Building on Cairo

Michael Maclean

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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");
$1->setFontDescription($desc);
$1->setWidth(190 * 2.83464567 * PANGO SCALE);
$1->setIndent(18.0 * 2.83464567 * PANGO SCALE);
$1->setMarkup($text);
$\lambda -> setJustify(true);
$c->moveTo(10, 10);
$1->updateLayout($c);
$1->showLayout($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

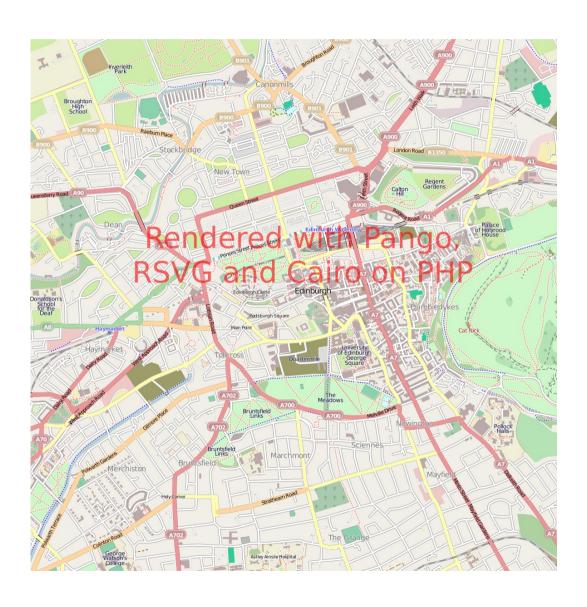
RSVG

- 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");
$1->setFontDescription($desc);
$\text("Rendered with Pango, RSVG and Cairo on PHP");
$1->setWidth(800 * PANGO SCALE);
$\lambda -> setAlignment(PangoAlignment::CENTER);
$1->showLayout($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/

Mail me at mgdm@php.net
Twitter @mgdm
mgdm on Freenode and Efnet IRC

Give me feedback on http://joind.in/1768