








Building companion apps in Flutter



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GDE Flutter+Dart

Need to talk fast! 

1. Introduction 
2. Examples 
3. Considerations 
4. Hardware 
5. Demo 


What are
companion
apps?



what are mobile companion apps ?

Show drafts 



Mobile companion apps are designed to complement and enhance the functionality of another primary device or service. They often provide additional features, convenience, or remote control capabilities, allowing users to interact with the main device or service from their mobile devices. 

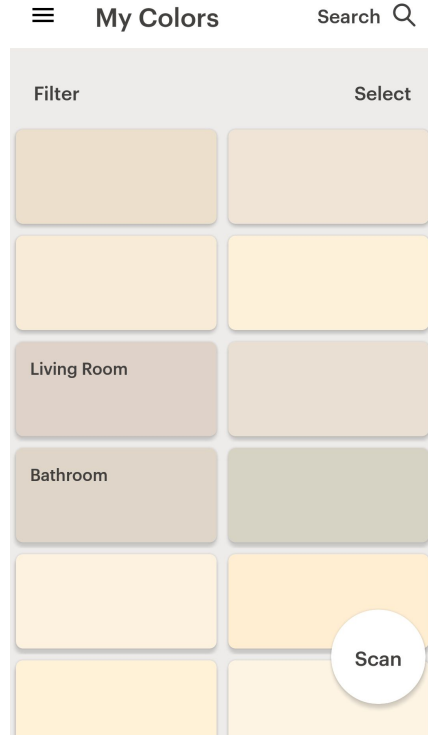
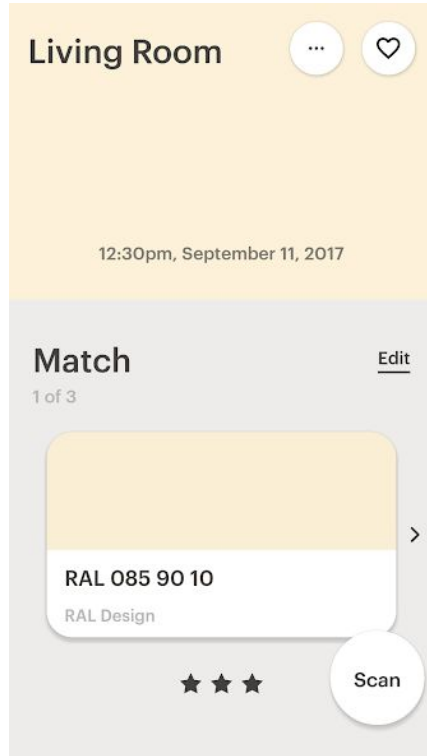
Key characteristics of mobile companion apps:

- **Complementary functionality:** They extend the capabilities of the primary device or service.
- **Remote control:** They allow users to control or manage the primary device or service from a distance.
- **Convenience:** They offer a more convenient way to access and interact with features and services.
- **Additional features:** They may provide unique features or functionalities not available on the primary device or service.

Companion Apps:

*Provide an alternative or even primary
UI for a specific hardware device*

Example: Palette Colour Cube



Example: Nura Headphones



Switch Profile

Add Profile

Share

100%

NURAPHONE 939

Charlie ▾



Neutral

Personalised

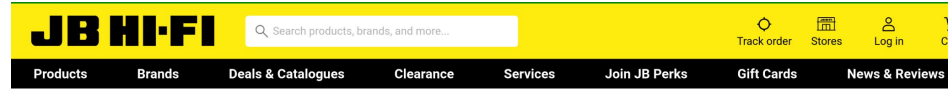
IMMERSION MODE



Getting a good fit

Adjust your NURAPHONE by moving the ear cups until both ticks appear and remain constant.

When the ticks remain constant, move your hands away and wait.



Home > Headphones, Speakers & Audio > Headphones > Over-ear headphones > Over-ear wireless headphones > Nura The NuraPhone ANC Over-Ear Wireless Headphones

IN-STORE ONLY

Gallery

Grid

CLEARANCE
nura

Nura The NuraPhone ANC Over-Ear Wireless Headphones

★★★★☆ 2.8 (15)

MODEL: NN-PHONE SKU: 415956

399

afterpay

zip

PayPal

Compare

Wish List

KEY FEATURES

We don't just hear music, we feel it. With the NuraPhone, experience a complete reinvention of the headphone from the ground up.

