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Get a screenshot of a window that is cover or not visible or minimized with Xcomposite extension for X11

Asked 7 years, 1 month ago Active 6 years, 9 months ago Viewed 2k times



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I have the follow starting code to get a screenshot of a X window (the window can be covered, not visibled, or minimized).

```
#include <stdlib.h>
#include <stdio.h>

#include <X11/Xlib.h>
#include <X11/X.h>
#include <X11/extensions/Xcomposite.h>
#include <X11/extensions/Xrender.h>

int
main ()
{
    Display *display = XOpenDisplay (NULL);
    XID xid = 90177543; // xdotool search --name "World of Warcraft" | head -1

    // Check if Composite extension is enabled
    int event_base_return;
    int error_base_return;
    if (XCompositeQueryExtension (display, &event_base_return, &error_base_return))
        printf ("COMPOSITE IS ENABLED!\n");

    // Requests the X server to direct the hierarchy starting at window to off-screen
    storage
    XCompositeRedirectWindow (display, xid, CompositeRedirectAutomatic);
    // Preventing the backing pixmap from being freed when the window is hidden/destroyed
    // If you want the window contents to still be available after the window has been
    destroyed,
    // or after the window has been resized (but not yet redrawn), you can increment the
    backing
    // pixmaps ref count to prevent it from being deallocated.
    Pixmap pixmap = XCompositeNameWindowPixmap (display, xid);

    // Get window attributes
    XWindowAttributes attr;
    Status s = XGetWindowAttributes (display, xid, &attr);
    if (s == 0)
        printf ("Fail to get window attributes!\n");

    // Extract the data
    XRenderPictFormat *format = XRenderFindVisualFormat (display, attr.visual);
    int width = attr.width;
    int height = attr.height;
    int depth = attr.depth;

    // What we need to do now is to create an XRender Picture for the window,
```

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```
// drawing it (if any), whether it should be tiled etc.
XRenderPictureAttributes pa;
pa.subwindow_mode = IncludeInferiors;
Picture picture = XRenderCreatePicture (display, xid, format, CPSubwindowMode, &pa);

// We now have all the information we need in order to be able to draw the window
// using the Xrender extension, and we've created and prepared a source picture
// for the window for this purpose.
// The Xrender function we'll use to draw the window is XRenderComposite().

//XRenderComposite (display, PictOpSrc, picture, None, ???destination???, 0,0, 0,0,
0,0, width, height);

XFreePixmap (display, pixmap);
XCompositeUnredirectWindow (display, xid, CompositeRedirectAutomatic);

return 0;
}
```

[Compile the code with `gcc file.c -lX11 -lXcomposite -lXrender` and run with `./a.out`]

[You can get a valid XID of a window of your Desktop with the command `xdotool search --name "Title of a window" | head -1`]

Now I have two problem:

1. I get a `BadMatch (invalid parameter attributes)` error when I call the `XRenderFindVisualFormat` function. I don't know why. The window with XID 90177543 exists.
2. I don't know how to get the buffer of the `Picture picture` to save it as a PNG image. I don't want use QT library to do this.

Can you help me?

c linux screenshot x11 xlib

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asked Feb 2 '14 at 15:13



Pioz

5,056

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54

1. Please post error messages you are getting in full and without editing (major opcode, whatever). 2. Use `libpng` . – [n. 'pronouns' m.](#) Feb 2 '14 at 17:25

2) use `XGetImage` to get pixels of `Pixmap`. If your `Picture` already have `pixmap` associated with it just use that `pixmap`, otherwise draw `Picture` content on another `pixmap` using `XRenderComposite` and after that use `XGetImage` on that `pixmap` – [Andrey Sidorov](#) Feb 3 '14 at 2:20

Yeah, I can use `libpng`, but `Picture` is a XID, how can I get the buffer of this picture to use with `libpng`? – [Pioz](#) Feb 3 '14 at 16:06

Sorry I have misread your second bullet point. To get the pixels do just like [@AndreySidorov](#) says, to save

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1 Answer

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I am able to reproduce your error as follows:

1

```
$ ./xidtest
COMPOSITE IS ENABLED!
X Error of failed request: BadWindow (invalid Window parameter)
Major opcode of failed request: 142 (Composite)
Minor opcode of failed request: 1 ()
Resource id in failed request: 0x5600007
Serial number of failed request: 9
Current serial number in output stream: 12
```

When set using a window id I knew to exist (0x440000B or 71303179, found using xwininfo), I received no error:

```
$ ./xidtest
COMPOSITE IS ENABLED!
```

I conclude that the error is the window id you have provided is invalid.

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edited Jun 14 '14 at 7:51

answered Jun 14 '14 at 7:44



[user3733083](#)

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