

MrWindow

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2 Getting Started

The first step is to let IDL know where MrWindow is. There are several options.

1. Restore 'MrWindow.sav'
`restore , '[path_to_MrWindow_Directory]/MrWindow.sav'`
2. Compile all of the files individually
 - (a) Change directories to the MrWindow directory

- (b) Start idl with the following command:

```
idl compile_mrwindow
```

3. Add the MrWindow directory and its subdirectories to the IDL path

- (a) Unix:

```
!path + ':' + expand_path('+[path]/MrWindow/')
```

- (b) Windows:

```
!path = !path + ';' + expand_path('+[path]\MrWindow\')
```

4. Edit the system variable `IDL_PATH` to include the MrWindow directory
5. Create a `startup.pro` file containing the lines in step (2)

3 Thorough Example

The goal of this example is to show how easy it is to add plottable objects to a MrWindow window. These objects can be manipulated in many useful ways.

3.1 Creating an empty MrWindow

It is easy to create a new MrWindow. Just type:

```
myWindow = obj_new('MrWindow')
```

3.2 Plot a Sine Wave

```
x = findgen(101)/100
```

```
y = sin(2*pi*x)
```

```
myWindow -> Plot, x, y, TITLE='Sin(x)', YTITLE='Amplitude', XTITLE=
```

3.3 Add Another Plot

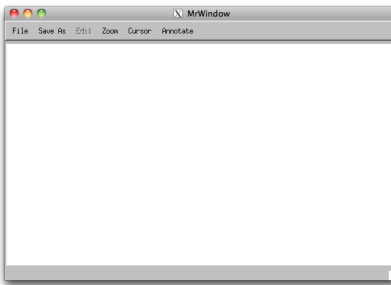


Figure 1: A new MrWindow.

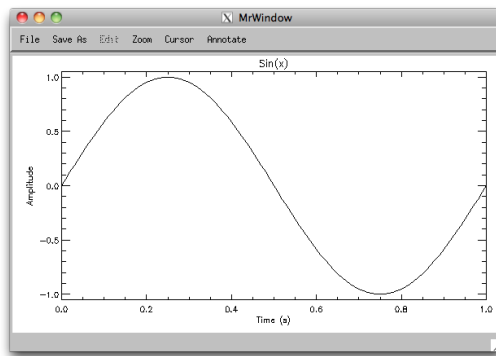


Figure 2: A sine wave has now been added to the MrWindow object.

```
x = findgen(101)/100
y = sin(2*!pi*x)
myWindow -> Plot, x, y, TITLE='Oops! Wrong Title', YTITLE='Amplitude', X
```

3.4 Changing Plot Properties

```
;First we need to know the index at which the plot is stored.
myWindow -> whichObjects
```

```
;It is at index 1 and it is a plot
myWindow -> SetProperty, 1, /PLOT, TITLE='Cos(x)', XRange=[0.25, 0.75],
```

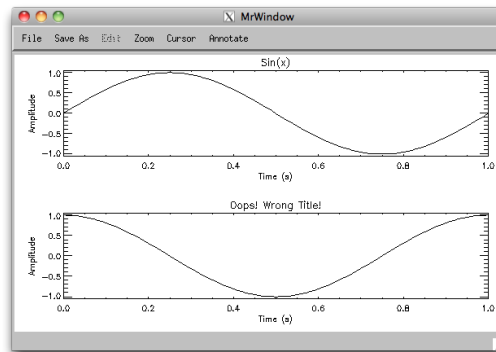


Figure 3: A cosine wave has been added and the sine wave has been moved so that both can fit.

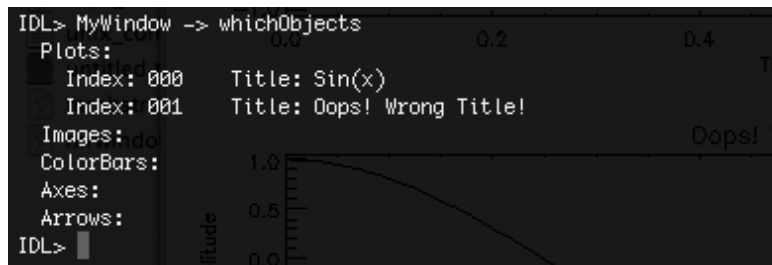


Figure 4: whichObjects shows all of the objects that are displayed, some identifying information, and the index at which they are stored.

3.5 Bind Axes

; 5. Get the object references for each plot and bind their x-axes together so that zoom ; events for one plot apply to all of the bound plots.

```

;Get the object reference for each (they are at indices 0 and 1)
myWindow -> GetProperty, 0, /PLOT, OREF=oSin
myWindow -> GetProperty, 1, /PLOT, OREF=oCos
myWindow -> Bind, oSin, oCos, /XAXIS

```

;Now select an option from the "Zoom" menu and try zooming in the X-direction.

