Beyond TeX and LaTeX

Jonathan Fine

Where are we? How did we get here? What's the future? I'll try to answer these questions, by looking outward in both space and time. Here are some ideas.

Don Knuth started TeX in 1977. The present version is a direct descendant of the 1982 version. Only at the end of the 1980s did hard disc drives cost less than $10 a megabyte. Today, for about $100 I can buy a pocket computer that connects to a ubiquitous network. It has gigabytes of solid state storage. It fits in my pocket, more easily than a book.

Today software that implements Don Knuth's wonderful mathematical typesetting algorithm and fonts can be downloaded for free. And this software installs itself, and is interactive. In real time it previews LaTeX-encoded mathematics, as I type it.

My monitor is 40 inch, 3840×2160 with 24 bit color. It's no more expensive than a TV. (In fact, it is a TV.) It cost about $450. It's not my virtual desktop. It's my vertical desktop, about the same size as my horizontal desktop.

As often as not, when I read beautifully typeset mathematics, it's on my vertical desktop, as part of a web page. The only time I really need a PDF is to send a file to be printed. So that I can put it on my horizontal desktop, and write on it with a pen.

And the interactive mathematical typesetting software. It's built on HTML5, and it's called Math-Jax. And the future of TeX and LaTeX and our community. To succeed, we have to change, and also keep things the same. Linus Torvalds did something much the same with Unix, to create Linux.

By the way, my wonderful pocket computer that typesets mathematics. It's also known as a mobile phone, and it runs the Linux kernel.

For more information see my website.

⋄ Jonathan Fine
United Kingdom
jfine2358@gmail.com
https://jfine2358.github.io