

Window

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Chapter 1

Window

1.1 Window V1.00

PureBasic Window library V1.00

'Window' signifie 'Fenêtre' en français et comme vous le savez probablement, c'est le composant essentiel d'une interface graphique actuelle. Cette bibliothèque va vous permettre de manipuler ces fenêtres avec une facilité extrême.

Commandes disponibles:

ActivateWindow
BusyPointer
CloseWindow
DetachGadgetList
DetachMenu
EventCode
EventGadget
EventQualifier
EventWindow
InitWindow
MoveWindow
OpenWindow
SizeWindow
UseWindow

WindowEvent
WindowID
WindowInnerHeight
WindowInnerWidth
WindowWidth
WindowHeight
WindowX
WindowY
WindowRastPort
WindowMouseX
WindowMouseY
Exemple:

Window

1.2 eventcode

Syntaxe

```
Code.l = EventCode()
```

Résumé

Après avoir appelé la fonction

```
WindowEvent()
```

, vous pouvez appelé cette

fonction pour avoir des informations complémentaires sur le dernier gadget.
qui a été utilisé.

Voici les correspondances entre EventCode et les types de gadgets:

- + CheckBox: EventCode() retourne soit 1 si la case est cochée, soit 0 sinon.
- + Palette : EventCode() retourne le numéro de la couleur sélectionnée.
- + Integer : EventCode() retourne le nombre contenu dans le gadget
- + Option : EventCode() retourne l'index de l'élément sélectionné.
- + ListView: EventCode() retourne l'index de l'élément sélectionné.
- + Slider : EventCode() retourne la position actuelle du slider.

1.3 eventgadget

Syntaxe

```
Gadget = EventGadget()
```

Résumé

Après avoir appelé la fonction

```
WindowEvent()
```

, cette fonction renvoie

l'identifiant numérique du gadget ou du menu qui a été sélectionné (si un gadget ou un menu a été sélectionné).

1.4 eventwindow

Syntaxe

```
Window = EventWindow()
```

Résumé

Après avoir appelé la fonction

```
WindowEvent()
```

, cette fonction renvoie

l'identifiant numérique de la fenêtre sur laquelle l'événement a eu lieu.

1.5 waitwindowevent

Syntaxe

```
IDCMP.l = WaitWindowEvent
```

Résumé

1.6 windowevent

Syntaxe

```
IDCMP.l = WindowEvent()
```

Résumé

Vérifie si un événement a eu lieu depuis le dernier appel de cette fonction.

Si le résultat 'IDCMP' n'est pas NUL, alors un événement a été détecté et le type de l'événement est contenu dans 'IDCMP'.

IDCMP Principaux: #IDCMP_GADGETUP (un gadget a été utilisé)

#IDCMP_CLOSEWINDOW (le gadget de fermeture de la fenêtre a été ↵
pressé)

#IDCMP_MENUPICK (un menu a été sélectionné)

Pour la liste complète des 'IDCMP', cliquez ici:

IDCMP

Exemple:

```
InitWindow(0)
InitTagList(2)

ResetTagList(#WA_IDCMP, #IDCMP_CLOSEWINDOW | #IDCMP_MENUPIK | #IDCMP_GADGETUP)
If OpenWindow(0, 100, 100, 100, 100, #WFLG_CLOSEGADGET, TagListID())

Repeat

Repeat                                     ; Attend qu'un événement se manifeste...
  VWait()                                   ;
  IDCMP.l = WindowEvent()                  ;
Until IDCMP                                 ;

Until IDCMP = #IDCMP_CLOSEWINDOW ; Si on presse sur le bouton de fermeture de ←
  la fenetre..

Endif

End
```

1.7 detachgadgetlist

Syntaxe

```
DetachGadgetList()
```

Résumé

Détache la liste des gadgets de la fenêtre courante (si la fenêtre en a une). L'affichage de la fenêtre n'est pas actualisé, donc les gadgets seront toujours visibles, mais inutilisables.

Vous pouvez utiliser la combinaison de `DetachGadgetList()/AttachGadgetList()` pour changer la disposition des gadgets d'une fenêtre sans avoir à la fermer.

