Subject: Draw/Paint speed slow
Posted by deep on Sat, 16 Feb 2013 09:30:24 GMT
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Hi,

I am making spirograph (Epitrochoid/Hypotrochoid curves) drawing app. Paint derived from Examples/PainterExamples.

I have attached the project.

To draw spirograph with 12300 path points my routine take approximately 500 ms.

Want some suggestions to improve speed of draw.

I want to show animation like this

http://en.wikipedia.org/wiki/File:EpitrochoidOn3-generation. gif

Logged time data

Prepare S : 17183790
Prepare E : 17183790

Time paint0 start : 17183806
Time paint0 end : 17185335

Path points : 12313

Draw Image S : 17185335
Draw Image E : 17185350

File Attachments

1) GeoFun.7z, downloaded 485 times

Subject: Re: Draw/Paint speed slow
Posted by mirek on Sat, 16 Feb 2013 18:47:56 GMT
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Not sure what is your CPU, but mine 2.6Ghz Celeron does it in 25ms.

Do you benchmark it in Optimal mode? (For painter there is a HUGE difference...)

About optimizations:

The only thing that comes to mind is to combine all lines (or those possible with same width and

color) lines into single Stroke, something like (quick fix):

```
 for(int i = 0; i < data.GetCount(); i++) {
  Vector<Pointf>& p = data[i].point;
  sw.Move(x1 + p[0].x, y1 + p[0].y);

  cnt2 = p.GetCount();

  for(int j = 1; j < p.GetCount(); j++)
   sw.Line(x1 + p[j].x, y1 + p[j].y);

//  if(data[i].filled)  sw.Fill(data[i].color).EvenOdd(true);
 }
 sw.Stroke(data[0].penwidth, data[0].color);
```

Anyway, it appears to only improve speed by 10%...

Mirek

Subject: Re: Draw/Paint speed slow
Posted by deep on Sun, 17 Feb 2013 06:40:33 GMT
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Mirek,

Thank you for response.

I have i7 1.73 Gz processor.

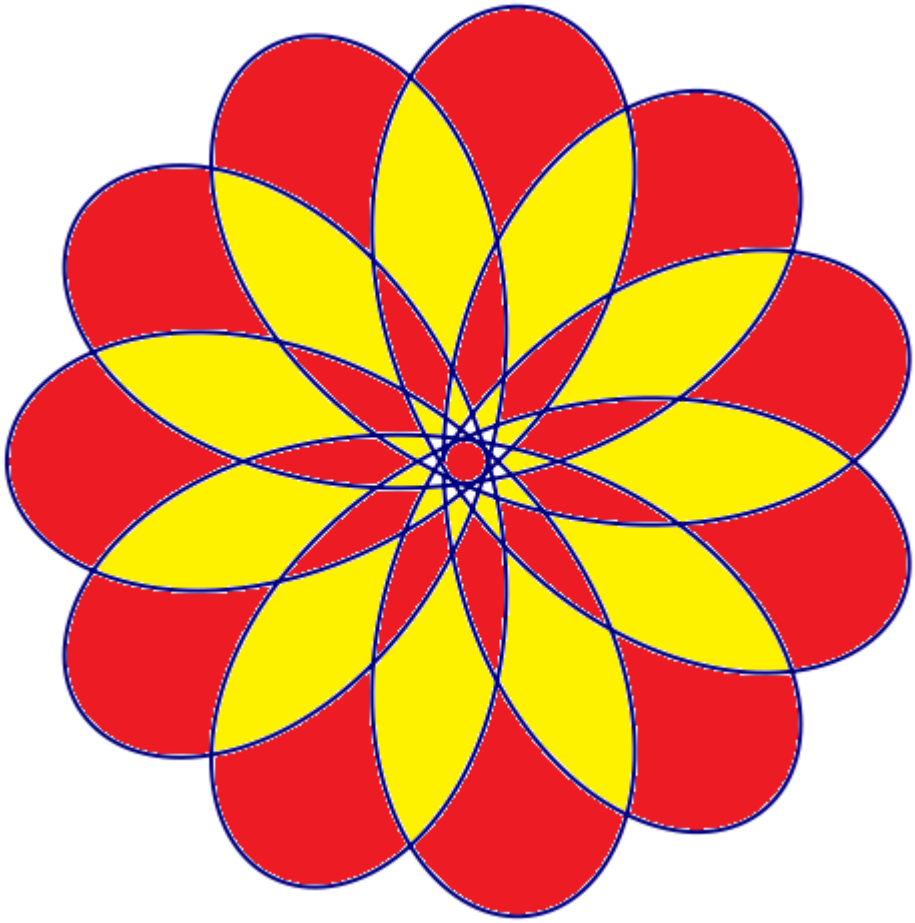
In my test case all lines are same width and color.

When compiled "Release->optimal" and "Release->optimised for speed" It is working much faster. I get about 40 ms time for same result.

1. Any hint on animation. For incremental Draw/Paint.
2. For filling the colors like in enclosed image. Hints on how to achieve it.

File Attachments

1) fig1.png, downloaded 1217 times



Subject: Re: Draw/Paint speed slow
Posted by mirek on Sun, 17 Feb 2013 08:12:28 GMT
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deep wrote on Sun, 17 February 2013 01:40Mirek,

Thank you for response.

I have i7 1.73 Gz processor.

In my test case all lines are same width and color.

When compiled "Release->optimal" and "Release->optimised for speed" It is working much faster. I get about 40 ms time for same result.

1. Any hint on animation. For incremental Draw/Paint.

examples/AnimatedHello

Quote:
2. For filling the colors like in enclosed image. Hints on how to achieve it.

Not sure, but perhaps draw it twice with different winding rule?

Mirek

Subject: Re: Draw/Paint speed slow
Posted by deep on Sun, 17 Feb 2013 09:38:49 GMT
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Quote:Not sure, but perhaps draw it twice with different winding rule?

What is 'Winding rule'?

When I use fill sw.Fill(Blue()) it fills the total shape to outer boundary.

This is a single closed curve intersecting to self multiple times. Is there any way to find bounding curve and fill color like mspaint does.

Subject: Re: Draw/Paint speed slow
Posted by mirek on Sun, 17 Feb 2013 09:55:07 GMT
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Painter::EvenOdd, try with "true".

Subject: Re: Draw/Paint speed slow
Posted by deep on Sun, 17 Feb 2013 10:09:09 GMT
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sw.Fill(Yellow()).EvenOdd(true);

Gives full fill with single color.

Subject: Re: Draw/Paint speed slow
Posted by mirek on Sun, 24 Feb 2013 13:30:28 GMT
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sw.EvenOdd(true).Fill(Yellow());

Subject: Re: Draw/Paint speed slow
Posted by deep on Mon, 25 Feb 2013 06:20:17 GMT
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Hi Mirek,

Thanks, It worked.
Sequence is important. First set EvenOdd and then Fill.

I checked with gradient Fill also.

Is there any method to specify even and odd colors?

In this sample image I drawn circle first with gradient and then Spirograph.

File Attachments

1) Image1.png, downloaded 1138 times

