

ONE MILLISECOND

Every project I start, starts the same way.



Plug in the board.

CLICK

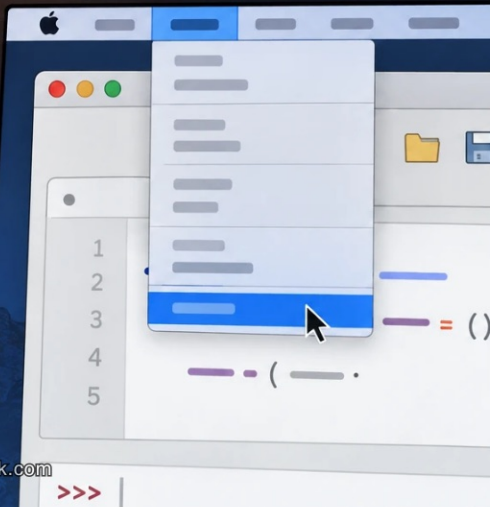
Open Thonny.

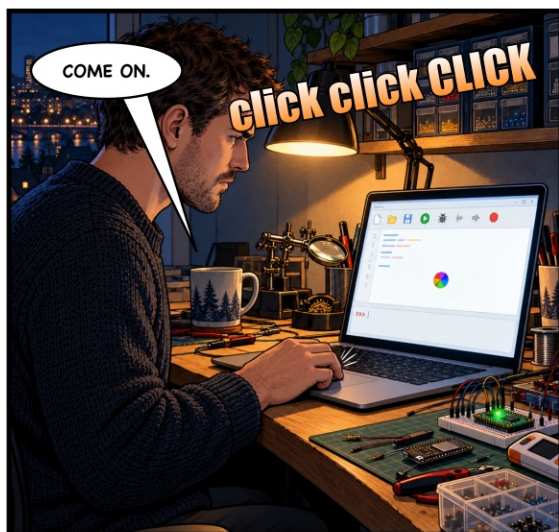
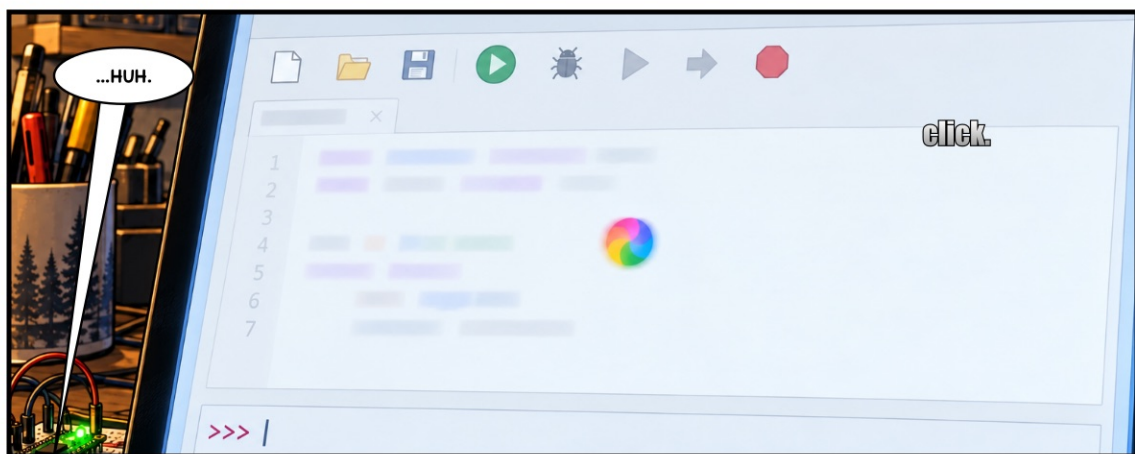
BLINK FIRST. THEN THE REAL STUFF.

```
main.py =  
1 from machine import Pin  
2 from time import sleep  
3  
4 led = Pin("LED", Pin.OUT)  
5 while True:  
6     led.toggle()  
7     sleep(0.5)  
8  
>>> |
```

Tools. Options. Pick the port.