1.8 openwindow

Syntaxe

```
WindowID.l = OpenWindow(#Window, x, y, Width, Height, Flags, TagList)
```

Résumé

Ouvre une nouvelle fenêtre en accord avec les paramètres spécifiés. Cette devient la fenêtre courante. Si le résultat 'WindowID' est NUL alors la fenêtre n'a pas pu être ouverte.

`#Window`: Identifiant numérique de la nouvelle fenêtre.

`x,y`: coordonnées de la position de la fenêtre sur l'écran.

`Width`: Largeur de la fenêtre.

`Height`: Hauteur de la fenêtre.

Flags: Paramètres booléens pour l'ouverture de la fenêtres. Pour la liste complète des 'flags' disponibles, lisez la section 'These booleans Tags items are...' un peu plus bas dans cette page.

TagList: Indentifiant de la 'taglist' contenant les paramètres supplémentaires de la fenêtre. Pour obtenir rapidement cet identifiant, vous pouvez utiliser la fonction TagListID() .

Tags disponibles:

```
#WA_Left
#WA_Top
#WA_Width
#WA_Height
#WA_DetailPen    - NOTE: only overrides NewWindow.DetailPen of -1!
#WA_BlockPen     - NOTE: only overrides NewWindow.BlockPen of -1!
#WA_IDCMP
#WA_Flags        - initial values for Flags before looking at other
                  Boolean component Tag values

#WA_Gadgets
#WA_Title
#WA_CustomScreen - also implies CUSTOMSCREEN property
#WA_SuperBitMap  - also implies #WFLG_SUPER_BITMAP refresh mode.
#WA_MinWidth
#WA_MinHeight
#WA_MaxWidth
#WA_MaxHeight
```

These Boolean tag items are alternatives to the NewWindow.Flags Boolean attributes with similar names.

```
#WA_SizeGadget    - equivalent to #WFLG_SIZEGADGET
#WA_DragBar       - equivalent to #WFLG_DRAGBAR
#WA_DepthGadget   - equivalent to #WFLG_DEPTHGADGET
#WA_CloseGadget   - equivalent to #WFLG_CLOSEGADGET
#WA_Backdrop      - equivalent to #WFLG_BACKDROP
#WA_ReportMouse   - equivalent to #WFLG_REPORTMOUSE
#WA_NoCareRefresh - equivalent to #WFLG_NOCAREREFRESH
#WA_Borderless    - equivalent to #WFLG_BORDERLESS
#WA_Activate      - equivalent to #WFLG_ACTIVATE
#WA_RMBTrap       - equivalent to #WFLG_RMBTRAP
#WA_WBenchWindow  - equivalent to #WFLG_WBENCHWINDOW
                  (system PRIVATE)
#WA_SimpleRefresh - only specify if TRUE
#WA_SmartRefresh  - only specify if TRUE
#WA_SizeBRight    - equivalent to #WFLG_SIZEBRIGHT
#WA_SizeBBottom   - equivalent to #WFLG_SIZEBBOTTOM
#WA_GimmeZeroZero - equivalent to #WFLG_GIMMEZEROZERO
#WA_NewLookMenus  - equivalent to #WFLG_NEWLOOKMENUS
```

The following tag items specify new attributes of a window.

```
#WA_ScreenTitle - You can specify the screen title associated
                  with your window this way, and avoid a call to SetWindowTitles()
                  when your window opens.
```


#WA_AutoAdjust - a Boolean attribute which says that it's OK to move or even shrink the dimensions of this window to fit it on the screen, within the dimension limits specified by MinWidth and MinHeight. Someday, this processing might be sensitive to the currently visible portion of the screen the window will be opening on, so don't draw too many conclusions about the auto-adjust algorithms. (Normally, this attribute defaults to FALSE. However, if you call OpeWindowTags() or OpeWindowTagList() with a NULL NewWindow pointer, this attribute defaults to TRUE).

#WA_InnerWidth

#WA_InnerHeight - You can specify the dimensions of the interior region of your window, independent of what the border thicknesses will be. You probably want to specify #WA_AutoAdjust to allow Intuition to move your window or even shrink it so that it is completely on screen.

Note: using these tags puts some reasonable restrictions on the gadgets you can specify as "border" gadgets when you open your window. Since border gadgets determine the border dimensions and hence the overall dimensions of your window, those dimensions cannot be used calculating the position or dimensions of border gadgets.

