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I've always helped help other people use computers. I was everyone's tech support for years, which prepared me for the decade or so when I was a CIO-for-hire. In the early days of the internet, I spent endless hours helping my BBS friends find their way onto the net. 1/



11:48 AM · Nov 13, 2022 · chlr.app

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Replying to @doctorow

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Helping other people use technology requires humility: you have to want to help them realize "their" goals, which may be totally unlike your own. You have to listen carefully and take care not to make assumptions about how they "should" use tech. 3/

You may be a tech expert, but "they" are experts on "themselves".

This is a balancing act, because it's possible to be "too" deferential to someone else's needs. 4/

As much as other people know about how they want technology to "work", if you're their guide, you have to help them understand how technology will "fail".

For example, using the same memorable, short password for all your services "works" well, but it fails "horribly". 5/

When one of those passwords leak, identity thieves can take over all of your friend's accounts. They may think, "Oh, no one would bother with my account, I've got nothing of value," so you have to help them understand how opportunistic attacks work. 6/

Yes, they might never be individually targeted, but they might be targeted "collectively", say, to have their social media accounts hijacked to spread malware to their contacts.

Paying attention to how things work without thinking about how they fail is a recipe for disaster. 7/

It's the reasoning that has people plow their savings into speculative assets that are going up and up, without any theory of when that bubble might pop and leave them ruined. 8/

It's hard to learn about failure without experiencing it, so those of us who have lived through failures have a duty to help the people we care about understand those calamities without living through them themselves. 9/

That's why, for two decades, I've always bought my hardware with an eye to how it "fails" every bit as much as how it "works". Back when I was a Mac user - and supporting hundreds of other Mac users - I bought two Powerbooks at a time. 10/

I knew from hard experience that Applecare service depots were completely unpredictable and that once you mailed off your computer for service, it might disappear into the organization's bowels for weeks or even (in one memorable case), months. 11/

I knew that I would eventually break my laptop, and so I kept a second one in sync with it through regular system-to-system transfers. 12/

When my primary system died, I'd wipe it (if I could!) and return it to Apple and switch to the backup and hope the main system came back to me before I broke the backup system.

This wasn't just expensive - it was very technologically challenging. 13/

The proliferation of DRAM and other "anti-caused" measures on the Mac increasingly caused key processes to fail if you simply copied a dead system's drive into a good one.

Then, in 2006, I switched operating systems to Ubuntu, a user-centric, easy-to-use flavor of GNU/Linux. 14/

Ubuntu was originally developed with the idea that its users would include Sub-Saharan African classrooms, where network access was spotty and where technical experts might be far from users. 15/

To fulfill this design requirement, the Ubuntu team focused themselves on working well, but also failing gracefully, with the idea that users might have to troubleshoot their own technological problems. 16/

One advantage of Ubuntu: it would run on lots of different hardware, including IBM's Thinkpads. The Thinkpads were legendarily rugged, but even more importantly, Thinkpad owners could opt into a far more reliable service regime that Applecare. 17/

For about \$150/year, IBM offered a next-day, on-site, worldwide hardware replacement warranty. That meant that if your laptop broke, IBM would dispatch a technician with parts to wherever you were, anywhere in the world, and fix your computer, within a day or so. 18/

This was a remnant of the IBM Global Services business, created to supply tech support to people who bought million-dollar mainframes, and laptop users could ride on its coattails. 19/

It worked beautifully - I'll never forget the day an IBM technician showed up at my Mumbai hotel while I was there researching a novel and fixed my laptop on the hotel-room desk.

This service was made possible in part by the Thinkpad's hardware design. 20/

Unlike the Powerbook, Thinkpads were easy to take apart. Early on in my Thinkpad years, I realized I could save a lot of money by buying my own hard-drives and RAM separately and installing them myself, which took one screwdriver and about five minutes. 21/

The keyboards were also beautifully simple to replace, which was great because I'm a thumpy typist and I would inevitably wear out at least one keyboard. 22/

The first Thinkpad keyboard swap I did took less than a minute, and I performed it one-handed, while holding my infant daughter in my other hand, and didn't even need to read the documentation!