Easy.

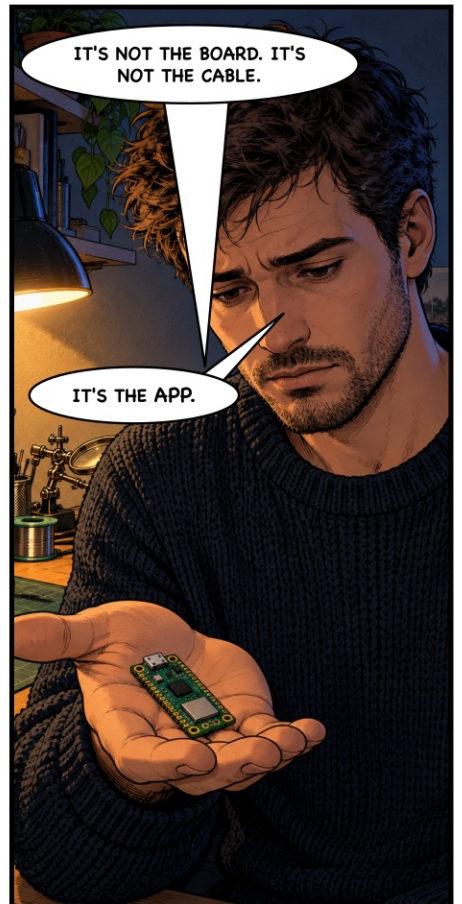
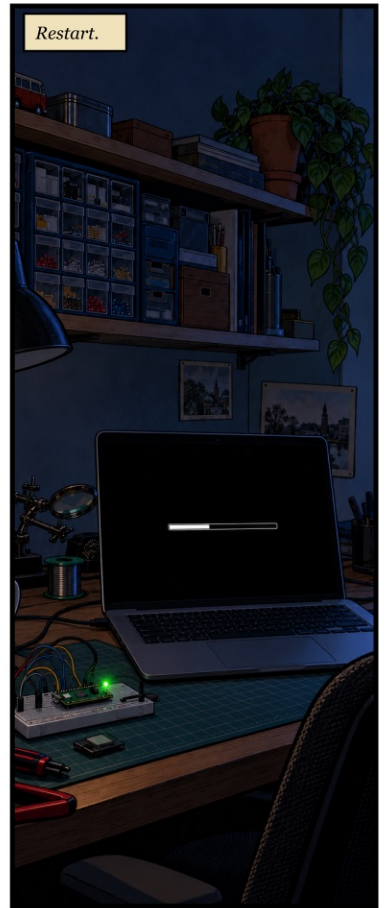
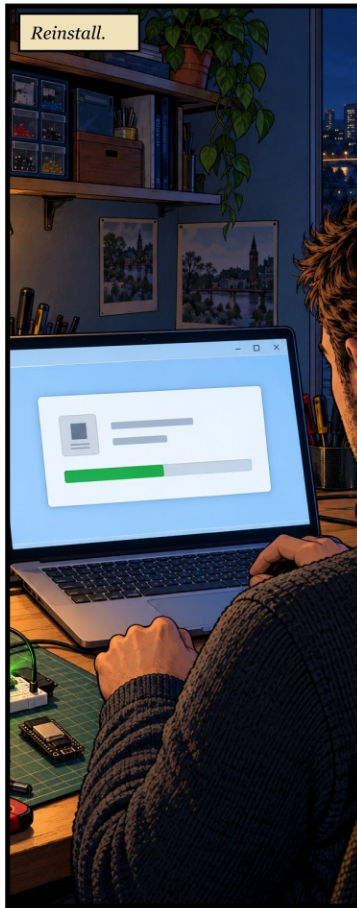
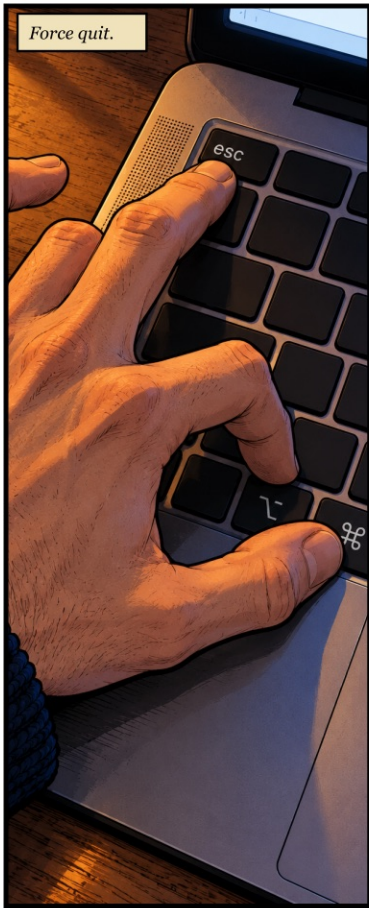


