 DISCLAIMER

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1.6   Important things to think about when you're using popupmenu.library!

Most things are handled automatically, but there are a few things that need
to be kept in mind.

* If you want to let the user select when the menu should appear,
  use the PM_Code tag. The argument to that tag should be one of the
  following:

    SELECTUP
    SELECTDOWN

```
     MENUUP
     MENUDOWN

     This can be done by just copying the IntuiMessage->Code field, IF you
     are responing to a IDCMP_MOUSEBUTTONS, and only then.
     If you are using IDCMP_MENUVERIFY to open the menu, you should send
     a MENUDOWN.
```

* If you want to use keyboard shortcuts in your application, you have to
  use the PM_FilterIMsg() function.

* If you want the menus to be able to handle multiple selections, you have
  to use the PM_MenuHandler tag.

* If you want to follow Mario 'padrino' Cattaneo's MagicMenu style
  conventions, here are his rules:

  All contextual menus should have a title describing it's context, such
  as "Trashcan" for a trashcan icon in a WB replacement software.

  The title should be printed using shadowed, centered text, and it should
  be white. (use the tags PM_Centered, PM_Shadowed and PM_ShinePen)
  Under the title
  The simplest way to do this is to use the PMMenuTitle macro.

1.7 History & Future

```
                  The history of popupmenu.library:

6.0 Made some changes to the API, for keyboard shortcuts and
  multiselect support. The library should still be 99% backwards
  compatible. Hacks like the previous version of the BigMenu demo
  will crash.

  Added keyboard shortcut support through
              PM_FilterIMsg()
              .


              PM_ExLstA()
               added for easier listing of mutually exclusive item ID's.

  Added support for multiselect.

  Added menu border settings.

  Fixed the "standard 2d images".

  Fixed a problem with pulldown menus when "compact" was not
  selected.

  Moved some of the images out of the library, and in to the prefs
  editor. The needed images will then be stored in the prefsfile.
  (wich means that only the needed images will be in memory)
```

5.4 Moved the submenus 5 pixels up.

   Improved the deadlock detection.

   Improved the look of separator bars.

5.35 Optimized the pen allocation a bit.

5.3 Moved the submenus a bit to the left. Now it looks more like the
    other menus, and it's easier to open the submenus.

   Fixed a bug in pen allocation/freeing.

   Made a few adjustments to the separator bars.

   Fixed bug in "Submenu Delay" code.

   Fixed an enforcer hit in window mode.

   Got rid of a few unnecessary bytes again. (about 1k smaller)

5.2 Fixed delay bug in non-window mode.

   Improved the remapping of magic images.
   Right look and a few hundred percent faster. :)

   Pulldown menus should now work in non-window mode too.

   Fixed the shadows. They were 1 pixel to wide before.

   Added a new tag, PM_Shadowed, to make the text shadowed.

   Changed the PMMenu macro so the titles will use shadowed text.

   Fixed refresh problem in window-mode.

   Made the separator bars look more like MM2.

   And this time the library is actually 1272 bytes smaller!

5.1 Fixed the deadlock bug in non-window mode.

   Added MagicMenu2 Images, and it's special remapping.
   (relative color values)

   Added support for pulldown menus.
   (works only in window-mode at the moment)

5.0 Opening the menu does no longer deactivate the active window.

   The menus can now use the blitter instead of windows, wich is much
   faster. (this has to be activated in the prefs-editor.)

   The menu font is now fetched from the DrawInfo, and not the menu's
   parent window.

There is now a space between the bottom of the text and the bottom
of the select bar.

Clicking the mousebutton very fast should no longer result in a
menu that doesn't dissapear. (as it should, when you release the
button)

Some of the tags send to OpenPopupMenu() has become obsolete.
(The preferences has taken over)

The input method has changed, so the library now requires
commodities.library (wich is a disk library).

The menu shadows now look like MagicMenu2 shadows.
(the size increases for each submenu opened)

Starting with this version, kickstart 3.0 is required. At least for
the non-window mode. In window mode it _may_ still work with 2.0,
but it's not tested. So if you have ks 2.0, I would appreciate if
you could try it out.

Fixed a bug. Submenus could appear at the bottom of the screen
when the mouse was moved quickly over an item.

Added a new function,
              PM_AlterState()
              .

