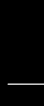


# LightningPiggy & The Unveiling of MicroPythonOS

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# LightningPiggy

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# Teach kids when they're young



- Fun
- Simple
- Receive sats
- Save Sats
- Which wallet?

# Why not a smartphone?



- Fragile
- Expensive
- Complex
- Distractions
- Privacy?

# Perfect Kid's Wallet



- Always On (ePaper)
- Balance in Sats
- Amount & Comment
- Receive QR code
- Instant refresh

# Proof-of-Concept



- Credit: BlackCoffee
- LilyGo ePaper Board
- Backend: LNBits
- Hard-coded Config
- Arduino IDE Installer



# Awesome Added Features



- Easy Web Installer
- Battery Management
- Shake-to-Wake
- Update Notifications
- Webbrowser Config

# Great Product Finished



- Wisdom and Greeting
- Fiat Balance & Price
- Localization
- Access Point Config
- Nostr Wallet Connect



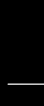
# Build Your Own



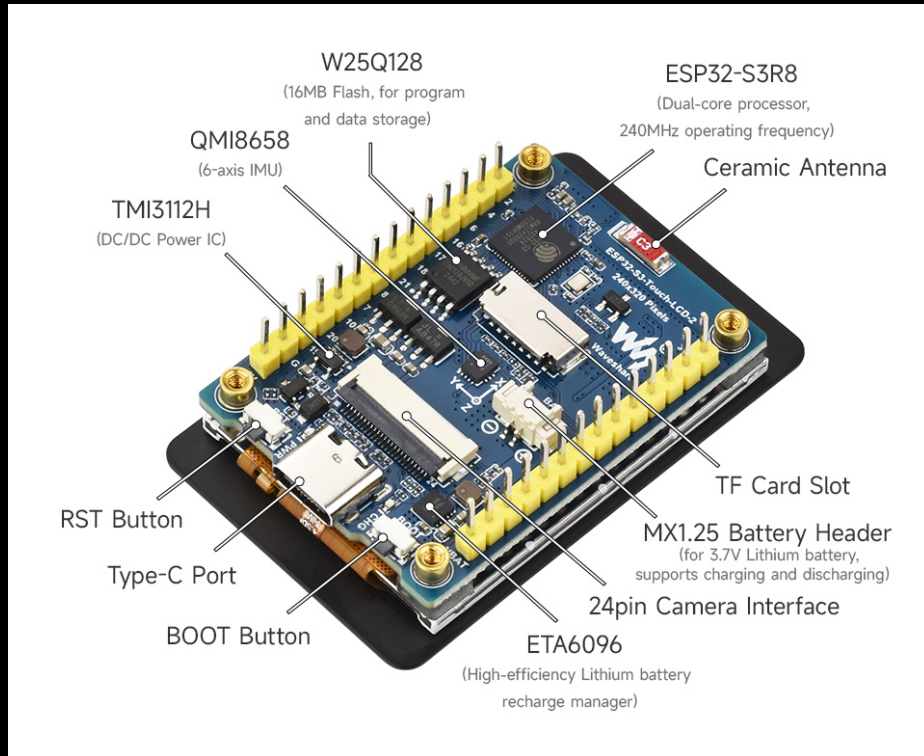
- LightningPiggy.com
  - /market
  - /build
- Make It Your Own
- 3D Printable Cases
- Valuable Present

# New LightningPiggy

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# New LightningPiggy



- Color Touch Screen
- 251% More Pixels
- Camera
- Accelerometer
- MicroSD Card

# Need Android-like OS for ESP32



- WiFi Manager
- Update and Rollback
- Slick User Interface
- Easy Development
- App Store

