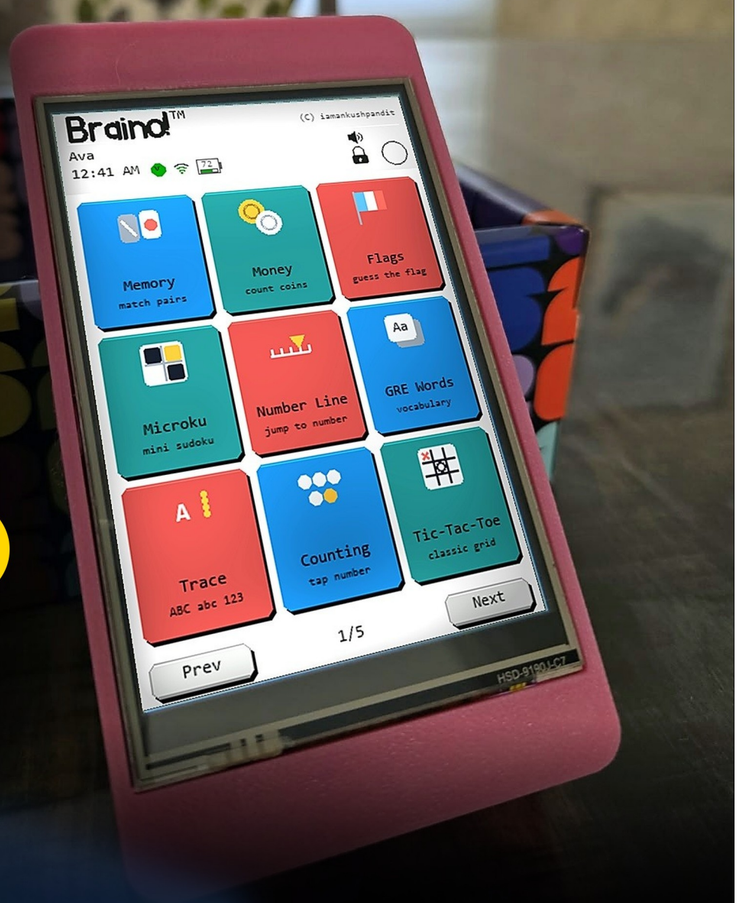
Braino!

OPEN-SOURCE LEARNING CONSOLE FIRMWARE

4 MB.



That is smaller than one photo. It runs an entire learning console.

Games that teach handwriting, maths, flags, the periodic table and more, on an ESP32 touchscreen board, with no cloud and no accounts. Everything fits in the 4 MB of flash on the board.

In a world of gigabytes and cloud storage, Braino fits a whole learning console in four megabytes.

IT IS FIRMWARE

Braino runs on a CYD, a "Cheap Yellow Display": an ESP32 already soldered to a touchscreen.

FLASH IT FROM CHROME

Plug in USB-C, open the site in Chrome or Edge, pick your board, press Install. About a minute, nothing to solder.

OPEN SOURCE

GPL-3.0. The firmware and the 3D-printable cases live in one repository. Nothing phones home.

WHICH BOARD

2.8 inch, resistive or capacitive. 3.2 inch, resistive. 4 inch, resistive. One firmware: pick the board when you install.

PLAYERS

First letters to the periodic table. Most games are courses that grow with each player.

ADMINISTRATORS

Choose which games each player sees. Up to five players and a Guest; settings behind a PIN.

PLAY TOGETHER

Chess, Go, Sea Battle, Backgammon and Ludo across consoles, over a Bluetooth beacon. No pairing, no phone.

ESP32 MAKERS

No OS, no SD card, no cloud: 4 MB of flash doing all of it. Nine themes, and a Pong screen saver that lights the case.

3D PRINTING

The case is in the repository, with room for a 3000 mAh battery and a speaker. Pink is the house colour.

GAME DEVELOPERS

The launcher, players, scores and courses already exist: you write the game, Braino does the rest.

BOARD PORTERS

A new board is one header and one platformio.ini section. docs/PORTING.md is the checklist.

CASE DESIGNERS

The 2.8, 3.2 and 4-inch boards all want good enclosures, with and without a speaker.

BUILT WITH AI. ON PURPOSE.

The privacy rules are written into the repository and CI checks every change against them.

WHAT A PLAYER BUILDS, ONE GAME AT A TIME

NUMBERS

Counting to times tables, fractions, money and the clock.

WORDS

Tracing letters, joined-up handwriting and new words.

THE WORLD

Flags and capitals, the fifty states, the planets, the elements.

THINKING

Memory, logic puzzles and planning moves ahead.

PLAYING FAIR

Chess, Go, Backgammon and Ludo: taking turns, winning and losing well.

Star it on GitHub.

github.com/iamankushpandit/Gume

Get started on the site.

iamankushpandit.github.io/Gume