Here's the complete list of restrictions:

- #GACT_LEFTBORDER gadgets cannot be GFLG_RELWIDTH if #WA_InnerWidth is used ←
- #GACT_RIGHTBORDER gadgets MUST be GFLG_RELRIGHT if #WA_InnerWidth is used.
- #GACT_TOPBORDER gadgets cannot be GFLG_RELHEIGHT if #WA_InnerHeight is ← used.
- #GACT_BOTTOMBORDER gadgets MUST be GFLG_RELBOTTOM if #WA_InnerHeight is ← used.

#WA_PubScreenName - This tag item declares that you want your window to open as a visitor window on the public screen whose name is pointed to by (UBYTE *) ti_Data.

#WA_PubScreen - Open as a visitor window on the public screen whose address is provided as (struct Screen *) ti_Data. To ensure that this screen remains open long enough, you must either:

- 1) Be the screen's owner
- 2) have another window already open on the screen
- 3) use LockPubScreen()

Using exec.library/Forbid() is not sufficient.

You can provide ti_Data to be NULL (zero), without any of the above precautions, to specify the default public screen.

#WA_PubScreenFallback - This Boolean attribute specifies that a visitor window should "fall back" to opening on the default public screen if the explicitly specify public screen is not available.

#WA_WindowName - this visionary specification of a window rendezvous name string is not yet implemented.

#WA_Colors - this equally great idea about associating a palette specification with the active window may not ever be implemented.

#WA_Zoom - ti_Data points to an array of four WORD's to be used as the initial Left/Top/Width/Height of the "alternate Zoom position and dimensions." The presence of this tag item implies that you want a Zoom gadget, even though you might not have a sizing gadget.
New for V39: if the initial zoom-box left and top are both set to ~0, then Intuition will give your window "size-only" zooming, meaning that zooming the window will not affect the left/top unless the window needs to be moved on-screen.

#WA_MouseQueue - This tag specifies a limit for the number of outstanding IDCMP_MOUSEMOVE IntuiMessages that Intuition will send to your window. You can change the value of this limit after the window is open using SetMouseQueue().

#WA_RptQueue - This tag specifies a limit for the number of outstanding repeated-IDCMP_RAWKEY, repeated-IDCMP_VANILLAKEY, and repeated-IDCMP_IDCMPUPDATE IntuiMessages that Intuition will send to your window. Currently, there is no function to adjust the repeat-key queue.

#WA_BackFill - ti_Data is a pointer to a Hook structure that the Layers library will call when your window needs "backfilling." See layers.library/InstallLayerHook().

#WA_MenuHelp - ti_Data is a boolean. If true, enables the MenuHelp feature for this window. See IDCMP_MENUHELP above. (V37)

#WA_NotifyDepth - ti_Data is a boolean. Set to true if you would also like IDCMP_CHANGEWINDOW events sent to your window when it is depth-arranged. Normally, such events are only sent for movement or resizing of the window. IDCMP_CHANGEWINDOW events originating from depth-arrangement have a Code equal to CWCODE_DEPTH, as opposed to CWCODE_MOVESIZE. (V39)

#WA_Checkmark - (ti_Data is struct Image *) Image to use as a checkmark in menus. Prior to V39, or if #WA_NewLookMenus is not specified, the default will be the traditional checkmark in the original colors. Under V39 and higher, if you have requested #WA_NewLookMenus then the default will be an appropriately colored checkmark scaled to the screen's font. Alternately, you can provide a custom one, which you can~design yourself or get from sysiclass (use this if your menu-font is different from the screen's font).