4.3 Fixed a bug. (read from adress 0)

4.2 Now the menus can have shadows.

4.1 Images are now remapped correctly.

   Small changes for colour and image prefs.

4.0 More bugs fixed.

   A new demo, MenuVerify, shows how to use popupmenu.library with
   IDCMP_MENUVERIFY.

3.6 Bug fix. (never released, i got more bug reports...)

3.5 Now checks for the file ENV:PopupMenu.cfg, and if it exists,
   loads it, and replaces the default settings.

   Bug in PM_SubMenuTimer fixed.

   PM_Code added.
              Read
               this!

3.0 Added PM_GetItemAttrs(), PM_SetItemAttrs(), PM_IsChecked
   and PM_FindItem.

   Added the tags PM_Left and PM_Top.

Added a few more demos.

Changed the naming of functions and macros to avoid interfering
with other libraries.

2.0 Entirely rewritten and is now a shared library!

1.3 Added submenu support

1.2 Lots of new flags, and checkable menuitems

1.1 OpenPopupMenuPos()

1.0 First release

The future:

1. Datatype loading of images.

2. Font settings. (maybe)

3. Mail me if there's anything else!

1.8 "

Special thanks goes to:

Thanks to Stefan Sommerfeld for his very good bugreports, help with the
SwapBitsClipRectRastPort() bit, and the remapping code (too bad I coudn't
use it ;( ).

Thanks to Trond Werner Hansen for his shadow-drawing code!

Thanks to Mario 'padrino' Cattaneo for all the MagicMenu2 images and the
other MM2 specs. BTW, if you don't want to upset him, remember to spell
padrino with a small p... ;)

Thanks to Olaf 'Olsen' Barthel for his useful hint about deadlock detection.

Thanks to all the rest of you!

1.9 pm_alterstate

```
  NAME
 PM_AlterState -- Simulate a (de-)selection of a checked item. (V5)

  To be continued... (sometime, but right now I don't think you need this
  function)
```

1.10   pm_exlsta

```
                  NAME
PM_ExLstA -- Build a list of ID numbers for mutual exclusion. (V6)

 SYNOPSIS
list = PM_ExLstA(id);
D0                A1

list = PM_ExLst(id1, ...);

struct PM_IDLst *PM_ExLstA(ULONG *id);

struct PM_IDLst *PM_ExLst(ULONG id1, ...);

 FUNCTION
This function is used to build lists of ID numbers, that are needed
for the PM_Exclude tag.
The array of ID's is ended by NULL.

 INPUTS
id - array of ID numbers

 RESULT
Returns a list of ID's, or NULL if it ran out of memory.
You don't really need to care about what it returns, just pass it
on to
          PM_MakeItemA()
          .

 SEE ALSO

          PM_MakeIDListA()

          PM_MakeItemA()
```

1.11   pm_filterimsga

```
                  NAME
PM_FilterIMsgA -- Handle keyboard shortcuts. (V6)

 SYNOPSIS
userdata = PM_FilterIMsgA(window, menu, imsg, tags);
D0                        A1      A2    A3    A5

userdata = PM_FilterIMsg(window, menu, imsg, tags, ...);

APTR PM_FilterIMsgA(struct Window *, struct PopupMenu *,
  struct IntuiMessage *, struct TagItem *);

APTR PM_FilterIMsg(struct Window *, struct PopupMenu *,
  struct IntuiMessage *, ULONG, ...);
```

 FUNCTION
This function handles keyboard shortcuts.
It compares 'imsg' against IDCMP_VANILLAKEY, if one is found, that
item's UserData is returned, or the MenuHandler hook is called.
Remember to set IDCMP_VANILLAKEY for the window(s) you use for user
input.

 INPUTS
window = pointer to the parent window.
menu   = pointer to a popup menu.
imsg   = IntuiMessage to be filtered.

 TAGS
Accepts the same tags as PM_OpenPopupMenuA, in addition to those
listed below:

PM_AutoPullDown - (BOOL) Set this to TRUE if you want a pulldown
      menu opened automatically, when the user presses
      RMB.
      You will have to use WFLG_RMBTRAP and
      IDCMP_MOUSEBUTTONS to get it working.

