Subject: image drawing
Posted by raxvan on Tue, 27 Apr 2010 06:02:36 GMT

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Hello,

I'm writing a raytracer , what is the best way to display the final image? Also i would like to be able to drag the image arround.

Thanks,
Raxvan

Subject: Re: image drawing
Posted by koldo on Tue, 27 Apr 2010 08:05:47 GMT

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raxvan wrote on Tue, 27 April 2010 08:02Hello,

I'm writing a raytracer , what is the best way to display the final image? Also i would like to be able to drag the image arround.

Thanks,
Raxvan

Hello Raxvan

The display has to be OpenGL or just a bitmap display?

Subject: Re: image drawing
Posted by raxvan on Tue, 27 Apr 2010 08:34:38 GMT

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Just a bitmap display but i want to be able to rotate, move , and stretch the image in realtime with the mouse. The Raytracer camera/frame will be updated only when the mouse click is released acording to that movement.

Subject: Re: image drawing
Posted by koldo on Tue, 27 Apr 2010 09:32:29 GMT

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raxvan wrote on Tue, 27 April 2010 10:34Just a bitmap display but i want to be able to rotate, move , and stretch the image in realtime with the mouse. The Raytracer camera/frame will be

updated only when the mouse click is released acording to that movement.
Hello raxvan

You can begin with a Picture Ctrl. Try to explain what is the mouse behavior you want and we could help you to handle the mouse rotate, move and stretch.

Subject: Re: image drawing
Posted by raxvan on Tue, 27 Apr 2010 11:32:11 GMT
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ok thanks , what i want to do involves both simple and `hard` transformations:
1. zoom in/out ; mouse wheel will just zoom in/out on the image
2. Drag and drop:
Suppose that A (rectangle)is my Picture Ctr,and B is my image.
Normally B is exactly the size of A and the size of the image.
When i click and drag the image in the Picture Ctrl the image will follow my mouse , so when i move right the image will move right. The backgound will be white or black

Hard:
3. Rotate the image in the 2D space.
When i click the corner of the image for example, the picture will rotate around the center.
4. Rotate in 3D space. But i'm not sure if i want to do this.
Imagine you are looking to a plane in space from (0,0,0). The image is at (1,0,0) with the normal (-1,0,0) facing you.
You should be able to rotate the image about Y and Z only around the origin.

Thanks,
Raxvan.

Subject: Re: image drawing
Posted by koldo on Tue, 27 Apr 2010 13:49:50 GMT
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Quote:2. Drag and drop:
Suppose that A (rectangle)is my Picture Ctr,and B is my image.
Normally B is exactly the size of A and the size of the image.
When i click and drag the image in the Picture Ctrl the image will follow my mouse , so when i move right the image will move right. The backgound will be white or black

Hello Raxvan

A question. Do you want to drag your image from a Ctrl to another Ctrl and meanwhile changing

the mouse pointer image to the image dragged?

Subject: Re: image drawing
Posted by raxvan on Tue, 27 Apr 2010 13:59:07 GMT
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nope,
just move the image around in the same Ctrl.

Subject: Re: image drawing
Posted by koldo on Tue, 27 Apr 2010 14:12:27 GMT
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Hello Raxvan

I meant this:

File Attachments
1) Dib.PNG, downloaded 702 times

Ctrl A

Ctrl B

Drag and drop image
from Ctrl A to Ctrl B

Subject: Re: image drawing
Posted by mrjt on Tue, 27 Apr 2010 14:17:13 GMT
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Use OpenGL, it'll be a both easier and faster than any other method.

The only problem that occurs to me is image format. How are you storing the image? Are you using Upp image format or just an array of RGB(A)? The reason I ask is that if you're using Upp format on windows you'll need to swap the B & R components.

Subject: Re: image drawing
Posted by raxvan on Tue, 27 Apr 2010 15:50:41 GMT
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no, nothing like that koldo,
Moving the image in the same control. This is not the real problem, i can handle draging.The problem that i have is the 3D rotation;
grub the image by a corner and rotate the image in the same Ctrl,

mrjt thanks for the tip , ill test the app on windows later,
I use custom Image class because i use more that 3 components/pixel
and image filtering.
The only problem is that i don't know any OpenGl, and i think i can get a software renderer done faster.

thanks

Edit.
Can i use safely multiple windows at the same time? (using threads)
How can i fire an event from a thread to another to update the window?

Subject: Re: image drawing
Posted by mrjt on Tue, 27 Apr 2010 16:01:10 GMT
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You could also convert your image format to Image (using ImageBuffer) and then use the functions in CtrLib/ImageOp.cpp like:
Image RotateClockwise(const Image& img)
Afterall, to draw the image you must have to convert it to RGB as some stage.

Subject: Re: image drawing
Posted by dolik.rce on Tue, 27 Apr 2010 17:19:35 GMT

raxvan wrote on Tue, 27 April 2010 17:50Can i use safely multiple windows at the same time? (using threads)
How can i fire an event from a thread to another to update the window?
Yes, it is possible, actually even without threads. See GUI tutorial, paragraph 6 for description how. Usual approach to keep the GUI responsive is to have one thread handling GUI and a separate one for computations.

For updating the GUI from computation thread, there exist more possible ways. I usually use the dirty but simple one - I store a pointer to the part of GUI I need to update. Following example worked well for me when I needed to report the progress of computation to the user in a LineEdit:
thread__ LineEdit* ReportEditPtr;
void Report(String str,bool stamp,bool nl) {
 GuiLock __;
 (*ReportEditPtr)<<=(~(*ReportEditPtr)).ToString()+
 (stamp?FormatTime(GetSysTime(),"hh:mm:ss "):"")+str+(nl?"\n":"");
 (*ReportEditPtr).SetCursor((~(*ReportEditPtr)).ToString().GetLength()-1);
 (*ReportEditPtr).Refresh(); (*ReportEditPtr).Sync();
 }

And in the window constructor: ReportEditPtr=&ReportLineEdit;

Hopefully someone will recommend you some cleaner way

Honza