

Printer driver GDI punting problem

Source:

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I am writing my first printer driver, based on the DDK sample. It is a user-mode driver for a monochrome printer.

I want to hook the GDI DrvXxx graphics calls (DrvBitBlt, DrvStrokePath etc.), punt back to GDI to perform the drawing operation, and then access the resulting bitmap so that I can transmit the relevant portion of it to the printer. In DrvEnableSurface I create an engine-managed surface to use when punting back to GDI, and a device-managed surface so that I can hook the DrvXxx drawing functions :-

```
HSURF DrvEnableSurface( DHPDEV dhpdev )
{
PPDEV pPDev = (PPDEV) dhpdev;
SIZEL SurfaceSize;
LONG lWidth;

SurfaceSize.cx = 808;
SurfaceSize.cy = 592;
lWidth = 101;

// create bitmap...
pPDev->pbBitmap = HeapAlloc( GetProcessHeap(), HEAP_ZERO_MEMORY,
(SIZE_T) ( 808 * 592 ) );

// create engine-managed surface using our bitmap...
if ( ! ( pPDev->hsurfEng = (HSURF) EngCreateBitmap( SurfaceSize, lWidth,
BMF_1BPP, BMF_TOPDOWN, pPDev->pbBitmap ) ) )
{
return NULL;
}

// create device-managed surface so that we can hook the DrvXxx drawing
functions...
if ( ! ( pPDev->hsurfDev = (HSURF) EngCreateDeviceSurface( (DHSURF)
pPDev, SurfaceSize, BMF_1BPP ) ) )
{
EngDeleteSurface( pPDev->hsurfEng );
return NULL;
}
```

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```
}  
  
// associate device-managed surface with GDI engine's hpdev...  
if ( ! EngAssociateSurface( pPDev->hsurfDev, (HDEV) pPDev->hpdev,  
HOOK_BITBLT | HOOK_STRETCHBLT | HOOK_COPYBITS | HOOK_STROKEPATH |  
HOOK_FILLPATH | HOOK_STROKEANDFILLPATH | HOOK_TEXTOUT ) )  
{  
EngDeleteSurface( pPDev->hsurfEng );  
EngDeleteSurface( pPDev->hsurfDev );  
return NULL;  
}  
  
return pPDev->hsurfDev;  
}
```

And then in the DrvXxx drawing routines I punt back using the engine-managed surface. For example, in DrvTextOut :-

```
BOOL DrvTextOut(  
SURFOBJ *pso,  
STROBJ *pstro,  
FONTOBJ *pfo,  
CLIPOBJ *pco,  
RECTL *prclExtra,  
RECTL *prclOpaque,  
BRUSHOBJ *pboFore,  
BRUSHOBJ *pboOpaque,  
POINTL *pptlBrushOrg,  
MIX mix  
)  
{  
BOOL bResult;  
SURFOBJ *pSurfObj;  
PPDEV pPDev = (PPDEV) pso->dhpdev;  
  
// obtain a SURFOBJ for our engine-managed surface...  
pSurfObj = EngLockSurface( pPDev->hsurfEng );  
  
// punt back to GDI using our engine-managed surface...  
bResult = EngTextOut( pSurfObj, pstro, pfo, pco, prclExtra, prclOpaque,  
pboFore, pboOpaque, pptlBrushOrg, mix );  
  
EngUnlockSurface( pSurfObj );  
  
return bResult;  
}
```

The problem that I have is that although EngTextOut returns TRUE, nothing is drawn onto the bitmap. This is true for all the DrvXxx drawing functions that I hook.

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Can anybody tell me why this should be so?

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