
Subject: Re: Shared maps and free colors, window positio

Posted by [idl](#) on Fri, 25 Mar 1994 07:17:35 GMT

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In article 2mpm1gIINli1@maz4.sma.ch, gga@otl.sma.ch (Gianmario Galli) writes:

> idlusers-news-gateway:

>

>

> I am using idl on a SUN SPARCstation 2 with 8bit color graphics.

> I am running idl V3.1.1 under X using the server X11.0, X11/NeWS.

>

> My questions:

>

> a) How can I get the current number of free colors (to be used in a shared

> color map) before activating the first window?

We have tried a lot of things to solve color flashing problems on using different applications together which preserves colors cells. Especially the Framemaker Openwinwindows Version 3.1 has an annoying bug. If the colors cells 116 - 256 are not yet preserved by another application FM 3.1 (only the Openwindows Version!) preserves them and they are never freed -even after exiting FM - until you restart Openwindows (The change to MOTIF will solve this anyway ...). There is a nice tool on the net 'Colormap.c' (X contrib) which shows whats exactly happen in the color management by the window manager. We couldn't solve this special problem from within IDL neither using the Xresources (Idl.colors: -10 or fixed value etc.) nor the IDL `!.d.n_colors` or `!.d.table_size` variables.

Finally I extracted and modified a part of the mentioned colormap code to get a utility which returns the really free number of colors which can be used by an idl application without color flashing. This it is possible at least to inform the user if there are not enough colors available. I've included it below as a shar archive. From inside idl it can be used this way:

```
IDL> spawn, ['get_nfre'], free_clr, /NOSHELL
```

```
IDL> print, free_clr
```

```
246 ..
```

I'm wondering how other users solve this problem, suggestions are welcome!

Thomas

```
#!/bin/sh
```

```
# This is a shell archive, meaning:
```

```
# 1. Remove everything above the #! /bin/sh line.
```

```
# 2. Save the resulting text in a file.
```

```
# 3. Execute the file with /bin/sh (not csh) to create the files:
```

```
# Makefile
```

```
# get_nfre.c
```

```

# This archive created: Fri Mar 25 07:43:13 1994
export PATH; PATH=/bin:$PATH
if test -f 'Makefile'
then
  echo shar: will not over-write existing file "'Makefile'"
else
  cat << \SHAR_EOF > 'Makefile'
# SunOS 4.x
get_nfre:

get_nfre:
  cc -O -I/usr/openwin/include -o get_nfre get_nfre.c \
    -L/usr/openwin/lib -IX11

# Using gcc on Solaris 2.x you don't have License troubles....
#Solaris 2.3:
#get_nfre:
# gcc -ansi -O -I/usr/openwin/include -o get_nfre get_nfre.c \
#   -L/usr/openwin/lib -IX11 -L/usr/ucblib -lucb
#

```

SHAR_EOF

```

fi # end of overwriting check
if test -f 'get_nfre.c'
then
  echo shar: will not over-write existing file "'get_nfre.c'"
else
  cat << \SHAR_EOF > 'get_nfre.c'
#include <X11/Xlib.h>
#include <X11/Xutil.h>
#include <stdio.h>

/* Source extracted and modified from colormap.c ( X-Contrib X11R5 ) */
Display  *display;
Visual   *vis;          /* Pointer to the current visual */
int      dep;          /* depth of the current visual */

Colormap dcm, *icm;    /* Default colormap and nstalled cmaps */
Colormap mycmap;      /* Local colormap */
XColor   colors[257]; /* Array for copying colors */
Bool     AllocatedCells[256];
Bool     MyAllocedCells[256]; /* array of my color cells */
int      dcms;        /* default colormap size */
int      numcells;    /* Number of colors in current visual */

