

How To Create an Alpha Blended Cursor or Icon in Windows XP

This article was previously published under Q318876

SUMMARY

This article describes the steps that are necessary to programmatically create a cursor or icon that contains alpha bits. For the purposes of this article, these types of cursors or icons are referred to as "alpha blended cursors" or "alpha blended icons." Alpha blended cursors and alpha blended icons are only supported on Microsoft Windows XP.

MORE INFORMATION

To create an alpha blended cursor or icon, create a DIB section that contains alpha values, and call the **CreateIconIndirect** function with that DIB section. Although the Mask bitmap in the **ICONINFO** structure is not necessary, you must create an empty monochrome bitmap to send to the **CreateIconIndirect** function as the Mask bitmap. The alpha bits for each pixel in the DIB section bitmap determines the visibility for each pixel in the cursor or icon that is created.

Follow these steps to create an alpha blended cursor or icon:

1. Complete a **BITMAPV5HEADER** structure, as in the code example following these steps, to define a 32 bits per pixel (BPP) alpha blended DIB.
2. Call the **CreateDIBSection** function to create a DIB section based on the **BITMAPV5HEADER** structure that you completed.
3. Use the bitmap and alpha information that you want for your alpha blended cursor or icon to complete the DIB section.
4. Complete an **ICONINFO** structure.
5. Place an empty monochrome bitmap in the **hbmMask** field, and then place the alpha blended DIB section in the **hbmColor** field.
6. Call the **CreateIconIndirect** function to create the alpha blended cursor or icon.

The following Microsoft Visual C++ code demonstrates how to create an alpha blended cursor. You can use the same code to create an alpha blended icon by changing the **fIcon** member of the **ICONINFO** structure to TRUE:

```
HCURSOR CreateAlphaCursor(void) { HDC hMemDC; DWORD dwWidth, dwHeight; BITMAPV5HEADER bi; HBITMAP hBitmap, hOldBitmap; void *lpBits; DWORD x,y; HCURSOR hAlphaCursor = NULL; dwWidth = 32; // width of cursor dwHeight = 32; // height of cursor ZeroMemory(&bi,sizeof(BITMAPV5HEADER)); bi.bv5Size = sizeof(BITMAPV5HEADER); bi.bv5Width = dwWidth; bi.bv5Height = dwHeight; bi.bv5Planes = 1; bi.bv5BitCount = 32; bi.bv5Compression = BI_BITFIELDS; // The following mask specification specifies a supported 32 BPP // alpha format for Windows XP. bi.bv5RedMask = 0x00FF0000; bi.bv5GreenMask = 0x0000FF00; bi.bv5BlueMask = 0x000000FF; bi.bv5AlphaMask = 0xFF000000; HDC hdc; hdc = GetDC(NULL); // Create the DIB section with an alpha channel. hBitmap = CreateDIBSection(hdc, (BITMAPINFO *)&bi, DIB_RGB_COLORS, (void **)&lpBits, NULL, (DWORD)0); hMemDC = CreateCompatibleDC(hdc); ReleaseDC(NULL,hdc); // Draw something on the DIB section. hOldBitmap = (HBITMAP)SelectObject(hMemDC, hBitmap); PatBlt(hMemDC,0,0,dwWidth,dwHeight,WHITENESS); SetTextColor(hMemDC,RGB(0,0,0)); SetBkMode(hMemDC,TRANSPARENT); TextOut(hMemDC,0,9,"rgba",4); SelectObject(hMemDC, hOldBitmap); DeleteDC(hMemDC); // Create an empty mask bitmap. HBITMAP hMonoBitmap = CreateBitmap(dwWidth,dwHeight,1,1,NULL); // Set the alpha values for each pixel in the cursor so that // the complete cursor is semi-transparent. DWORD *lpdwPixel; lpdwPixel = (DWORD *)lpBits; for (x=0;x<dwWidth;x++) for (y=0;y<dwHeight;y++) { // Clear the alpha bits *lpdwPixel &= 0x00FFFFFF; // Set the alpha bits to 0x9F (semi-transparent) *lpdwPixel |= 0x9F000000; lpdwPixel++; } ICONINFO ii; ii.fIcon = FALSE; // Change fIcon to TRUE to create an alpha icon ii.xHotspot = 0; ii.yHotspot = 0; ii.hbmMask = hMonoBitmap; ii.hbmColor = hBitmap; // Create the alpha cursor with the alpha DIB section. hAlphaCursor = CreateIconIndirect(&ii); DeleteObject(hBitmap); DeleteObject(hMonoBitmap); return hAlphaCursor; }
```

APPLIES TO

- Microsoft Platform Software Development Kit-January 2000 Edition, when used with:
the operating system: Microsoft Windows XP
- Microsoft Windows XP Professional

Keywords: kbhowto kbvgdi kbcursor kbdsbgdi2003swept KB318876



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