

How can I display a live screenshot of a piece of another application?

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Today's Little Program takes a rectangular portion of another application and continuously replicates it in its own client area. You might want to do this if you want to monitor a portion of an application like a custom progress bar, and the application doesn't use the Windows 7 taskbar progress indicator feature. (Maybe it's an old application.)

Take our [scratch program](#) and make the following changes:

```

#define STRICT
#include <windows.h>
#include <windowsx.h>
#include <ole2.h>
#include <commctrl.h>
#include <shlwapi.h>
#include <stdio.h>
#include <dwmapi.h>

HINSTANCE g_hinst;          /* This application's HINSTANCE */
HWND g_hwndChild;         /* Optional child window */
HTHUMBNAIL g_hthumb;

BOOL
OnCreate(HWND hwnd, LPCREATESTRUCT lpcs)
{
    DWM_THUMBNAIL_PROPERTIES props = {};
    HWND hwndTarget;
    if (sscanf(reinterpret_cast<PCSTR>(lpcs->lpCreateParams),
                "%p %ld %ld %ld %ld", &hwndTarget,
                &props.rcSource.left, &props.rcSource.top,
                &props.rcSource.right, &props.rcSource.bottom) == 5) {
        DwmRegisterThumbnail(hwnd, hwndTarget, &g_hthumb);
        props.dwFlags = DWM_TNP_VISIBLE | DWM_TNP_RECTSOURCE |
            DWM_TNP_RECTDESTINATION;
        props.rcDestination = props.rcSource;
        OffsetRect(&props.rcSource,
            -props.rcSource.left, -props.rcSource.top);
        props.fVisible = TRUE;
        DwmUpdateThumbnailProperties(g_hthumb, &props);
    }
    return TRUE;
}

void
OnDestroy(HWND hwnd)
{
    if (g_hthumb) DwmUnregisterThumbnail(g_hthumb);
    PostQuitMessage(0);
}

int WINAPI WinMain(HINSTANCE hinst, HINSTANCE hinstPrev,
                  LPSTR lpCmdLine, int nShowCmd)
{
    ...
}

```

```

    hwnd = CreateWindow(
        "Scratch",                /* Class Name */
        "Scratch",                /* Title */
        WS_OVERLAPPEDWINDOW,     /* Style */
        CW_USEDEFAULT, CW_USEDEFAULT, /* Position */
        CW_USEDEFAULT, CW_USEDEFAULT, /* Size */
        NULL,                     /* Parent */
        NULL,                     /* No menu */
        hinst,                    /* Instance */
        lpCmdLine);
    ...
}

```

Our Little Program passes its command line through to the `WM_CREATE` message, which parses it as a pointer (for Visual C++, a hex value with no `0x` prefix) and four integers representing the left, top, right, and bottom coordinates a rectangle within that window. (For example, to get the upper left 100 pixels of the window, pass `0 0 100 100`.) It creates a thumbnail from that window and positions it inside the scratch window.

Use Spy or whatever program to get a window handle and run the program with the window handle and four integers (described above). A live slice of the window will appear in the scratch program.

Making it easier to select the target window and a rectangle from it is left as an exercise. This is just a Little Program.

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