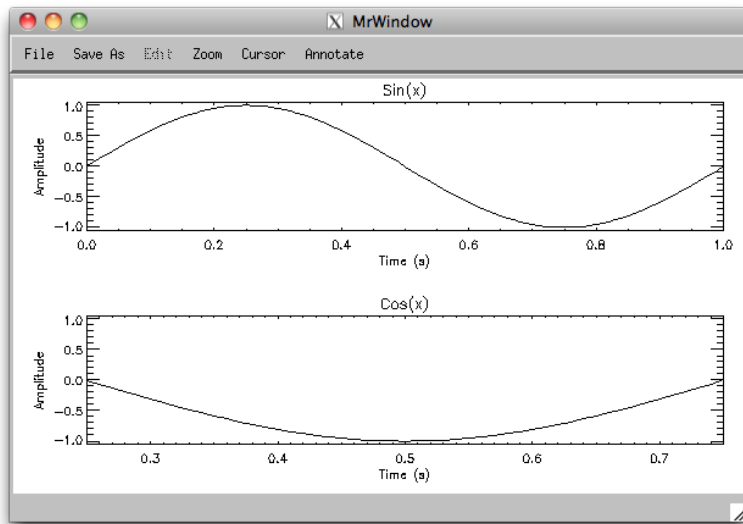


Figure 5: Several properties of the Cosine plot have been changed. Now the title is correct!.

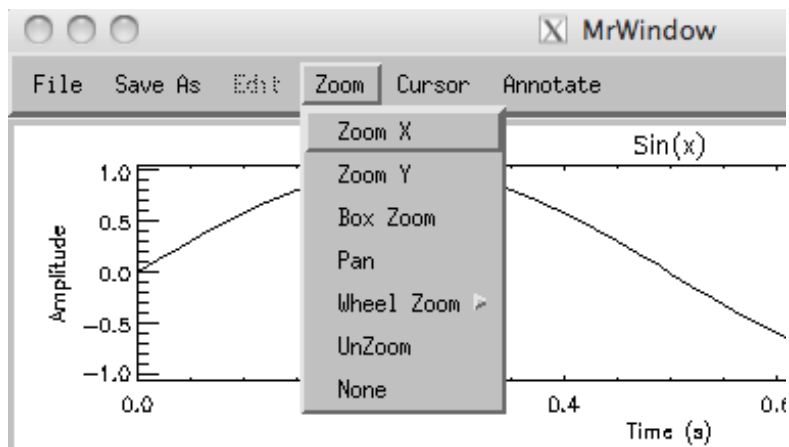


Figure 6: Select an item in the zoom menu, then zoom.

3.6 Add an Image to any Location

```
x = findgen(256)
y = findgen(256)
image = dist(256)
```

```
myWindow -> Image , image , x , y , LOCATION=[2,1] , CTINDEX=17, /SCALE, /IM
TITLE='Dist(256)', XTITLE='X Title'
```

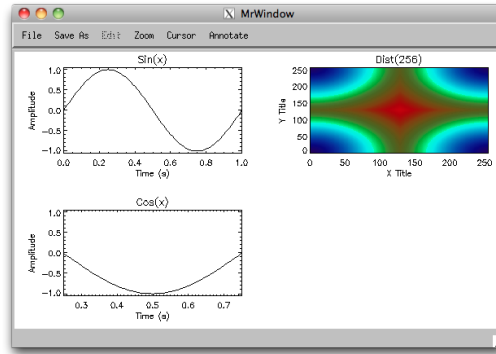


Figure 7: An image has been added to column 1 and row 2.

3.7 Alter Layout

```
myWindow -> SetProperty , XMARGIN=[10,15] , XGAP=8, YGAP=6, /DRAW
```

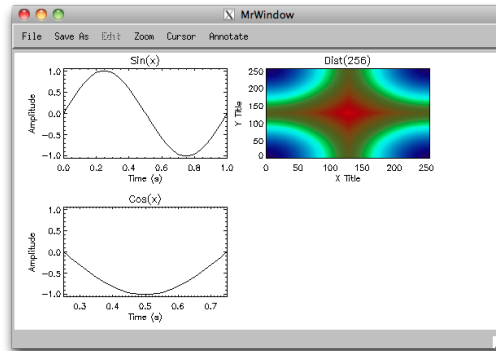


Figure 8: The margins and gaps between plots have been changed.

3.8 Add Colorbar

```
myWindow -> Colorbar , [2,1] , CTINDEX=17, RANGE=[min(image) , max(image)]
```

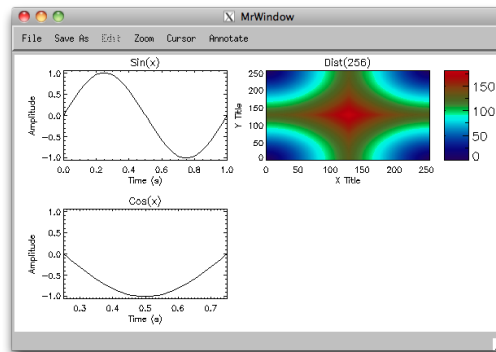


Figure 9: A colorbar has been added to the right of the image.

3.9 Color Zoom

```
;Figure out the indices at which the objects are located
myWindow -> whichObjects
```

Get their object references and bind them

```
myWindow -> GetProperty, 0, /IMAGE, OREF=oImage
myWindow -> GetProperty, 0, /COLORBAR, OREF=oCB
myWindow -> Bind, oImage, oCB, /CAXIS
```

```
;Turn on "Focus" from the "Cursor" menu ;Turn on "Wheel Zoom: Color"
from the "Zoom — Wheel Zoom" menu ;Click on the image ;Make a scroll
event with the mouse wheel
```

3.10 Add *Any* Plottable Object

```
x = findgen(101)/100
y = x^2
myPlot = obj_new('MrPlotObject', x, y, TITLE='y = x^2', XTITLE=x, YTITL
myWindow -> addPlots, myPlot, /DRAW
```