#WA_AmigaKey - (ti_Data is struct Image *) Image to use as the Amiga-key symbol in menus. If #WA_NewLookMenus is not specified, the default will be the traditional Amiga-key

symbol in the original colors. If you've requested `#WA_NewLookMenus`, then the default will be an appropriately colored Amiga-key scaled to the screen's font. Alternately, you can provide a custom one, which you can design yourself or get from `sysiclass` (use this if your `menu-font` is different from the screen's font). (V39)

`#WA_Pointer` - (APTR) The pointer you wish to associate with your window. If `NULL`, you are requesting the Preferences default pointer. Custom pointers should be allocated by performing a `NewObject()` on "pointerclass". (See `<intuition/pointerclass.h>`). Defaults to `NULL`. This tag is also recognized by `SetWindowPointerA()`. (V39)

`#WA_BusyPointer` (BOOL) - Set to `TRUE` to request the Preferences busy-pointer. If `FALSE`, your pointer will be as requested by `#WA_Pointer`. Defaults to `FALSE`. This tag is also recognized by `SetWindowPointerA()`. (V39)

`#WA_PointerDelay` - (BOOL) Set to `TRUE` to defer changing your pointer for a brief instant. This is typically used along with setting the busy pointer, especially when the application knows it may be busy for a very short while. If the application clears the pointer or sets another pointer before the delay expires, the pending pointer change is cancelled. This reduces short flashes of the busy pointer. This tag is also recognized by `SetWindowPointerA()`. (V39)

`#WA_HelpGroup` - (ULONG) Normally, only the active window can receive `IDCMP_GADGETHELP` messages. However, an application with multiple windows will want all its windows to be able to receive help when any of them are active. First obtain a unique help ID with `utility.library/GetUniqueID()`, then pass it as `ti_Data` of this tag to all your windows. See `HelpControl()`. (V39)

`#WA_HelpGroupWindow` - (struct Window *) Instead of using `#WA_HelpGroup`, you can pass a pointer to another window whose `HelpGroup` you wish this window to belong to. (V39)

`#WA_TabletMessages` - (BOOL) Set to `TRUE` to request extended `IntuiMessages` for your window. If a tablet driver is generating `IESUBCLASS_NEWTABLET` input events, you will be able to receive extended tablet information with most `IntuiMessages`. See the `eim_TabletData` field of the `ExtIntuiMessage` structure. Defaults to `FALSE`. (V39)

1.9 windowmousex

Syntaxe

```
x.w = WindowMouseX()
```

Résumé

Retourne la position de la souris par rapport au bord gauche de la fenêtre. Donc cette valeur peut être négative, si la souris se

trouve de l'autre coté du bord.

1.10 windowmousey

Syntaxe

```
y.w = WindowMouseY()
```

Résumé

Retourne la position de la souris par rapport au bord supérieur de la fenêtre. Donc cette valeur peut être négative, si la souris se trouve de l'autre coté du bord.

1.11 windowwidth

Syntaxe

```
width.w = WindowWidth()
```

Résumé

Retourne la largeur de la fenêtre courante.

1.12 windowheight

Syntaxe

```
height.w = WindowHeight()
```

Résumé

Retourne la hauteur de la fenêtre courante.

1.13 windowx

Syntaxe

```
x.w = WindowX()
```

Résumé

Retourne la position du bord gauche de la fenêtre courante par rapport au bord gauche de l'écran.

1.14 windowy

Syntaxe

```
y.w = WindowY()
```

Résumé

Retourne la position du bord supérieur de la fenêtre courante par rapport au bord supérieur de l'écran.

1.15 windowrastport

Syntaxe

```
rastport.l = WindowRastPort()
```

Résumé

Retourne la valeur du 'RastPort' de la fenêtre courante. Cette adresse est nécessaire pour certaines autres fonctions du PureBasic comme par exemple les fonctions de la bibliothèque '2D Drawing'. Ne vous inquiétez pas si vous ne savez pas ce qu'est réellement un RastPort, ça n'a que peu d'importance. Il faut juste retenir que c'est un identifiant permettant de savoir où les graphiques vont être dessinés.

1.16 movewindow

Syntaxe

```
MoveWindow(x,y)
```

Résumé

Déplace la fenêtre courante à la position donnée.

x,y: nouvelles coordonnées de la fenêtre.

1.17 sizewindow

Syntaxe

```
SizeWindow(width, height)
```

Résumé

Change la taille de la fenêtre courante.

Width: nouvelle largeur de la fenêtre

Height: nouvelle hauteur de la fenêtre

1.18 activatwindow

Syntaxe

```
ActivateWindow()
```

Résumé

Rend la fenêtre courante 'active', comme si vous aviez cliqué dessus avec la souris.

1.19 usewindow

Syntaxe

```
UseWindow(#Window)
```

Résumé

Change la fenêtre courante par celle spécifiée.