```

```
Bool    truecolor = False;
```

```
Window  root;
```

```
Bool get_visual(depth)
```

```
int  *depth; /* The depth of the desired visual */
{
  XVisualInfo *visualList;
  long  vmask = VisualNoMask;
  XVisualInfo vinfo, *v;      /* visual information */
  int    big_map = 0, istat;
  Bool   success = False;
  /*-----*/
  visualList = XGetVisualInfo( display, vmask, &vinfo, &istat);

  switch (*depth) {

    case 4:
      for (v = visualList; v < visualList + istat; v++)
        if ((v->depth == 4)&&(v->class == PseudoColor)) {
          vinfo = *v;
          success = True;
          break;
        }
      break;

    case 8:
      for (v = visualList; v < visualList + istat; v++)
        if ((v->depth == 8)&&(v->class == PseudoColor)) {
          vinfo = *v;
          success = True;
          break;
        }
      break;

    default:
      for (v = visualList; v < visualList + istat; v++) {
        if ((v->colormap_size > big_map)&&(v->class == PseudoColor)) {
          big_map = v->colormap_size;
          vinfo = *v;
          success = True;
        }
        if (big_map >= 256) break;
      }
  }

}; /* end switch(depth) */
```

```

if (success) {
    *depth = vinfo.depth;
    vis    = vinfo.visual;
    numcells = vis->map_entries;
    return(True);
}
else
    return(False);
} /* end get_visual() */

```

```

int get_nfree_cols()
{
    int      i, xpos, ypos, index;
    int      cur_row, cur_col;
    int      NextNumColors, NumColors = 0, Pixels[256], Planes[16];
    Status    GotDemCells = False;
    /*-----*/
    /*
    * Assume all cells are allocated
    */
    for (i = 0; i < numcells; i++)
        AllocatedCells[i] = True;
    /*
    * Attempt to allocated as many cells as possible
    * when we allocate then Pixels contains those cells that are free
    */
    NextNumColors = numcells;
    while (!GotDemCells) {

        NumColors = NextNumColors--;

        GotDemCells = XAllocColorCells(display, *icm, False, Planes,
            0, Pixels, NumColors);
        if (GotDemCells)
            XFreeColors(display, *icm, Pixels, NumColors, 0);

        if (NextNumColors < 1) {
            GotDemCells = True;
            NumColors = 0;
        }

    }
    /*
    * For each cell in Pixels that we were able to allocate
    * set its slot in AllocatedCells to False
    */

```

```

*/
  for (i = 0; i < NumColors; i++)
    AllocatedCells[Pixels[i]] = False;

  return(NumColors);
}

main( argc, argv)
  int  argc;
  char *argv[];
{
  char  cont;
  int   num;
  int   screen, index;
  char  Dashes[2];
  /*-----*/
  /*
  * Initialize the connection to the XServer and get some default
  * values for a start
  */
  if ( ( display = XOpenDisplay( NULL ) ) == NULL ) {
    fprintf(stderr,"Couldn't open display!\n");
    exit(1);
  }

  screen  = XDefaultScreen( display);
  dcm     = DefaultColormap( display, screen);
  vis     = DefaultVisual( display, screen);
  root    = RootWindow( display, screen);
  dcms    = vis->map_entries;
  truecolor = (vis->class == TrueColor) ? True : False;
  dep     = DefaultDepth( display, screen);

  get_visual(&dep);

  /*
  * Currently, we are only dealing with either a 16 or 256 entry
  * colortable, so rows and cols will be set to present a pretty
  * colortable layout of 4x4 or 16x16
  */
  numcells = (numcells > 256) ? 256 : numcells;

  for (index = 0; index < numcells; index++) {
    colors[index].pixel = index;
    MyAllocedCells[index] = False;
  }
}

```

```
AllocatedCells[index] = False;
```

```
    }  
/*  
 * Initialize my colormap  
 */  
    mycmap = XCreateColormap( display, root, vis, AllocAll);  
    icm    = (Colormap *)XListInstalledColormaps( display, root, &num);  
    XQueryColors( display, *icm,  colors, dcms);  
    XStoreColors( display, mycmap, colors, dcms);  
  
    printf("%d\n", get_nfree_cols() );  
    XCloseDisplay( display);  
}
```

```
SHAR_EOF
```

```
fi # end of overwriting check
```

```
# End of shell archive
```

```
exit 0
```
