Colour emoji and doughnuts in the PDF

TileDown makes the PDF of an article with MarkdownPDF, a Swift package that writes PDF files from Markdown. TileDown 0.15.0 uses its 0.16.0 release. This is what changed in the PDF.

Emoji in colour

A single emoji, or an emoji followed by the emoji variation selector, is drawn in colour. Each layer of the glyph is filled as a vector path in its palette color, from the Twemoji face that ships with the package (Twemoji by Twitter, Inc. and other contributors, CC BY 4.0). The emoji is also one invisible glyph with its own text entry, so searching and copying a PDF finds the emoji as text. The line keeps the same width and height it had.

You can give the engine another colour face with `PDFOptions.EmbeddedFonts.emoji`.

Not drawn yet: flags, keycaps and skin-tone pairs. A joined emoji is drawn as its separate emoji. That is planned for 0.16.1.

Since 2026-11-25: this list is the state of MarkdownPDF 0.16.0 and is not current. TileDown 0.16.3 moved to the newer Twemoji 17.0.3 face, which covers more of the emoji set, and TileDown 0.18.0 uses MarkdownPDF 0.19.0. The TileDown 0.17.0 notes say that 502 of the 7210 emoji and symbol entries of the engine's whole-set report were not drawn then. Which of the three kinds above are drawn today is in the package's changelog, not checked here.

The doughnut chart

`type: doughnut`, or `donut`, in a `chart` fence draws a pie with a hole in the PDF. Before, the PDF engine refused it and printed the fence as source, although the page already showed it. It takes the same entries as a pie, with the same legend and the same limits. The slices sweep clockwise from twelve o'clock, and the hole is 0.55 of the outer radius.

```chart

```

type: doughnut title: Where the build minute goes categories: Compiling, Waiting, Doom-scrolling series: Minutes = 3, 1, 26

```chart

```

Math and the rest

Formulas use a real math font. The tiles, diagrams and charts of a page print the way they look on it, which is what TileDown 0.15.0 builds on.

The full list is in the package's changelog.