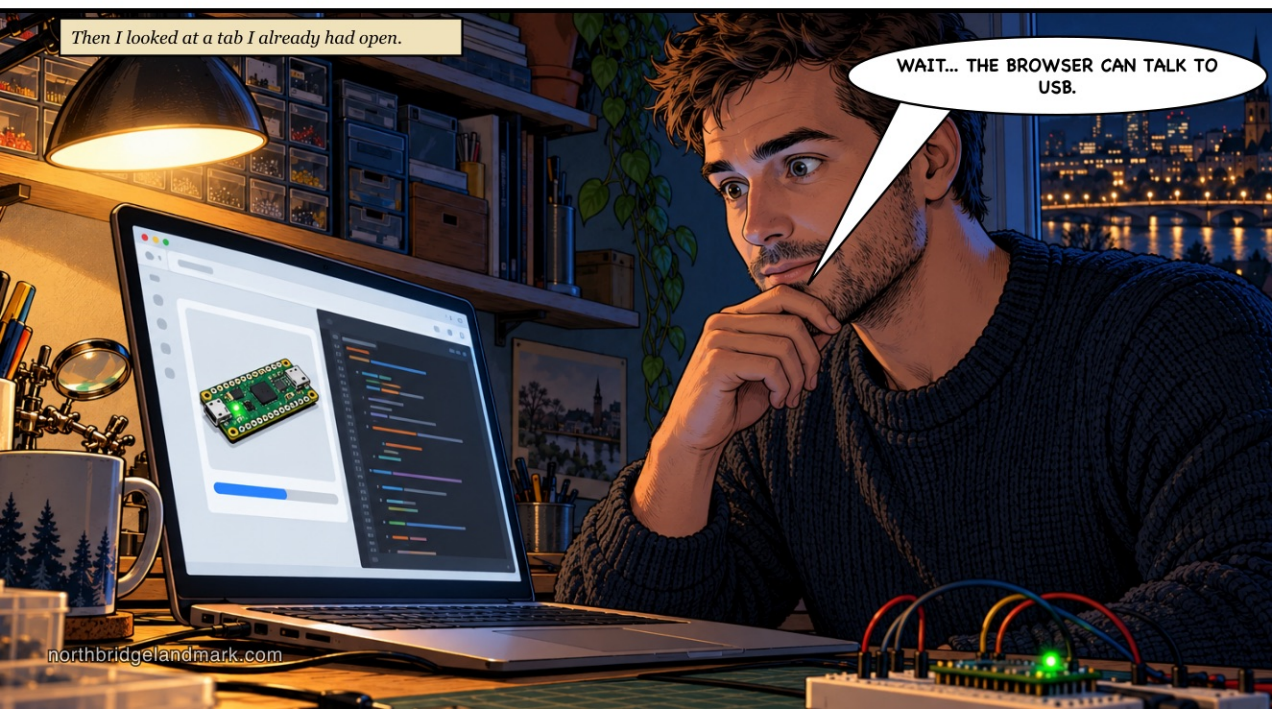
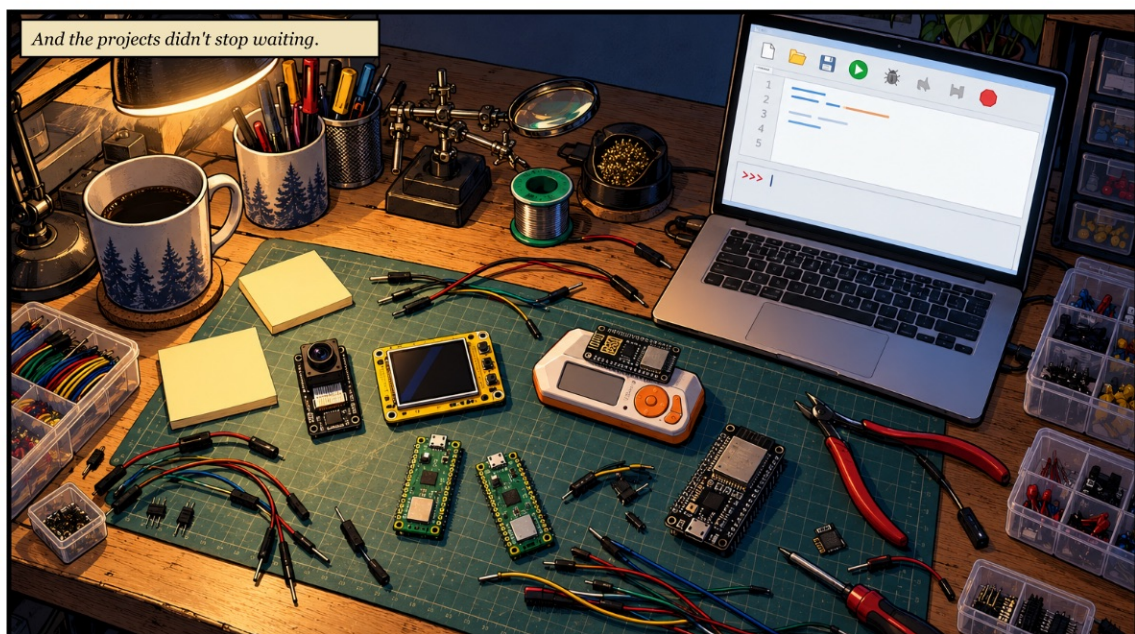


