

ROMP

Your body is the controller.

Turn your old tablet and TV into a motion game console.

The camera watches you, and you play by moving: slicing fruit, dodging, punching, squatting, dancing. You get 17 games on the TV you already own, and it's free and open source. You don't need a console or a subscription.



COST

₹0

Free and open on GitHub. You bring the tablet, the TV and a cable.

SETUP TIME

About 20 minutes

Cable, one free deploy, done.

PLAYERS

1 or 2

Solo, together, or taking turns.

STEP 0

What you need

An old tablet

It needs a front camera and **Chrome**. Android is what Romp is built and tested on. A few years old is fine: mine is six.

A TV with HDMI

Any TV works. A bigger screen is more fun, but the game still runs on the tablet's own screen if you don't have a TV.

USB-C to HDMI adapter

A cheap USB-C hub with HDMI, about ₹800–1,500. Get one with a **USB-C charging port (PD)** so the tablet charges while you play.

About 2–3 m of floor

The camera has to see you from head to feet. A narrow room is fine because most games only need you to reach up and forward.

Will my tablet work with the TV?

This is the only real question. Your tablet's USB-C port has to send **video** out, which is called **DisplayPort Alt Mode**. Many devices can't do it, even though the plug is the same.

Usually yes

Samsung Galaxy Tab S series (Tab S4 and newer, like my Tab S7). These also get **Samsung DeX**, which is the best way to play.

Check your model

Other Android tablets, including some Lenovo, Xiaomi and OnePlus models. Search "*your model* + USB-C HDMI output" or "DisplayPort Alt Mode".

Usually no

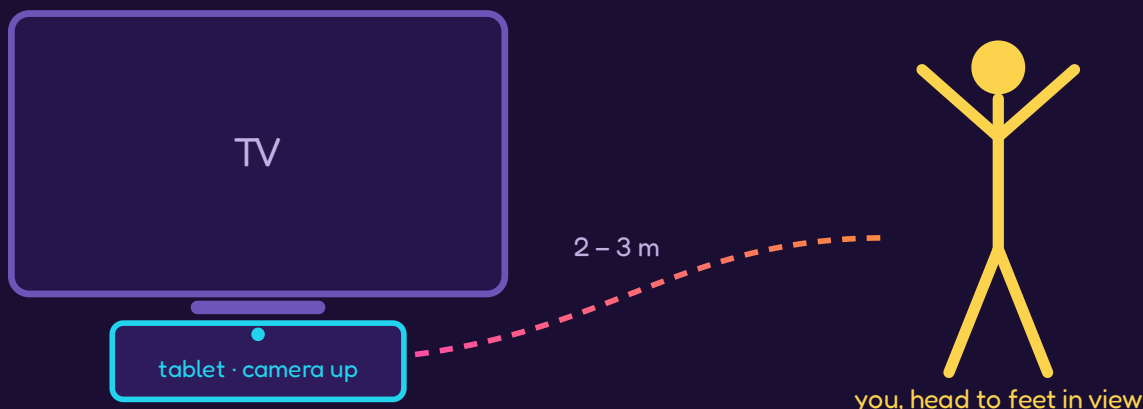
Most budget tablets, like Samsung Galaxy Tab A and many entry-level models. If yours is one of them, use one of the **plan B** options below.

The fastest test: plug the hub into the tablet, the HDMI cable into the TV, and switch the TV to that HDMI input. If you see your tablet's screen on the TV, you're good.

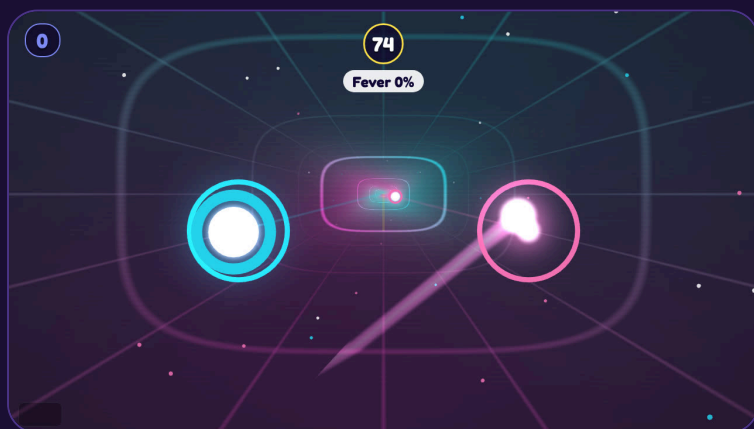
Plan B, no video out: ① cast the screen to the TV with Smart View, Google Home or your TV's screen mirroring. It works, but you'll feel a bit more lag. ② Prop the tablet up and play on its own screen. Everything still works, just smaller.