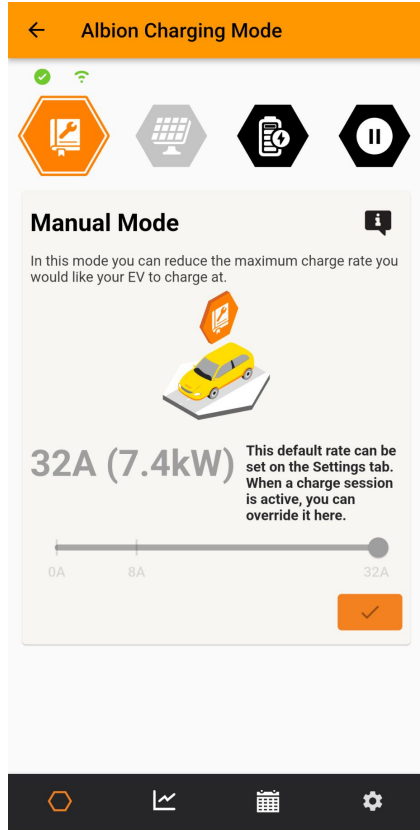
- Sound quality: Active noise cancellation
- Battery: At least 20 hours of listening during active use
- Enhanced feature: Dual drivers: clear melodies + bass you can feel

↓ Product overview

GETTING YOUR ITEM



Example: Jet Charge EV Charger



Connectivity

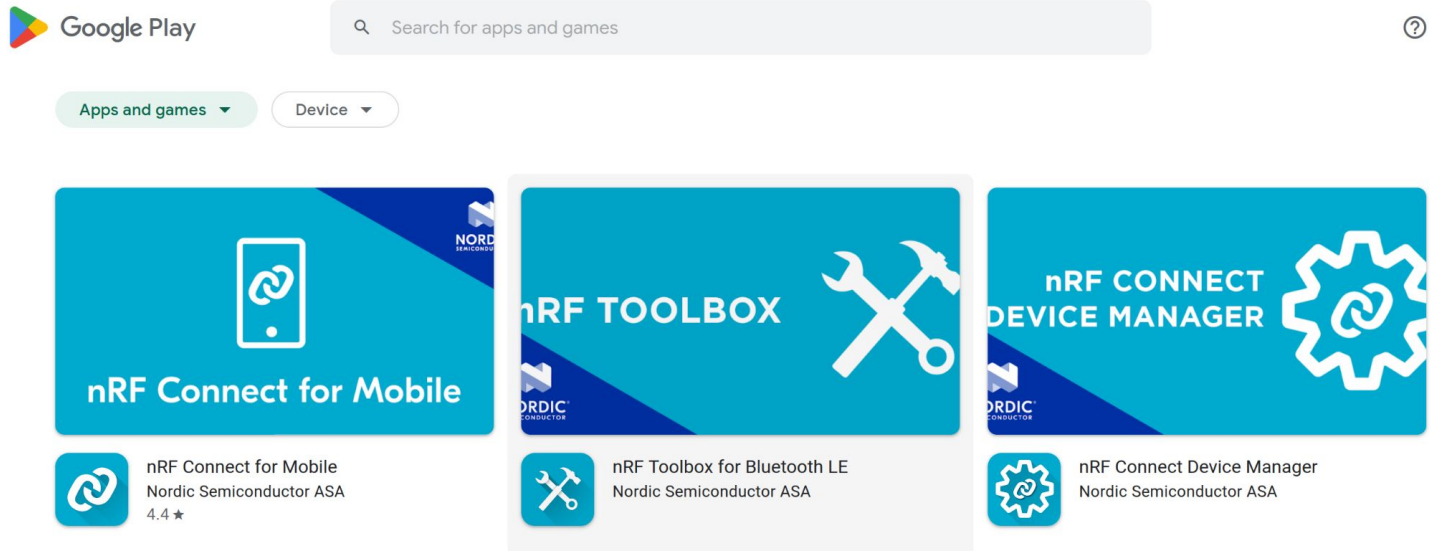
WIFI

BLE

USB

BLE (Bluetooth Low Energy)

- **By far** most **widely** used
- Simple protocol to understand
- Android apps from Nordic:



flutter_blue_plus 1.33.4



Published 8 days ago • jamcorder.com Dart 3 compatible

SDK

FLUTTER

PLATFORM

ANDROID

IOS

MACOS

967

[Readme](#)[Changelog](#)[Example](#)[Installing](#)[Versions](#)[Scores](#)

pub v1.33.4

chat 46 online

967

LIKES

150

PUB POINTS

99%

POPULARITY

Publisher

jamcorder.com

Metadata

Flutter plugin for connecting and communicating with Bluetooth Low Energy devices, on Android, iOS, and MacOS.