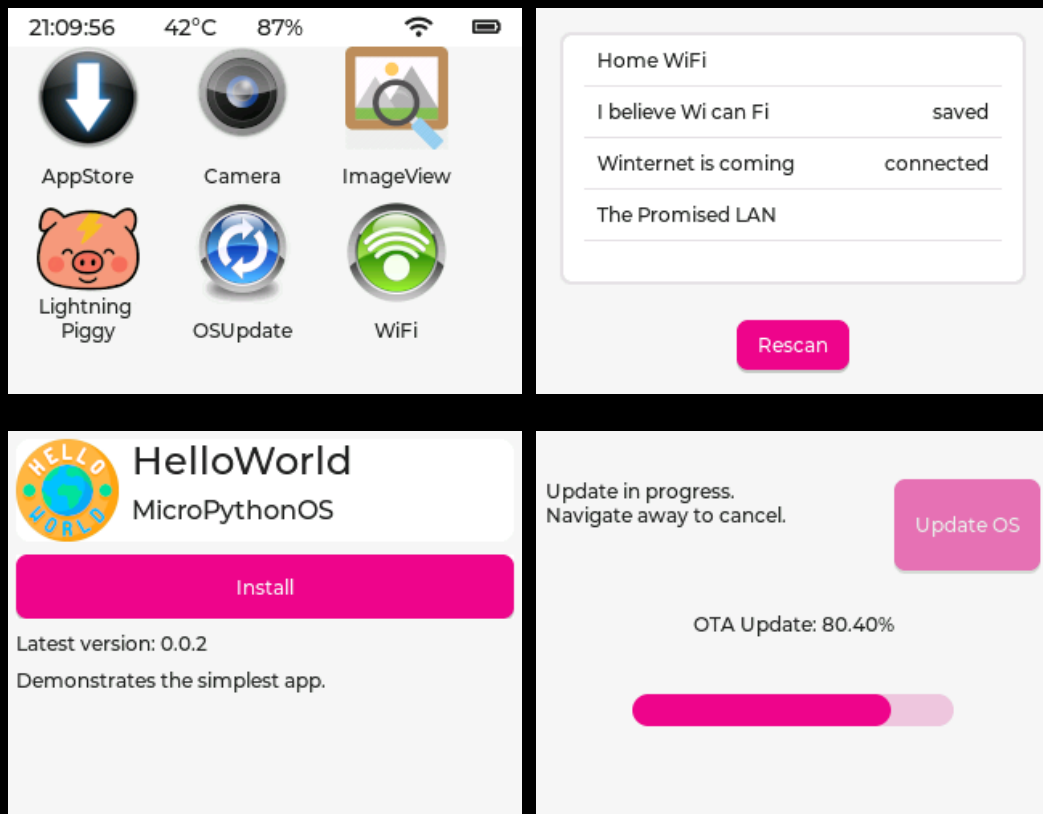
# Impossible?



