

the codex

Life with Linux — A Zine

Typeset in L^AT_EX

Issue #003

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Impressum

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Although this is now in your hands, and it's also on the web, so if you really wanted to steal this, I've made it pretty darn easy. I can't imagine why anyone would want to, though. However, you don't need to, because this is licenced under a CC BY-NA-SA 4.0 Creative Commons license. More information is at <https://creativecommons.org/licenses/by-nc-sa/4.0/> 

FYI, this is made in L^AT_EX using the report document class. It then gets exported to a letterhalf (5.5 in x 8.5 in) pdf, which then gets made into a booklet using PDF Booklet (<https://pdfbooklet.sourceforge.io/wordpress/>).

I'm pushing this to my own git server as I write this. You can find it here: <https://git.kjodle.net/kjodle/the-codex>. New issues will be pushed after they are complete.

You can just skip over all the diversions in here if you want. It's just how my mind works. (And yes, there will be politics in this. *You have been warned.*) Also, I use a lot of em-dashes, parentheses, and footnotes because that is also how my mind works. It's just one big long stream of consciousness up in here most days.

Errata: To err is human, to document those errors is divine. A list of errata can be found at <https://git.kjodle.net/kjodle/the-codex/wiki/Errata>.

Credit where credit is due: A lot of people have come forth (mostly from Reddit) to help me out in various ways. See the preamble to this document in the source code to see them. One aspect of our society is that nobody *has* to help you. It is wonderful when it happens, and I am grateful for their help.

The picture of a VT100 terminal is courtesy of Jason Scott. It was published at https://en.wikipedia.org/wiki/VT100#/media/File:DEC_VT100_terminal.jpg where you can also find the Creative Commons 2.0 license it was licensed under. (By Jason Scott - Flickr: IMG_9976, CC BY 2.0, <https://commons.wikimedia.org/w/index.php?curid=29457452>)

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Chapter 1

The Last Salad Days

1.1 College

1.1.1 1986

I went to away to college in the fall of 1986. Personal computers were still very much on my mind, but I still only owned a Commodore 128. We were still typing papers on electric typewriters at that point, and the height of that technology was correction paper.¹

We did have computers available to us, however. Our college owned two mainframe systems: a DEC-10 and a VAX 9000. As I remember, you had to go down to the basement of the science building to use them, where they had a room filled with VT100 terminals.

I wish for the life of me that I remember this experience better. The “computer room ” (nobody thought of it as a “lab”—it would be many years

¹This was a very convenient alternative to a product called “Liquid Paper” (also called “whiteout”) which was essentially paper-colored paint in a small bottle with a brush in the cap. When you made a mistake, you shook the bottle and brushed a very thin layer over the mistake. You then waited for the whiteout to dry, backed up, and typed the correct letter. The fluid contained a lot of solvent, and as this was the time of the Satanic Panic, parents were warned that their kids could be huffing whiteout. As you used the product, more and more of the solvent evaporated out of the bottle, meaning that it eventually became a gloopy, chalky mess, meaning you could only use half of what was in the bottle—it was not very efficient. With correction paper, you just backed up to the mistake, put a bit of correction paper on top of the paper, typed the mistake again, removed the correction paper, backed up and typed the correct letter. It was much neater, had no terrible fumes, and you didn’t have Fundies chasing you down the street accusing you of being a devil-worshipping drug addict because you had a bottle of correction fluid in your pocket. (Liquid Paper was invented by Bette Nesmith Graham, who also happened to be the mother of Mike Nesmith of the Monkees.)

before I heard that term applied to it) looked a lot like what one might think: a windowless room with concrete block walls, tile floors, fluorescent lights buzzing away angrily overhead, and lots and lots of terminals.²



People didn't really know much about these two mainframe systems, although I remember hearing the few computer people who were around praising the VAX as being far superior to the DEC-10. (A bit of internet research confirms this—the VAX line of mainframes was intended as a replacement for the DEC line of mainframes.) Everything was from the command line. If you saved a file (and I tried for a few

weeks to type up some of my notes from class, but quickly realized that this was pointless, as I couldn't take the digital files with me) and wanted to print it, you had to send it to the print queue, and then go to a different room in the building where the line printer was located.