#Window: Identifiant numérique de la nouvelle fenêtre courante.

1.20 closewindow

Syntaxe

```
CloseWindow(#Window)
```

Résumé

Ferme la fenêtre spécifiée.

#Window: Identifiant numérique de la fenêtre à fermer.

1.21 initwindow

Syntaxe

```
Resultat.l = InitWindow(#NumWindowMax)
```

Résumé

Initialise l'environnement nécessaire à la gestion des fenêtres. Vous devez appeler cette fonction avant les autres fonctions de cette bibliothèque. Si le 'Resultat' est NUL, alors l'environnement n'a pas pu être créé.

#NumWindowMax: Nombre maximal de fenêtres à gérer.

1.22 windowid

Syntaxe

```
WindowID.l = WindowID()
```

Résumé

Retourne l'identifiant de la fenêtre, nécessaire aux autres bibliothèques PureBasic. Cet identifiant est en fait le pointeur Intuition de la fenêtre en mémoire.

1.23 busypointer

Syntaxe

```
BusyPointer(State)
```

Résumé

Change le pointeur normal de la souris en pointeur d'attente (petite horloge).

State: Si State=1, alors le pointeur d'attente sera affiché.
Si State=0, alors le pointeur normal est affiché.

1.24 windowinnerheight

Syntaxe

Résultat.w = WindowInnerHeight()

Résumé

Retourne la hauteur de la zone interne de la fenêtre (sans la bordure).

1.25 windowinnerwidth

Syntaxe

Résultat.w = WindowInnerWidth()

Résumé

Retourne la largeur de la zone interne de la fenêtre (sans la bordure).

1.26 detachmenu

Syntaxe

DetachMenu()

Résumé

Detach le menu de la fenêtre courante. Vous pouvez alors modifier le menu et le ré-attacher à la fenêtre.

1.27 eventqualifier

Syntaxe

Qualifier = EventQualifier()

Résumé

Retourne la valeur du 'Qualifier' en français 'Modificateur' qui permet de savoir si une touche modificatrice (Shift, Control, Alt...) a été appuyé en même temps que la dernière touche pressée.

1.28 idcmp

IDCMP est un acronyme anglais pour: 'Intuition Direct Communication Message Port ←

Explication: L'interface graphique de l'Amiga (dénommée 'Intuition') communique ses évènements (activation d'une fenêtre, touche du clavier ← pressée, gadget appuyé,) au reste du système via des 'Message Port'. Ces ports de communication sont en fait des listes d'attentes dans ← lesquels Intuition écrit ses événements et où les autres bibliothèques Amiga ont accès. Chaque fenêtre a son propre port de communication. Chaque type d'événement a sa propre valeur, c'est ce qu'on appelle la valeur IDCMP. Pour plus de facilité, chaque valeur a été ← associée à une constante représentant le type du message. Ces constantes se trouvent dans le fichier résident 'AmigaOS'.

IDCMP Description:

- #IDCMP_NEWSIZE is the flag that tells Intuition to send an IDCMP message to you after the user has resized your window. At this point, you could examine the size variables in your window structure to discover the new size of the window. See also the #IDCMP_CHANGEWINDOW IDCMP flag.
 - #IDCMP_REFRESHWINDOW when set will cause a message to be sent whenever your window needs refreshing. This flag makes sense only with #WFLG_SIMPLE_REFRESH and #WFLG_SMART_REFRESH windows.
 - #IDCMP_MOUSEBUTTONS will get reports about mouse-button up/down events broadcast to you (Note: only the ones that don't mean something to Intuition. If the user clicks the select button over a gadget, Intuition deals with it and you don't find out about it through here).
 - #IDCMP_MOUSEMOVE will work only if you've set the #WFLG_REPORTMOUSE flag above, or if one of your gadgets has the #GACT_FOLLOWMOUSE flag set. Then all mouse movements will be reported here, providing your window is active.
 - #IDCMP_GADGETDOWN means that when the User "selects" a gadget you've created with the #GACT_IMMEDIATE flag set, the fact will be broadcast through the IDCMP.
 - #IDCMP_GADGETUP means that when the user "releases" a gadget that you've created with the #GACT_RELVERIFY flag set, the fact will be broadcast through the IDCMP. This message is only generated if the release is "good", such as releasing the select button over a Boolean gadget, or typing ENTER in a string gadget.
 - #IDCMP_MENUPICK selects that menu number data will be sent via the IDCMP.
-

