

Building on Cairo

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A quick recap

- Cairo is a vector graphics library which can draw images, PDFs, SVGs, etc
- It's good at drawing graphics, but doesn't really handle laying out text
- You can use Pango for that

Pango

- From their site:
 - “Pango is a library for laying out and rendering of text, with an emphasis on internationalization.”
- It handles a lot of common cases like line breaking, justification, etc
- Used all over GTK+ to handle text layout

Basic demo

- You have to set up a Cairo surface as I showed before first, then you can create a PangoLayout
 - (Yes, there are more classes. I'm sorry.)

The code

```
$text = "Here is a quick example of <b>Pango</b> rendering text," .  
" using Cairo.";  
  
$s = new CairoPdfSurface("basic-test.pdf",  
    210 * 2.83464567, 297 * 2.83464567);  
$c = new CairoContext($s);  
$c->setSourceRGB(1, 1, 1);  
$c->paint();  
$c->setSourceRGB(0, 0, 0);  
  
$l = new PangoLayout($c);  
$desc = new PangoFontDescription("Bitstream Charter 12");  
$l->setFontDescription($desc);  
  
$l->setWidth(190 * 2.83464567 * PANGO_SCALE);  
$l->setIndent(18.0 * 2.83464567 * PANGO_SCALE);  
$l->setMarkup($text);  
$l->setJustify(true);  
  
$c->moveTo(10, 10);  
$l->updateLayout($c);  
$l->showLayout($c);
```

The result

(This is where I hit alt-tab)

A slightly more complex example

(This is where I hit alt-tab again)

About the extension

- It's not in PECL (...yet)
- It's a bit alpha
- I'm basically the only developer
- There's a big pile of things still to be implemented
- ...but it has potential, I think
- <http://github.com/mgdm/php-pango>

RSVG

- librsvg is a library for rendering SVG images
- pecl/rsvg is a wrapper around it
- It also builds on Cairo and so you can use Pango with it too

Let's glue them all together

```
$r = Rsvg::createFromFile('edinburgh.svg');
$s = new CairoImageSurface(CairoFormat::ARGB32, 1160, 1171);
$c = new CairoContext($s);
$r->render($c);

$c->moveTo(200, 400);
$c->setSourceRGBA(1, 0, 0, 0.6);

$l = new PangoLayout($c);
$desc = new PangoFontDescription("Bitstream Vera Sans 48");
$l->setFontDescription($desc);
$l->setText("Rendered with Pango, RSVG and Cairo on PHP");
$l->setWidth(800 * PANGO_SCALE);
$l->setAlignment(PangoAlignment::CENTER);
$l->showLayout($c);

$s->writeToPng("edinburgh.png");
```

The result



These are hopefully just the beginning

- There are other things that can use Cairo too, which I've been working on...
- ... I'm not going to demo them until they compile :)

Any questions?

Slides and the code will appear on
<http://mgdm.net/talks/>

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