macOS 27 had shipped.

And Thonny froze every time I opened a window from the menu bar.



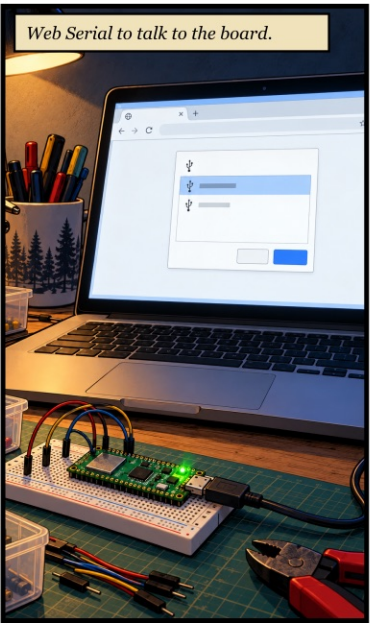




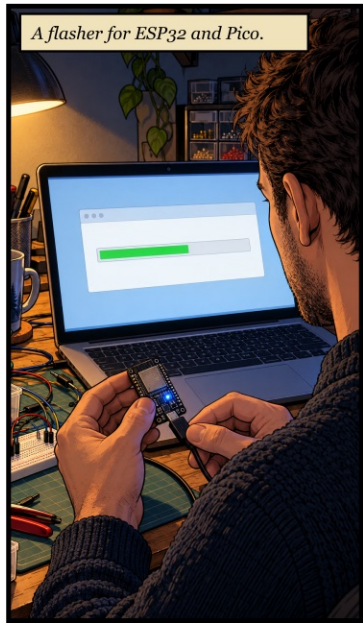


NORTHBRIDGELANDMARK.COM/ WORKBENCH

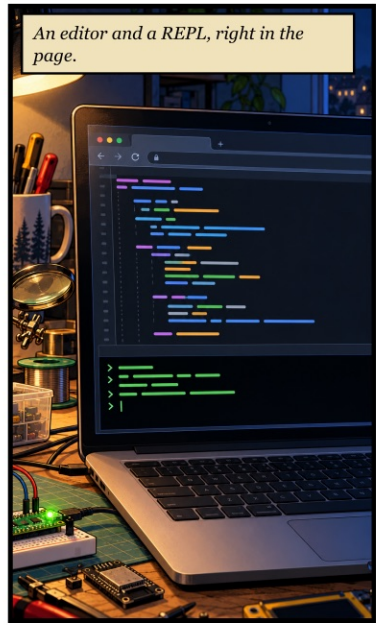
My website already had a workbench page.



Web Serial to talk to the board.



A flasher for ESP32 and Pico.



An editor and a REPL, right in the page.



LOCALHOST FIRST.

...OKAY. LIVE.

Flasher. IDE. All in one tab.