At this point, it was possible that your printout was ready. But it was also entirely possible that it wouldn't be ready. Everything was printed on unperforated continuous feed paper that was 15 inches wide.³ The problem was someone had to be there to tear off your printout after it was completed—the printers had no way of doing this automatically. Somebody had to be there when the printer was done printing your job to tear it off, take it out of the printer's tray, figure out that it belonged to you, and set it on a shelf for you to pick up later.

And if nobody was there, the printer just kept printing, and someone would have to separate possibly dozens of different print jobs. If your print job was small, it was entirely possible that someone would miss it and it would be stuck on to the end of someone else's print job. If the paper ran out of paper and nobody was there to replace it, your file just went into the printer memory (or somewhere into the ether if the printer's memory was full) until the paper was refilled. Printing anything was a big investment of time and energy (not to mention hope) and I will gladly take the occasional printer jam over that experience any day.

The only other remarkable thing I remember about that early college experience is that everybody had to take a basic computer course. This was a single, university-level course that all freshmen had to take.

I hate these sorts of things.

²There is a pdf of the VT100 manual available at <https://vt100.net/dec/ek-vt100-tm-002.pdf>. It makes for fascinating reading, assuming you are into that sort of thing.

³See the Wikipedia entry on "continuous stationery" to see what I'm talking about.

I get the point—computers are going to be a thing in everybody’s lives, so lets make sure all our future graduates have a solid background in them. The problem is that information technology moves at a pretty rapid pace, and college students have a wide variety of backgrounds and career plans, and as a result, it’s difficult to create a course like this that is in any way useful to every single student who takes it.

And I found that I knew much of the material anyway. It was taught in a large lecture hall, and there wasn’t really any point for the instructor to hold up a hard drive in her hand and announce “This is a hard drive.” Unless you were in the first ten rows, she could have been holding up a brick. I’m sure that what she said after that sentence was informative, but I’m also sure I already knew it.

Sometime during the third week we had an entire lecture about modems (“*modem* stands for *modulator-demodulator*” I remember hearing before I dozed off⁴) and I decided to just stop attending class. I showed up for the exams, rushed through them, got a C in the course, and decided to never take another computer course ever again.

I should mention that I went to college with the goal of becoming high school biology teacher. Over time, I realized how valuable this computer course was to me, because it made me realize that no matter who you are or where you are in life, any class should be valuable to you in some way. (This is a lesson that the modern educational-industrial complex has not, and will never, absorb.)

1.1.2 2008

1.2 Teaching Computers

⁴Which is true, but means absolutely nothing to anyone who just wants to get on the internet. Modems were designed to transmit digital data over analog telephone lines, and they accomplished this by *modulating* a carrier wave to carry digital information before sending it, and *demodulating* a received carrier wave to recreate the original digital information. I don’t miss 4,800 bps speeds, but I do miss that modem login sound. Apparently other people do as well, because you can hear it at <https://www.youtube.com/watch?v=gsNaR6FRu00>

Chapter 2

What's to Like About Linux

Chapter 3

Coda

3.1 What I Learned About L^AT_EX While Creating This Issue

3.1.1 Image Sizes

A few people have noted on Reddit that the images I include are far larger than I need them to be. This is true. I had a lot of things like this in issue #2:

```
\includegraphics[scale=0.5]{paper_cutter}
```

And it seems that the worst offender was this line:

```
\includegraphics[scale=0.13]{c128}
```

This is a problem because that `paper_cutter.jpg` image is 136kb in size and that `c128.jpg` image is 2.3 mb in size. Because these get included in L^AT_EX, which then handles the scaling, the resulting pdf file is rather bloated, which is the exact opposite of what you want when you are distributing something via the internet.

Because I am scaling the paper cutter image by 0.5, the resulting file size should be about a fourth of that, or 34 kb. And because I'm scaling the `c128` image by 0.13, the corresponding file size should be about 0.0169 of that, or roughly 40 kb in size. That's a huge difference.⁵

⁵Roughly, the size of your file should be approximately reduced by the square of your scaling factor. But these are jpg files, which are lossy, so it's never exactly that amount.

The problem is that I always envisioned this zine as being a physical object, not a digital one. I only uploaded it to my git repository because this is a learning project for me, and I wanted to keep track of any changes I made.

But yeah, you should definitely resize your images before including them in any document you intend to distribute digitally. (Thank you, GIMP.) You'll notice that the image of the VT100 terminal on page 5 clocks in at a very sensible 79 kb. That's more like it.