STEP 1

Set it up



- 1 Connect.** Tablet → USB-C hub → HDMI cable → TV. Plug the tablet's charger into the hub's USB-C charging port. The camera and the game keep the tablet busy, so charge it while you play.
- 2 Place the tablet** just under (or above) the TV, **landscape**, front camera facing the room, at about waist-to-chest height. A small stand or a stack of books works.
- 3 Samsung? Use DeX.** When you connect, choose **DeX** (not “Screen mirroring”). Romp then gets the whole TV. On other devices the screen mirrors, and that's fine.
- 4 Put the TV in Game mode.** **the single biggest fix** On the HDMI input you're using, set the picture mode to **Game** (Sony and Samsung call it Game mode, LG calls it Game Optimizer) and turn **motion smoothing** off. On my TV this cut the delay from about 160 ms to about 67 ms. Everything felt twice as snappy.
- 5 Light the room.** Switch on the ceiling light and avoid standing with a bright window behind you. The camera tracks you much better when it can see you clearly.



This is Pulse. Notes fly down a neon tunnel onto two rings, cyan for your left hand and pink for your right. Swing, clap and duck on the beat, to three original songs.

STEP 2

Get Romp

Romp is open source. The whole thing (all 17 games, the body tracking, the music) lives in one GitHub repo:



THE REPO

github.com/harsha20599/romp

Scan it, or type it into any browser. Everything below starts from here.

Romp is a website you host yourself. Chrome only lets a page use the camera over a secure **https://** link, so pick one of these:

Option A: one-click deploy

easiest · no coding

- 1 Open the repo and tap the black ▲ **Deploy** button near the top of the page.
- 2 Sign in to **Vercel** with your GitHub account (free), then press **Deploy**. It builds Romp for you in about two minutes.
- 3 You get your own link, like **romp-something.vercel.app**. That link is your console. Save it.

Option B: build it yourself

for the nerds

On a computer with **Node.js 22+** and **Git**, on the same Wi-Fi as the tablet:

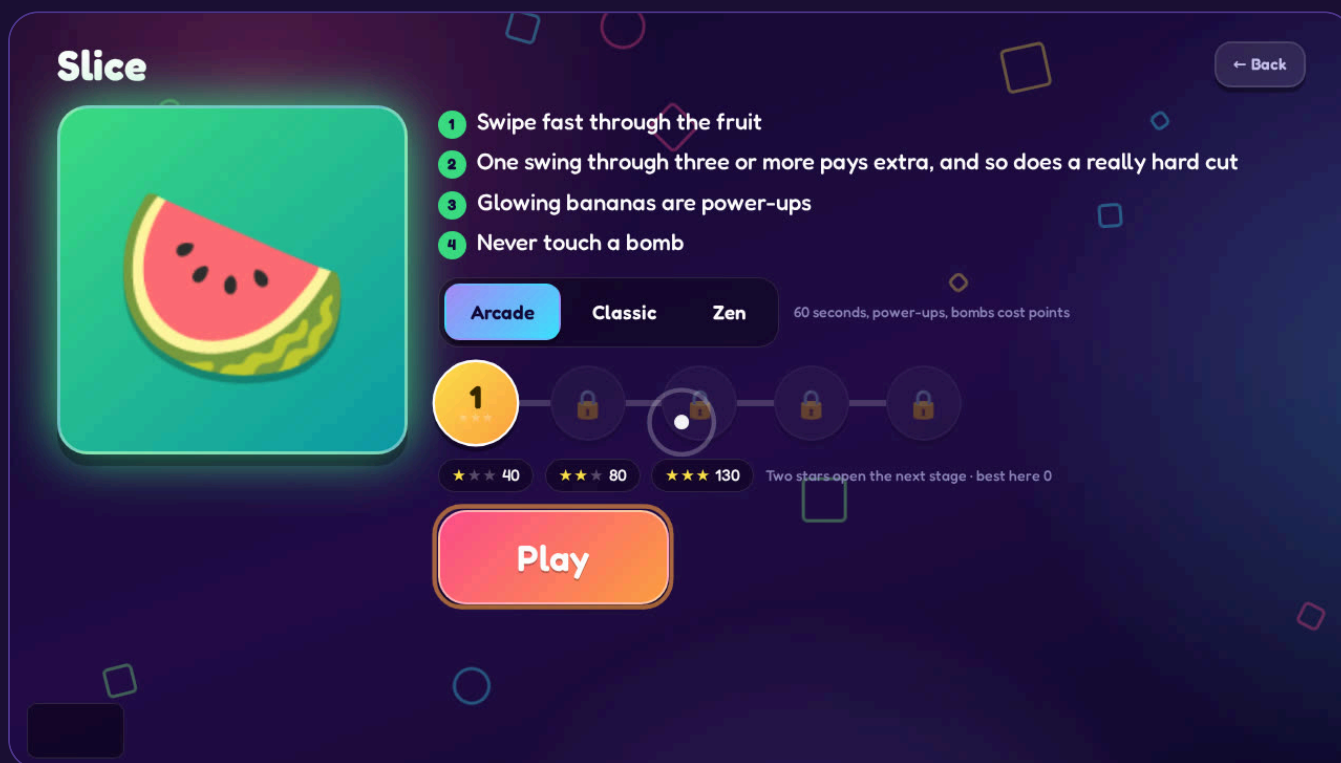
```
git clone https://github.com/harsha20599/romp.git
cd romp
npm install
npm run build
npm run play
```