BLINK

IT'S ALL RIGHT HERE!

A Pico and an ESP32, flashed from the live site.

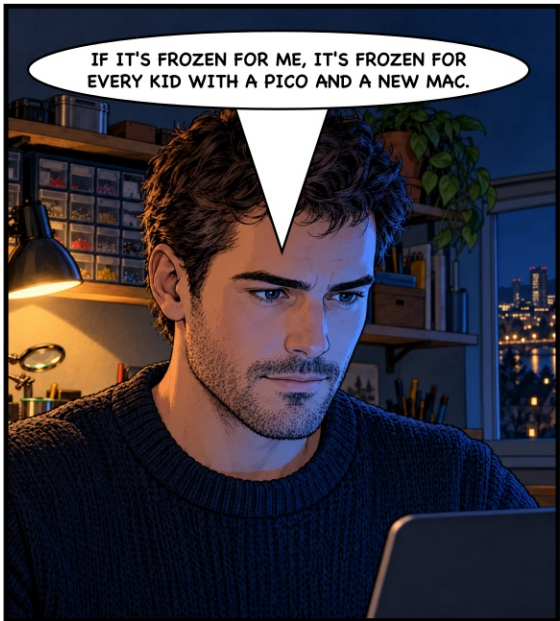
blink



I was back to work.
But Thonny kept bugging me.



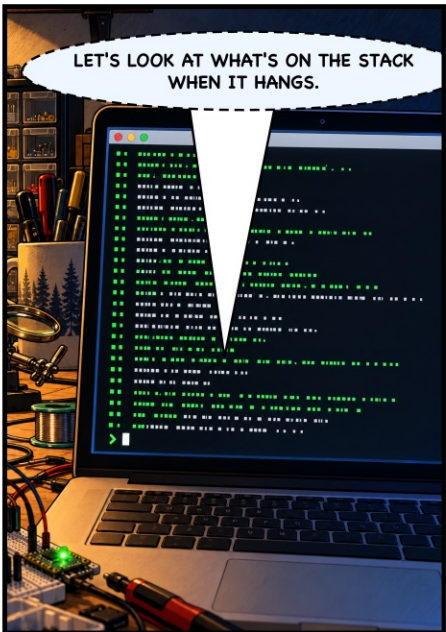
Thonny is how a lot of people meet
their first microcontroller.



IF IT'S FROZEN FOR ME, IT'S FROZEN FOR
EVERY KID WITH A PICO AND A NEW MAC.



OKAY. LET'S TAKE IT APART.
A COPY OF IT.



LET'S LOOK AT WHAT'S ON THE STACK
WHEN IT HANGS.