[Repository \(GitHub\)](#)

Not so classic...

! Bluetooth Classic is not supported !

i.e. Arduino HC-05 & HC-06, speakers, headphones, mice, keyboards, gamepads, and more are **not** supported. These all use Bluetooth Classic.

Also, iBeacons are ***not*** supported on iOS. Apple requires you to use CoreLocation.

Join the
~~Dark~~ Hardware Side

Espruino










- **JS** running **on** embedded devices
- Focuses on STM32 & Nordic nRF52832
- Easy, inc: "Blocks" programming option
- Wonderfully ***productive*** web-based REPL
- nRF52832 based devices make for great experimenting with BLE

Espruino Boards



Official Espruino devices that come pre-installed with the Espruino JavaScript interpreter. Just power them up and get started right away!

Product Compare (0) Sort By: Default Show: 15

 <p>Espruino Pico.js A Bluetooth microcontroller with built-in LCD display and Arduino footprint. Pico.js is a smart LCD wi... £36.00 Ex Tax: £30.00 ★★★★★ ADD TO CART</p>	 <p>Espruino Puck.js Lite A Smart Bluetooth Button that can be programmed wirelessly. Puck.js is an Intelligent Bluetooth button... £27.60 Ex Tax: £23.00 ADD TO CART</p>	 <p>Espruino Puck.js v2.1 A Smart Bluetooth Button that can be programmed wirelessly. Puck.js is an Intelligent Bluetooth button... £32.40 Ex Tax: £27.00 ADD TO CART</p>
 <p>Espruino WiFi A tiny WiFi-enabled board that runs JavaScript code (it doesn't need to be plugged into a computer)... £30.00 Ex Tax: £25.00 ADD TO CART</p>	 <p>Espruino Jolt.js Jolt.js is a programmable Bluetooth motor driver board. Control powerful external devices such as IL... £42.00 Ex Tax: £35.00 ADD TO CART</p>	 <p>Espruino Jolt.js Bundle Jolt.js is a programmable Bluetooth motor driver board. Control powerful external devices such as IL... £58.80 Ex Tax: £49.00 ADD TO CART</p>
 <p>Espruino Original 30% Off! Was £20.83 ex VAT, now £14.58 A development board that runs JavaScript! The Original... £17.50 Ex Tax: £14.58 ADD TO CART</p>	 <p>Espruino Pico (Pinned) A tiny USB stick that runs JavaScript - control things in the real world in just seconds! The Es... £20.00 Ex Tax: £16.67 ADD TO CART</p>	 <p>Espruino Pico (Unpinned) A tiny USB stick that runs JavaScript - control things in the real world in just seconds! The Es... £20.00 Ex Tax: £16.67 ADD TO CART</p>

Espruino on DS-D6

Espruino on \$9.99 fitness tracker

Thu Jan 17, 2019 9:17 am

Hi,

this is not strictly raspberry pi related (even if I did all the stuff on my Pi 3 and Pi3 or Zero W can easily connect to it) I just think people here might be interested in it. In past half year I've been searching for cheap hackable fitness tracker/smart watch and my drawer is full of \$6-\$11 bluetooth fitness trackers with various chinese chipsets with no datasheets or SDKs available but I finally found one that is cheap, still easy to buy and perfectly hackable with good open source support for the hardware.