On the tablet, open **http://<your computer's IP>:4173**. It's plain http, so first allow the camera for it: in Chrome open **chrome://flags**, search *"insecure origins treated as secure"*, add that address, set it to **Enabled** and relaunch Chrome.

STEP 3

Open it and play

- 1 **Open your Romp link in Chrome** on the tablet.
- 2 **Allow the camera** when Chrome asks. If you tapped “Block” by mistake, tap the icon left of the address, then **Permissions → Camera → Allow**, and reload.
- 3 **Make it an app.** Chrome menu ☰ → **Add to Home screen** (or “Install app”). Romp then opens full-screen from its own icon.
- 4 **Step back** until your whole body is in view. Romp tells you if your feet or head are cut off.
- 5 **Point at a button and close your fist** to press it. You never have to touch the tablet. If you're near the tablet, tapping works too.
- 6 **Once per setup:** Home → **Tracking → Measure**. The screen flashes for about 12 s while the camera measures your TV's delay, and Romp uses that number to make movement feel instant. Do it again if you change the TV or cable.

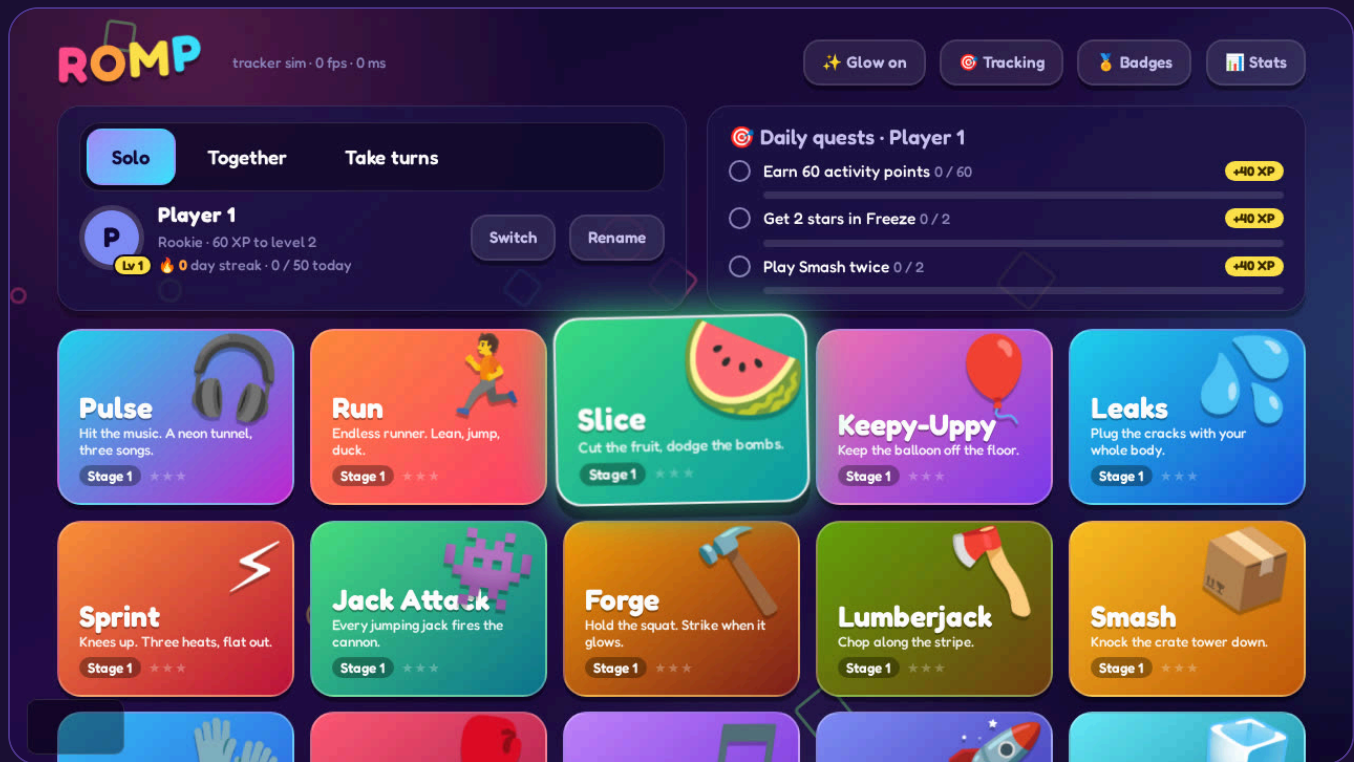


Every game shows how to play before it starts. Earn two stars to open the next stage, and pick a mode (here: Arcade, Classic, Zen).

Private by design: the body tracking runs on your tablet itself. Your camera picture is never uploaded anywhere.

WHAT'S INSIDE

17 games



WORKOUTS

- **Sprint:** run on the spot, knees up. Your pace is your speed.
- **Jack Attack:** every jumping jack fires the cannon.
- **Forge:** hold the squat, then strike when the blade glows.
- **Lumberjack:** wind up and chop across your body.
- **Rocket:** every squat is an engine burn.

MUSIC AND DANCE

- **Pulse:** neon tunnel, three original songs. Swing, clap, duck.
- **Beat:** hit the moves on the beat.
- **Freeze:** dance, then hold dead still.

POSE

- **Shape Up:** match the shape before it lands.

ARCADE

- **Slice:** cut the fruit with your hands and dodge the bombs.
- **Run:** endless runner. Lean, jump, duck.
- **Jab:** punch the pads, squat under the bar.
- **Goalie:** get a glove to every shot.
- **Smash:** knock the crate tower down.
- **Wipe:** scrub the screen clean before the grime creeps back.