 RESULT
The UserData of the item that was selected, or NULL.
If MultiSelect is enabled, this result should not be used, since it
would not be reliable when the user selects several items.
(The user can ofcourse only select more than one item if the tag
PM_AutoPullDown is used)

 SEE ALSO

                PM_OpenPopupMenuA()

1.12 pm_finditem

 NAME
PM_FindItem -- Find an item in a popupmenu list. (V3)

 SYNOPSIS
item = PM_FindItem(menu, id);
D0   A1   D1

struct PopupMenu *PM_FindItem(struct PopupMenu *, ULONG);

 FUNCTION
Find the pointer to an item using the ID number.

 INPUTS
menu = pointer to a popup menu list.
id   = ID number (PM_ID).

 RESULT
Returns a pointer to the found item, or NULL if unsuccessful.

SEE ALSO

1.13 pm_freepopupmenu

```
              NAME
     PM_FreePopupMenu -- Free a menu list created by
             PM_MakeMenuA()
             .

 SYNOPSIS
     PM_FreePopupMenu(popupmenu);
                     a1

     void PM_FreePopupMenu(struct PopupMenu *);

 FUNCTION
     This function is used to free the list of menu items created by

             PM_MakeItemA()
             , and
             PM_MakeMenuA()
             .

 INPUTS
     popupmenu - pointer to a popup menu to free.

 SEE ALSO

             PM_MakeItemA()

             PM_MakeMenuA()
```

1.14 pm_getitemattrsa

```
              NAME
PM_GetItemAttrsA -- Get attribute values for an object. (V3)

 SYNOPSIS
result = PM_GetItemAttrsA(item, tags);
D0                         A2    A1

ULONG PM_GetItemAttrsA(struct PopupMenu *, struct TagItem *);

result = PM_GetItemAttrs(item, tag1, ...);

ULONG PM_GetItemAttrs(struct PopupMenu *, ULONG, ...);

 FUNCTION
Used to get attributes from an item.
item can be directly taken from
             PM_FindItem()
              as the input is
```

```
checked against NULL pointers.

 EXAMPLE

struct PopupMenu *menu;
struct Image *image;
BOOL checked;

....
/* Initialize the menu */
....

      PM_GetItemAttrsA(PM_FindItem(menu, itemid),
  PM_SelectImage, &image,
  PM_Checked, &checked,
  TAG_DONE);

 INPUTS
item = pointer to a popup menu item.
tags = array of TagItem structures with attribute/value pairs.

 RESULT
Returns the number of successfully copied attributes.

 SEE ALSO

            PM_FindItem()
```

1.15 pm_itemchecked

```
 NAME
PM_ItemChecked -- Find out if an item is checked. (V3)

 SYNOPSIS
item = PM_ItemChecked(menu, id);
D0                      A1     D1

BOOL PM_ItemChecked(struct PopupMenu *, ULONG);

 FUNCTION
Fast way to find out if an item is checked using the item ID.

 INPUTS
menu = pointer to a popup menu list.
id   = ID number (PM_ID).

 RESULT
TRUE (-1L) if the item is checked, FALSE (0L) if not checked,
PMERR (-5L) if the ID was not found in the list.

 SEE ALSO
```

1.16   pm_makeidlista

```
              NAME
     PM_MakeIDListA -- Create a list of ID's for exclusion/inclusion.

 SYNOPSIS
     list = PM_MakeIDListA(taglist);
     d0                    a1

     struct PM_IDLst *PM_MakeIDListA(struct TagItem *tags);
```

```
list = PM_MakeIDList(tag1, ...);
```

```
struct PM_IDLst *PM_MakeIDList(ULONG, ...);
```

```
 FUNCTION
     This function is used to create a list of ID's that is used to
     tell wich items an item should include, exclude, reflect or
     inverse reflect.

 INPUTS
     taglist - pointer to a taglist.

 TAGS
     PM_ExcludeID   (ULONG) ID of a item that should be unselected when
                    when this item is selected.

     PM_IncludeID   (ULONG) ID of a item that should be selected when
                    when this item is selected.

     PM_ReflectID   (ULONG) ID of a item that should copy the state
                    of this item, when it gets selected/unselected.

     PM_InverseID   (ULONG) ID of a item that should copy the inverse
                    state of this item, when it gets selected/
                    unselected.
                    Useful if you want to make sure only one of two
                    items is selected at a time.

 RETURNS
     Returns a pointer to a list of id's if successful.

 SEE ALSO

             PM_MakeItemA()

             PM_ExLstA()
```