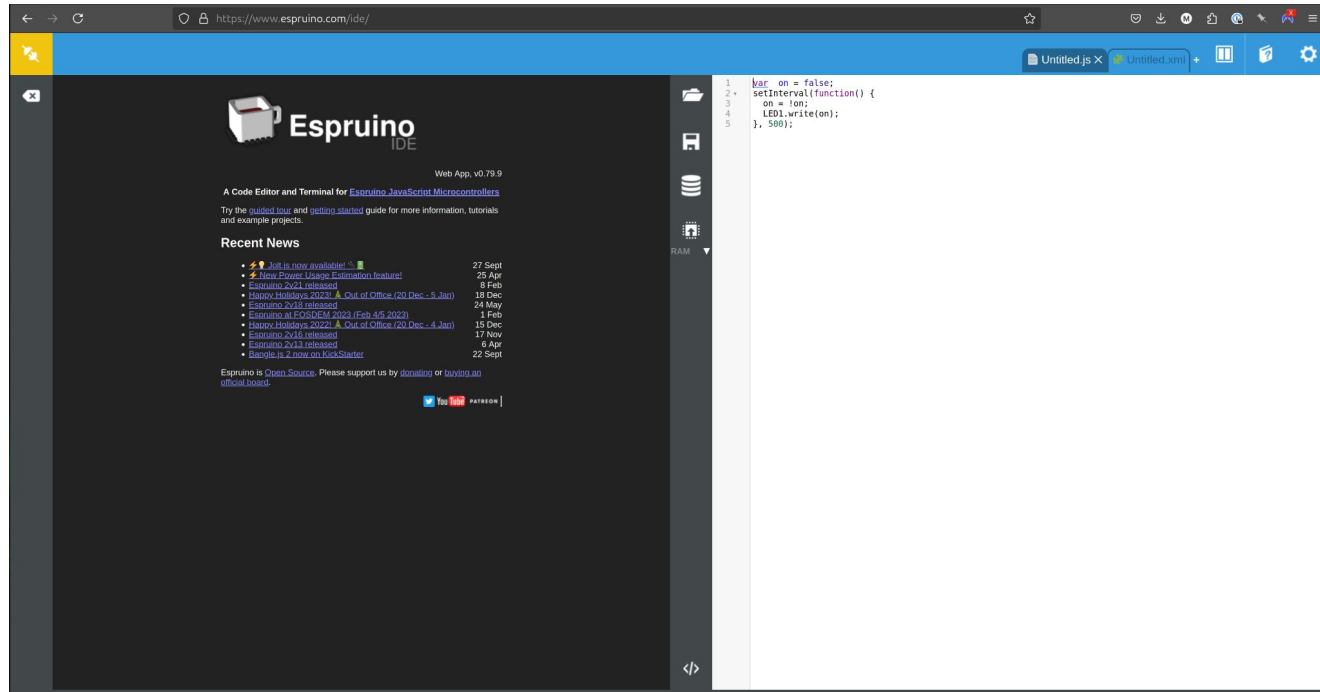
It is the DS-D6 fitness tracker/watch - device based on Nordic nRF52832 chipset (Cortex M4, 64KB RAM, 512KB flash) with Bluetooth LE, 128x32 OLED, and two reconfigurable GPIOs on USB charging connector by default used as serial console. It is relatively easy to open and seal back without visible damage if you really need to.

I have managed to reverse engineer the hardware and the update procedure and build current Espruino for it. It is now possible to update the watch over serial port with custom firmware without opening it and possibly also restore original fitness app back.


Espruino on DS-D6

<https://forums.raspberrypi.com/viewtopic.php?t=231468>

<https://github.com/fanoush/ds-d6>



picoTracker



HomeProductsResou

THE PICOTRACKER.

Our first project is the picoTracker.


picoTracker is an open source and open hardware music tracker in the *tradition* of LSDJ and built using LGPT as the foundation of its firmware.

It sequences samples and external midi instruments in a light weight, portable, battery-powered device that you can take with you anywhere to compose and perform your music.

Along with standard tracker styles sequencing, flexible chains/phrases and *fx commands* it also has advanced features like grooves and tables.

The picoTracker is powered by an **RP2040** microcontroller and supports:

- Headphone/Lineout
- TRS MIDI In & Out
- Bright 320x240 LCD display
- 8 MB of flash per project sample storage
- MicroSD cards upto 32GB for project & sample library storage



picoTracker

- USB UART Connectivity
- ***Remote UI***
- Great for devs: testing & debugging
- Great for end users too! (hello **YouTube!** 🕶️)

DEMO TIME!



@RickyTinez on YT

***Share the love,
share the knowledge,
knowledge is power,
peace!***

Thank You!



fluttercommunity.social/@maks



@maks



@mklin



Maksim Lin
GDE Flutter/Dart