But then IBM sold the business to Lenovo and it started to go downhill. 23/

Keyboard replacements got harder, the hardware itself became far less reliable, and they started to move proprietary blobs onto their motherboards that made installing Ubuntu into a major technical challenge. 24/

Then, in 2021, I heard about a new kind of computer: the [@frameworkputer](https://www.frame.work), which was designed to be maintained by its users, even if they weren't very technical.

[frame.work](https://www.frame.work) 25/

The Framework was small and light - about the same size as a Macbook - and very powerful, but you could field-strip it in 15 minutes with a single screwdriver, which "shipped with the laptop". 26/

I pre-ordered a Framework as soon as I heard about it, and got mine as part of the first batch of systems. I ordered mine as a kit - disassembled, requiring that I install the drive, RAM and wifi card, as well as the amazing, snap-fit modular expansion ports. 27/

It was a breeze to set up, even if I did struggle a little with the wifi card antenna connectors (they subsequently posted a video that made this step a lot easier):

[twitter.com/frameworkputer...](https://twitter.com/frameworkputer...)

The Framework "works" beautifully, but it "fails" even better. 28/

Not long after I got my Framework, I had a hip replacement; as if in sympathy, my Framework's hinges also needed replacing (a hazard of buying the first batch of a new system is that you get to help the manufacturer spot problems in their parts). 29/

My Framework "failed" \*so well\*. They shipped me a new part, and I swapped the hinges, "one day" after my hip replacement. I couldn't sit up more than 40°, I was high af on painkillers, and I did the swap in under 15 minutes. That's graceful failure.

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After a few weeks' use, I was convinced. I published my review, calling the Framework "the most exciting laptop I've ever used."

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That was more than a year ago. In the intervening time, I've got to discover just how much punishment my Framework can take (I've been back out on the road with various book publicity events and speaking engagements) and also where its limits are. 32/

I've replaced the screen and the keyboard, and I've even upgraded the processor:

[guides.frame.work/Guide/Mainboar...](https://guides.frame.work/Guide/Mainboar...)

I'm "loving" this computer so, damn, much. But as of this morning, I love it "even more". 33/

On Thursday, I was in Edinburgh for the UK launch of "Chokepoint Capitalism," my latest book, which I co-authored with [@rgibli](https://www.rgibli.com).

As I was getting out of a cab for a launch-day podcast appearance, I dropped my Framework from a height of five feet, right onto the pavement. 34/

I had been working on the laptop right until the moment the cab arrived because touring is "nuts". I've got about 150% more commitments than I normally do, and I basically start working every day at 5AM and keep going until I drop at midnight, every single day. 35/

As rugged as my Framework is, that drop did for it. It got an ugly dent in the input cover assembly and - far, far worse - I cracked my screen. The whole left third of my screen was black, and the rest of it was crazed with artefacts and lines. 36/

This is a catastrophe. I don't have "any" time for downtime. Just today, I've got two columns due, a conference appearance and a radio interview, which all require my laptop. 37/

I got in touch with Framework and explained my dire straits and they helpfully expedited shipping of a new \$179 screen.

Yesterday, my laptop screen stopped working altogether. I was in Oxford all day, and finished my last book event at about 9PM. 38/

I got back to my hotel in London at 11:30, and my display was waiting for me at the front desk. I staggered bleary-eyed to my room, sat down at the desk, and, in about fifteen minutes flat, I swapped out the old screen and put in the new one.

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\*That is a fucking astoundingly graceful failure mode\*.

Entropy is an unavoidable fact of life. "Just don't drop your laptop" is great advice, but it's easier said than done, especially when you're racing from one commitment to the next without a spare moment in between. 40/

Framework has designed a small, powerful, lightweight machine - it works well. But they've "also" designs a computer that, when you drop it, you can fix yourself. That attention to graceful failure saved my ass. 41/

If you hear me today on [@CBCSunday](https://www.cbc.com), or tune into my [@aaronswartz](https://www.aaronswartz.com) talk, or read my columns at [@medium](https://www.medium.com) and [@ocusmag](https://www.ocusmag.com), that's all down to this graceful failure mode. 42/

Framework's computers aren't just the most exciting laptops I've ever used - they're the most exciting laptops I've ever "broken". 43/