- #IDCMP_CLOSEWINDOW means broadcast the #IDCMP_CLOSEWINDOW event through the IDCMP rather than the console.
- #IDCMP_RAWKEY selects that all #IDCMP_RAWKEY events are transmitted via the IDCMP. Note that these are absolutely RAW keycodes, which you will have to translate before using. Setting this and the MOUSE flags effectively eliminates the need to open a Console device to get input from the keyboard and mouse. Of course, in exchange you lose all of the console features, most notably the "cooking" of input data and the systematic output of text to your window.
- #IDCMP_VANILLAKEY is for developers who don't want the hassle of #IDCMP_RAWKEYS. This flag will return all the keycodes after translation via the current country-dependent keymap. When you set this flag, you will get IntuiMessages where the Code field has a decoded ANSI character code representing the key struck on the keyboard. Only codes that map to a single character are returned: you can't read such keys as HELP or the function keys with #IDCMP_VANILLAKEY.

NEW FOR V36: If you have both #IDCMP_RAWKEY and #IDCMP_VANILLAKEY set, Intuition will send an #IDCMP_RAWKEY event for those *downstrokes* which do not map to single-byte characters ("non-vanilla" keys). In this way you can easily detect cursor keys, function keys, and the Help key without sacrificing the convenience of #IDCMP_VANILLAKEY. NB: A side-effect of having both #IDCMP_RAWKEY and #IDCMP_VANILLAKEY set is that you never hear #IDCMP_RAWKEY upstrokes, even for keys that caused #IDCMP_RAWKEY downstrokes.

- #IDCMP_INTUITICKS gives you simple timer events from Intuition when your window is the active one; it may help you avoid opening and managing the timer device. With this flag set, you will get only one queued-up INTUITICKS message at a time. If Intuition notices that you've been sent an #IDCMP_INTUITICKS message and haven't replied to it, another message will not be sent. Intuition receives timer events and considers sending you an #IDCMP_INTUITICKS message approximately ten times a second.
- #IDCMP_DELTAMOVE gives raw (unscaled) input event delta X/Y values. This is so you can detect mouse motion regardless of screen/window/display boundaries. This works a little strangely: if you set both #IDCMP_MOUSEMOVE and #IDCMP_DELTAMOVE. IDCMPFlags, you will get #IDCMP_MOUSEMOVE messages with delta x/y values in the MouseX and MouseY fields of the IDCMPMessage.
- #IDCMP_NEWPREFS indicates you wish to be notified when the system-wide Preferences changes. For V36, there is a new environment mechanism to replace Preferences, which we recommend you consider using instead.
- Set #IDCMP_ACTIVEWINDOW and #IDCMP_INACTIVEWINDOW to get messages when those events happen to your window. Take care not to confuse this "ACTIVEWINDOW" with the familiar sounding, but

totally different "WINDOWACTIVE" flag. These two flags have been supplanted by "#IDCMP_ACTIVEWINDOW" and "#WFLG_WINDOWACTIVE". Use the new equivalent terms to avoid confusion.

- Set #IDCMP_DISKINSERTED or #IDCMP_DISKREMOVED to learn when removable disks are inserted or removed, respectively.
- #IDCMP_IDCMPUPDATE is a new class for V36 which is used as a channel of communication from custom and boopsi gadgets to your application.
- #IDCMP_CHANGEWINDOW is a new class for V36 that will be sent to your window whenever its dimensions or position are changed by the user or the functions SizeWindow(), MoveWindow(), ChangeWindowBox(), or ZipWindow().
- #IDCMP_MENUHELP is new for V37. If you specify the #WA_MenuHelp tag when you open your window, then when the user presses the HELP key on the keyboard during a menu session, Intuition will terminate the menu session and issue this even in place of an #IDCMP_MENUPICK message.
- NEVER follow the NextSelect link for MENUHELP messages.
- You will be able to hear MENUHELP for ghosted menus. (This lets you tell the user why the option is ghosted.)
- Be aware that you can receive a MENUHELP message whose code corresponds to a menu header or an item that has sub-items (which does not happen for MENUPICK). The code may also be MENUNULL.
- LIMITATION: if the user extend-selects some checkmarked items with the mouse, then presses MENUHELP, your application will only hear the MENUHELP report. You must re-examine the state of your checkmarks when you get a MENUHELP.
- Availability of MENUHELP in V36 is not directly controllable. We apologize...
- #IDCMP_GADGETHELP is new for V39. If you turn on gadget help for your window (using the HelpControl()) function, then Intuition will send #IDCMP_GADGETHELP messages when the mouse passes over certain gadgets or your window. The IntuiMessage->Code field is normally ~0, but a boopsi gadget can return any word value it wishes.

