

Naming Graphics Display Modes

by Martin Taillefer

The `graphics.library` database contains a list of all available display modes on any given Amiga. Each mode has a given set of attributes, including possibly a name. Only a subset of the available modes in the system have names. The other modes are less significant and don't have names directly associated with them.

When showing a list of available modes to the user, unnamed modes become a problem. How should they be presented to the user? A simple solution is to dynamically construct names for unnamed modes. The name construction can be based on a mode's attributes, resulting in a descriptive name for the mode.

The `NameMode()` routine in the program below accepts a `graphics.library` mode id, and a string buffer, and fills-in the string buffer with the name of the given mode. If the mode has a real name entry in the graphics database, that name is returned. If there is no real name entry, a name is constructed for the mode based on the mode's properties. A routine very similar to this is present in the ASL screen mode requester, and in the `ScreenMode` prefs editor.

The following program outputs the names of all current graphics database modes to the console.

```
#include <exec/types.h>
#include <graphics/displayinfo.h>
#include <stdio.h>
#include <string.h>

#include <clib/graphics_protos.h>
#include <clib/utility_protos.h>

/*****/

#define MONITOR_PART(id) ((id) & MONITOR_ID_MASK)

/*****/

BOOL NameMode (ULONG modeID, STRPTR result)
{
    struct NameInfo nameInfo;
    struct DisplayInfo dispInfo;
    struct DimensionInfo dimInfo;
    struct MonitorInfo monInfo;
    char buffer[DISPLAYNAMELEN + 1];
    UWORD len;
    DisplayInfoHandle dh;

    result[0] = 0;

    dh = FindDisplayInfo (modeID);
    if (GetDisplayInfoData (dh, (APTR) & dispInfo, sizeof (struct DisplayInfo),
```

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```
DTAG_DISP, INVALID_ID), INVALID_ID)
{
    if (!dispInfo.NotAvailable)
    {
        if (GetDisplayInfoData (dh, (APTR) & dimInfo, sizeof (struct DimensionInfo),
                                DTAG_DIMS, INVALID_ID))
        {
            /* Get name or make one if no name available */
            if (GetDisplayInfoData (dh, (APTR) & nameInfo, sizeof (struct NameInfo),
                                    DTAG_NAME, INVALID_ID))
            {
                strcpy (result, nameInfo.Name);
                return (TRUE);
            }
        }
        else
        {
            if (GetDisplayInfoData (dh, (APTR) & monInfo, sizeof (struct MonitorInfo),
                                    DTAG_MNTR, INVALID_ID))
            {
                if ((monInfo.Mspc) && (monInfo.Mspc->ms_Node.xln_Name))
                {
                    strcpy (buffer, monInfo.Mspc->ms_Node.xln_Name);
                    len = strlen (buffer);
                    if ((len > 8) && (Strnicmp (&buffer[len - 8], ".monitor", len - 8)
                                                == 0))
                    {
                        buffer[len - 8] = 0;
                        len -= 8;
                    }

                    while (len > 0)
                        buffer[--len] = ToUpper (buffer[len]);
                }
            }

            sprintf (result, "%s:%lu x %lu %s%s%s",
                    buffer,
                    (dimInfo.Nominal.MaxX - dimInfo.Nominal.MinX + 1),
                    (dimInfo.Nominal.MaxY - dimInfo.Nominal.MinY + 1),
                    (dispInfo.PropertyFlags & DIPF_IS_HAM) ? "HAM " : "",
                    (dispInfo.PropertyFlags & DIPF_IS_EXTRAHALFBRITE) ? "EHB " : "",
                    (dispInfo.PropertyFlags & DIPF_IS_PF2PRI) ? "DPF2 " : "",
                    (dispInfo.PropertyFlags & DIPF_IS_DUALPF) ? "DPF " : "",
                    (dispInfo.PropertyFlags & DIPF_IS_LACE) ? "Laced " : "", "");

            return (TRUE);
        }
    }
}

return (FALSE);
}

/*****/

void main (void)
{
    ULONG modeID;
    char name[64];

    modeID = INVALID_ID;
    while ((modeID = NextDisplayInfo (modeID)) != INVALID_ID)
    {
        if (MONITOR_PART (modeID) /* ignore "default" monitor */
            {
                if (NameMode (modeID, name))
                {
                    printf ("%s\n", name);
                }
            }
    }
}
```

```
, sizeof (struct DimensionInfo),
```

```
, sizeof (struct NameInfo),
```

```
, sizeof (struct MonitorInfo),
```

```
- 8], ".monitor", len - 8)  
    == 0))
```

```
RAHALFBRITE) ? "EHB " : "",
```

```
E) ? "Laced " : "", "");
```

```
*****/
```

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