1.17   pm_makeitema

```
              NAME
     PM_MakeItem -- Create a new menu item.
```

```
   SYNOPSIS
        menu = PM_MakeItemA(taglist);
        d0                  a1

        struct PopupMenu *PM_MakeItemA(struct TagItem *tags);

menu = PM_MakeItem(tag1, ...);

struct PopupMenu *PM_MakeItem(ULONG, ...);

   FUNCTION
        This function is used to create a new menu item to be passed to

                PM_MakeMenuA()
                , for linking.

   INPUTS
        taglist - pointer to a taglist listing your menu items.

   TAGS
        PM_Title        (STRPTR) Pointer to the menu text you want.

        PM_UserData     (ULONG) Anything of your choice, can be used to
                        identify the item when it is selected. The value
                        stored here will be returned from
                PM_OpenPopupMenuA()
                                    when the user selects this item.

        PM_ID           (ULONG) An ID number, only needed if you want to
                        be able to read or change the attributes of this
                        item later. (for example, to find out if an item
                        is checked)

        PM_Sub          (struct PopupMenu *) A pointer to a menu list
                        returned from
                PM_MakeMenuA()
                . The item
                        will automatically get an arrow to the right
                        showing that it has a sub menu.

        PM_Flags        (ULONG) Used internally. Do not use this tag!

        PM_NoSelect     (BOOL) Make the item unselectable.

        PM_FillPen      (BOOL) Draw the item title in FILLPEN.

        PM_Checkit      (BOOL) Leave some space for a checkmark.

        PM_Checked      (BOOL) Put a checkmark to the left of the item.

        PM_Italic       (BOOL) Draw the text in italic.

        PM_Bold         (BOOL) Make the text bold.

        PM_Underlined   (BOOL) Underline the text.

        PM_WideTitleBar (BOOL)
```

```
        PM_TitleBar     (BOOL) Draw a horizontal separator instead of the
                        text.

        PM_ShadowPen    (BOOL) Draw the text in SHADOWPEN color.

        PM_ShinePen     (BOOL) Draw the text in SHINEPEN color.

        PM_Exclude      (struct PM_IDLst *) List of items to be selected
                        or unselected when this item gets selected.
                        The list should be created with
             PM_MakeIDListA().
                         PM_Disabled    (BOOL) Makes the item unselectable, and  ←
                            draws a
                        disable pattern over the item.

        PM_ImageSelected (struct Image *)
        PM_ImageUnselected (struct Image *)
                        Specifies an image to be rendered under the item
                        title.

        PM_IconSelected (struct Image *)
        PM_IconUnselected (struct Image *)
                        Specifies an image to be rendered to the left of the
                        item title.

        PM_AutoStore    (BOOL *) A pointer to a BOOL that will reflect the
                        state of the checkmark. The best way to find out
                        if an item is checked or not.

        PM_TextPen      (ULONG) A pen number for the text. You are
                        responsible for allocating/deallocating a pen
                        yourself.
  PM_Shadowed     (BOOL) Give the the text a shadow using SHADOWPEN.

  PM_CommKey      (STRPTR) Keyboard shortcut for this item.
          Only the first character will be used. This is a
          string pointer just to make it easier to use locale
          strings for the shortcuts.

   RETURNS
        Returns a pointer to an item if successful.

   SEE ALSO

             PM_MakeMenuA()

             PM_MakeIDListA()

             PM_ExLstA()

             PM_OpenPopupMenuA()
```

1.18   pm_makemenua

```
             NAME
     PM_MakeMenu -- Create a new menu list.

 SYNOPSIS
     menu = PM_MakeMenuA(taglist);
     d0                  a1

     struct PopupMenu *PM_MakeMenuA(struct TagItem *tags);

menu = PM_MakeMenu(tag1, ...);

struct PopupMenu *PM_MakeMenu(ULONG, ...);

 FUNCTION
     This function is used to link menu items returned by

             PM_MakeItemA()
             .

 INPUTS
     taglist - pointer to a taglist listing your menu items.

 TAGS
     PM_Item - pointer to a menuitem returned from
             PM_MakeItemA()
             .

 RETURNS
     Returns a pointer to a list of items if successful.

 SEE ALSO

             PM_MakeItemA()
```