Ordinarily, gadget help is only processed for the active window. When Intuition has determined that the mouse is pointing at a gadget which has the GMORE_GADGETHELP property, you will be sent an #IDCMP_GADGETHELP message whose IAddress points to the gadget. When the mouse is over your window but not over any help-aware gadget, you will be sent a message whose IAddress is the window itself. When the mouse is not over your window, Intuition sends a message whose IAddress is zero.

A multi-window application can use the #WA_HelpGroup or #WA_HelpGroupWindow tags to indicate that all its windows belong in a group. (The help group identifier should be obtained with utility.library/GetUniqueID().) This makes

Intuition test gadget help in all windows of the group when any one of them is the active one. Inactive windows whose #WA_HelpGroup matches the active window's receive #IDCMP_GADGETHELP messages when the mouse is over that window or any of its help-aware gadgets. The GADGETHELP message with an IAddress of zero means the mouse is not over the active window or any other window of the same group. It is always sent to the active window (which is not necessarily the window in your group that last got a message).

To maximize performance, gadget help is not checked while the mouse is travelling quickly, or if it has not moved at all since the last test. As well, if Intuition discovers that the mouse is still over same gadget and that gadget does not wish to send a different IntuiMessage->Code from the last message, no new IntuiMessage is sent.

- #IDCMP_REQVERIFY is the flag which, like #IDCMP_SIZEVERIFY and ...
 - #IDCMP_MENUVERIFY (see immediately below), specifies that you want to make sure that your graphical state is quiescent before something extraordinary happens. In this case, the extraordinary event is that a rectangle of graphical data is about to be blasted into your Window. If you're drawing directly into its screen, you probably will wish to make sure that you've ceased drawing before the user is allowed to bring up the DMRequest you've set up, and the same for when system has a request for the user. Set this flag to ask for that verification step.
 - #IDCMP_REQCLEAR is the flag you set to hear a message whenever a requester is cleared from your window. If you are using #IDCMP_REQVERIFY to arbitrate access to your screen's bitmap, it is safe to start your output once you have heard an #IDCMP_REQCLEAR for each #IDCMP_REQSET.
 - #IDCMP_REQSET is a flag that you set to receive a broadcast for each requester that is opened in your window. Compare this with #IDCMP_REQCLEAR above. This function is distinct from #IDCMP_REQVERIFY. This functions merely tells you that a requester has opened, whereas #IDCMP_REQVERIFY requires you to respond before the requester is opened.
 - #IDCMP_MENUVERIFY is the flag you set to have Intuition stop and wait for you to finish all graphical output to your window before rendering the menus. Menus are currently rendered in the most memory-efficient way, which involves interrupting output to all windows in the screen before the menus are drawn. If you need to finish your graphical output before this happens, you can set this flag to make sure that you do.
 - #IDCMP_SIZEVERIFY means that you will be doing output to your window which depends on a knowledge of the current size of the window. If the user wants to resize the window, you may want
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to make sure that any queued output completes before the sizing takes place (critical text, for instance). If this is the case, set this flag. Then, when the user wants to size, Intuition will send you the #IDCMP_SIZEVERIFY message and Wait() until you reply that it's OK to proceed with the sizing. NOTE: when we say that Intuition will Wait() until you reply, what we're really saying is that user will WAIT until you reply, which suffers the great negative potential of User-Unfriendliness. So remember: use this flag sparingly, and, as always with any IDCMP Message you receive, reply to it promptly! Then, after user has sized the window, you can find out about it using #IDCMP_NEWSIZE.