- **Keepy-Uppy:** headers and kicks keep the balloon up.
- **Leaks:** plug the cracks with your hands, feet and head.

Playing with friends: pick **Together** to play side by side (you can team up or compete), or **Take turns** if the room is narrow. Stars, levels, badges and daily quests are saved on the tablet.

Quick fixes

My moves show up late

Turn on TV **Game mode** and switch motion smoothing off. Use DeX instead of mirroring. Then run Tracking → **Measure** again. Casting over Wi-Fi always adds some delay, so a cable is best.

It doesn't see me, or the hand jitters

Add light, step back until your feet are in view, and don't stand against a bright window. Plain clothes that stand out from the wall help too.

Black screen or “camera blocked”

Chrome → lock icon → Permissions → Camera → Allow. Close any other app that is using the camera, then reload.

TV shows nothing

Pick the right HDMI input on the TV. Try another cable. If it never works, your tablet probably has no video out (see page 2). Cast the screen instead.

The tablet gets warm or slows down

That's normal, because the camera and the game both run on it. Close other apps, keep it on the charger, and turn off **Glow** on the home screen for extra speed on older devices.

Buttons won't press

Open your hand fully, point at the button, then close your fist once. If it still won't read your fist, hold the pointer still on the button and it presses on its own.

No sound

The sound comes out of whatever shows the picture. Turn up the TV volume, and on the tablet check that media volume isn't muted.

iPad?

Romp is built and tested on Android with Chrome. iPad may work, but I haven't tested it yet. Tell me how it goes.

MY EXACT SETUP, FOR REFERENCE

Tablet	Samsung Galaxy Tab S7 (about 6 years old), in DeX
Cable	A USB-C hub with HDMI and a charging port that I already had
TV	Sony Bravia, Game mode on, motion smoothing off
Room	Deep but narrow, so two of us play side by side with one arm out each, or take turns

COMING NEXT ON ACCIDENTAL ENGINEERING

A game console that runs on your **mobile**.

No tablet, no GitHub, no setup. Just a link you open and play.

Look out for the next episodes, and follow so you don't miss them. And send me a clip of you playing this one.