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Subject: Re: Another IDL twist

Posted by [Ben Tupper](#) on Fri, 17 Dec 1999 08:00:00 GMT

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edward.s.meinel@aero.org wrote:

> Does anyone know the rhyme or reason for the calling methods for the  
> built-in IDL READ\_\* procedures? Sometimes it is:  
>

I don't know why, but I do know it drove me bananas. I wrote the following as a wrapper for most of the READ\_\* procedures. It is in the form of a FUNCTION rather than PROCEDURE. I've only tried it on TIFF, JPEG and GIF so far. If you try and have suggestions, please send them along.

Thanks,

Ben

```
;+
; NAME:
; ReadImage
;
; PURPOSE:
; This function returns the 2 or 3 plane image specified by the file keyword.
; The utility of this function is that the user doesn't need to remember which
; image reading procedures are actually fumctions. The user can optionally
; query the image only, or return the query structure and the image.
The _extra
; keyword is applied each of the applicable image input procedures that have keywords.
;
; CATEGORY:
; Input/Output
;
; CALLING SEQUENCE:
; Result = ReadImage()
;
;
;
; INPUTS:
; All inputs are optional keywords. If file is not specified the user is prompted to selected one
;
```

;

; KEYWORD PARAMETERS:

; File: A string specifying the location of the image. If not provided,  
the user  
; is prompted to select a file.

; Query: Set this keyword to a named variable that, on output, will  
contain the info

; structure retruned from the QUERY\_IMAGE fucntion.

; JustQuery: Set this keyword to a non zero scalar to simply return the  
Query structure.

; In this case, Image is returned as -1.

; Red, Green ,Blue: Set these keywords to named variables that, on  
output, contain

; the red, green and blue color vectors stored with the image. If the  
image

; has no color vectors stored these values are undefined.

; ColorTable: Set this keyword to a named varaiable that, on output  
contains the

; the 3,n color table array. This feature is available for JPEG images  
only. If the image

; have a defined colortable stored, this value is undefined.

; \_Extra: This keyword allows the user to set any of the many different  
keywords

; for each image type. See documentation fpor each image type for  
keywords

; that can be passed.

; Cancel: This keyword is set to 1 if the user cancels the  
dialog\_pickfile prompted, it is set to

; 0 (zero) otherwise.

;

; OUTPUTS:

; The ReadImage function returns the image specified by the file  
keyword. If the JUSTQUERY

; keyword is set, the user cancels the Dialog\_PickFIlle prompted, or an  
error occurs then

; the fucntion returns -1.

;

;

;

; COMMON BLOCKS:

; None.

;

; SIDE EFFECTS:

; None known.

;

; RESTRICTIONS:

; Requires the function ParseFileName.

;

; EXAMPLE:

```
; The following returns the image 'c:/images/image.tif', the red, green,  
and blue  
; color tables associated with the image (if any.) Also returned are  
the GeoTiff structure  
; (if the image is GeoTiff format) and the Info Structure returned by  
the  
; function QUERY_TIFF.  
;  
; Result = ReadImage( File='c:/images/image.tif', Red = Red, Green =  
Green, Blue = Blue,$  
; Query= Query, GeoTiff = GeoTiff)  
;  
; MODIFICATION HISTORY:  
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;  
;  
;-
```

```
FUNCTION ReadImage, File=File, $  
Query = Query, _Extra = _Extra, $  
Red=Red, Green = Green, Blue = Blue, ColorTable = ColorTable,$  
JustQuery = JustQuery, cancel = cancel
```

```
Image = -1  
Query = -1  
Cancel = 1
```

```
If n_elements(JustQuery) EQ 0 Then JustQuery = 0  
if n_elements(File) EQ 0 Then File = Dialog_PickFile()
```

```
if File EQ "" Then Begin  
Return, Image  
EndIf
```

```
FileName = StrLowerCase(ParseFileName(File[0]))
```

```
Extension = FileName[2]
```

Case Extension of

```
'bmp': Result = Query_BMP(File, Query)
'dcm': Result = Query_DICOM(File, Query)
'gif': Result = Query_GIF(File, Query)
'jpg': Result = Query_JPEG(File, Query)
'pic': Result = Query_PICT(File, Query)
'png': Result = Query_PNG(File, Query)
'ppm': Result = Query_PPM(File, Query)
'pgm': Result = Query_PPM(File, Query)
'srf': Result = Query_SRF(File, Query)
'tif': Result = Query_TIFF(File, Query)
```

EndCase

If Result EQ 0 Then Return, Image

Cancel = 0

```
If (JustQuery NE 0) Then Begin
    Return, Image
EndIf
```

Case Extension of

```
'bmp': Image = Read_BMP(File, Red, Green, Blue, _Ihdr, _Extra = _Extra)
'dcm': Image = Read_DICOM(File, Red, Green, Blue, _Extra = _Extra)
'gif': Read_GIF, File, Image, Red, Green, Blue, _Extra = _Extra
'jpg': Read_JPEG, File, Image, ColorTable, _Extra = _Extra
'pic': Read_PICT, File, Image, Red, Green, Blue
'png': Image = Read_PNG(File, Red, Green, Blue, _Extra = _Extra)
'ppm': Read_PPM, File, Image, _Extra = _Extra
'pgm': Read_PPM, File, Image, _Extra = _Extra
'srf': Read_SRF, File, Image, Red, Green, Blue
'tif': Image = Read_TIFF(File, Red, Green, Blue, _Extra = _Extra)
```

EndCase

Cancel = 0

Return, Image

End

--

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