Subject: How to Draw into an existing image(buffer) ?
Posted by nixnixnix on Thu, 12 Jul 2007 14:37:23 GMT
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Hi everyone,

So, here's my problem:

1) I want to draw multiple vector and raster objects to a single view
2) I want to be able to control the opacity and/or blending method for each layer (perhaps not the vector layers although filled polygons yes)

I have written a function to draw an image to a Rect within another image and apply alpha blending, luminance, bitwise AND/OR etc. and it works fine although am sure someone here could optimise it to draw faster...

I already know that I need to use some sort of background image (have chosen an ImageBuffer) which then gets passed to a painting function for each layer which then does its stuff to the ImageBuffer before letting the next layer up have its go and so on.

My problem is that ImageDraw and DrawingDraw do not draw to already existing images. Its in the documentation and am sure its not impossible to implement as you can convert an Image to an ImageDraw object. However, in the Draw code there is only one-way conversion which means that any kind of complex drawing code is impossible unless I've missed something.

Surely ImageDraw needs to be able to draw to an image and not just create an image which is the case at present.

I can do my multiple raster layers as I have implemented my own function for drawing an image but it seems silly for me to have to re-implement the vector drawing functions as well.

I guess I could draw my vector layers to fresh images and then set an image mask and draw the new image to the main background ImageBuffer but that is a lot of processing for something that should be simple.

Would it be possible to have a DrawImage constructor or an = operator to go from Image or ImageBuffer to DrawImage please?

Cheers,

Nick

p.s. a search for ImageDraw on this site brings up only the documentation. I can't believe am the only person trying to do complex graphics on this platform!

Subject: Re: How to Draw into an existing image(buffer) ?
Posted by mirek on Thu, 12 Jul 2007 20:12:19 GMT
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You can use Draw::DrawImage to put an existing Image to ImageDraw.

Note that performance difference is negligible, the slowest part is moving pixels to and from GPU which is the same for both ways...

BTW, a tip:

If speed is not that important, you can achieve quite a good results by oversampling: Draw it 2x or 4x bigger, then downsample and you got antialiasing...

Mirek

Subject: Re: How to Draw into an existing image(buffer) ?
Posted by nixnixnix on Fri, 13 Jul 2007 01:46:20 GMT
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Thanks Mirek,

Works great.

Hmmm so the GPU does the Draw processing eh? Even when am not drawing to the screen? (I do lots of processing before I ever send anything to be drawn to the screen)

Seems like I need to test this code on a lower spec PC to make sure its ok....

Unfortunately speed is important as I allow users to move the map with the mouse. I am sorry to lose the option of having images display the way UPP does it (I had to give this up when I moved to my own blending functions).

Nick

Subject: Re: How to Draw into an existing image(buffer) ?
Posted by mirek on Fri, 13 Jul 2007 06:55:20 GMT
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Well, to say it straight, ImageDraw is sort of cheap solution for cases when you need to use host platform GUI to draw something. OTOH, in straight Win32 or X11, you have exactly the same option (draw bitmaps using GPU).

Full software rendering for U++ is a subject of research. You might try Aris's AGG plugin (see Technology lab).

BTW, speed-wise, it does not have to be so bad. I have just finished project that does a lot of supersampling using ImageDraw and Rescale and with some more tricks (like intense use of Image cache...) things seem to be OK even on 2-3 years old HW.

Mirek