1.19 pm_openpopupmenua

```
             NAME
     PM_OpenPopupMenuA -- Open a popup menu.

 SYNOPSIS
     userdata = PM_OpenPopupMenuA(prevwnd, taglist);
     d0                           a1        a2

     ULONG PM_OpenPopupMenuA(struct Window *prevwnd, struct TagItem *tags);

userdata = PM_OpenPopupMenu(prevwnd, tag1, ...);

ULONG PM_OpenPopupMenu(struct Window *, ULONG, ...);

 FUNCTION
     This function is used to open a popup menu based on an item list
     created with
             PM_MakeMenuA()
             .
```

```
INPUTS
     prevwnd - pointer to parent window, used to find out screen, font
               and other drawing attributes.
     taglist - pointer to a taglist of menu options.

TAGS
     PM_Menu              (struct PopupMenu *) Pointer to a menu list
                          created by
          PM_MakeMenuA()
               .

     PM_RecessSelected   OBSOLETE!
     PM_WideSelectBar    OBSOLETE!
     PM_Compact          OBSOLETE!
     PM_SubMenuTimer     OBSOLETE!
     PM_OldLook          OBSOLETE!
     PM_SameHeight       OBSOLETE!
     PM_CheckMark        OBSOLETE!
     PM_ExcludeMark      OBSOLETE!
     PM_SubMenuMark      OBSOLETE!
     PM_SmartRefresh     OBSOLETE!

     PM_Left              (ULONG) Horizontal position of the menu, relative
          to the menus left edge. (V3)

     PM_Top               (ULONG) Vertical position of the menu, relative
          to the menus top edge. (V3)

 PM_Code        (UWORD) The contents of the Code field of the
        IntuiMessage structure. Used to find out if the
        mousebutton was pressed or released, so the user
        can specify in the preferences if she/he want the
        menu to open when the button is pressed or
        released. Must always be specified!

 PM_PullDown     (BOOL) Turn the menu into a pulldown menu. (V5.1)

 PM_MenuHandler      (struct Hook *) Menu handler function (hook). (V6.0)


 RETURNS
     Returns the value of UserData of the selected item, if no item
     was selected, NULL is returned.

 SEE ALSO

          PM_MakeMenuA()
```

1.20 pm_setitemattrsa

```
                NAME
 PM_SetItemAttrsA -- Specify attribute values for an object. (V3)

  SYNOPSIS
```

```
result = PM_SetItemAttrsA(item, tags);
D0                        A2     A1


ULONG PM_SetItemAttrsA(struct PopupMenu *, struct TagItem *);


result = PM_SetItemAttrs(item, tag1, ...);


ULONG PM_SetItemAttrs(struct PopupMenu *, ULONG, ...);
```

 FUNCTION
Specifies a set of attribute/value pairs with meaning as
defined in libraries/pm.h.
item can be directly taken from
              PM_FindItem()
               as the input is
checked against NULL pointers.

 EXAMPLE

```
struct PopupMenu *menu;

....
/* Initialize the menu... */
....

PM_SetItemAttrsA( PM_FindItem( menu, itemid ),
  PM_Checkit, TRUE,
  PM_Checked, TRUE,
  TAG_DONE);
```

 INPUTS
item = pointer to a popup menu item.
tags = array of TagItem structures with attribute/value pairs.

 RESULT
Returns the number of successfully changed attributes.

 SEE ALSO

1.21 Macros Example

```
struct PopupMenu *menu;

/*
 Creating a menu with the macros...
*/

menu = PMMenu("The title of the menu"),
 End;

/*
 Creating a menu like the one above, but with items...
*/
```

```
menu = PMMenu("The menu title"),
    PMItem("The item text"),
      /* Tags for the item */
    End,
    PMItem("The item text (2)"),
      /* Tags for the item */
    End,
  End;

/*
 Creating a sub-menu for an item...
*/

menu = PMMenu("The menu title"),
    PMItem("Item with submenu"),
      PMSimpleSub,
        /* Here are the items... */
      End,
    End,
  End;

/*
 Creating an exclude ID list for PMExclude can be done in two ways.
 This is the first:
*/

 PM_Exclude,
    PMExl ExID(1),
      ExID(2),
 End,

/*
 This is the second way:
*/

 PM_Exclude, PM_ExLst(1, 2, 3, 0), End,
```