- Like IBM PS/2 (1981)
- No MMU
- 300KB SDRAM
- 8MB PSRAM
- 16MB ROM

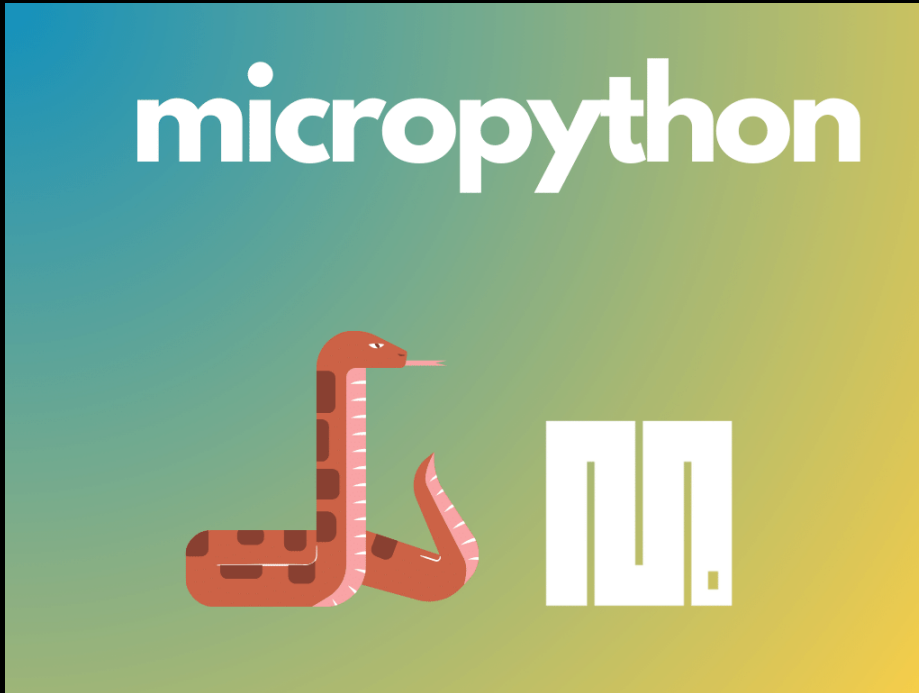


# It's MicroPythonOS!



- Launcher
- WiFi + Auto-Connect
- OSUpdate
- AppStore
- Settings

# MicroPython Works



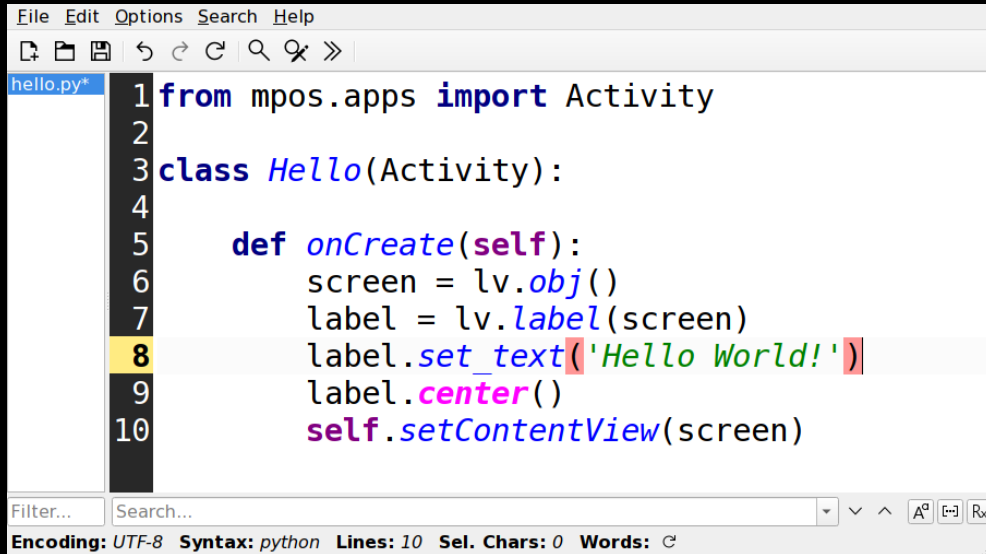
- Born 2014, ESP 2017
- Surprisingly fast
- `mip.install()`
- Also desktop (native)
- Quick Coding Cycle

# LVGL 9.3



- Lightweight
- 30+ Widgets
- Animations
- Image Decoders
- L10n, i18n
- UI Editor

# Easy Android-like Development Flow

A screenshot of a code editor window titled 'hello.py\*'. The editor has a menu bar with 'File', 'Edit', 'Options', 'Search', and 'Help'. Below the menu is a toolbar with icons for file operations and navigation. The code is written in Python and defines a class 'Hello' that inherits from 'Activity'. The 'onCreate' method sets up a screen, adds a label, sets its text to 'Hello World!', centers it, and sets the content view. The code is as follows:

```
1 from mpos.apps import Activity
2
3 class Hello(Activity):
4
5     def onCreate(self):
6         screen = lv.obj()
7         label = lv.label(screen)
8         label.set_text('Hello World!')
9         label.center()
10        self.setContentView(screen)
```

The status bar at the bottom shows 'Encoding: UTF-8', 'Syntax: python', 'Lines: 10', 'Sel. Chars: 0', and 'Words: 3'.

- Create Screen
- Add Label
- Set Label Text
- Center Label
- Activate Screen

# Android-like MANIFEST.JSON

```
1 {  
2   "name": "HelloWorld",  
3   "publisher": "MicroPythonOS",  
4   "short_description": "Minimal app",  
5   "long_description": "Demonstrates the simplest app.",  
6   "full_name": "com.micropythonos.helloworld",  
7   "version": "0.0.2",  
8   "category": "development",  
9   "activities": [  
10     {  
11       "entrypoint": "assets/hello.py",  
12       "classname": "Hello",  
13       "intent_filters": [  
14         {  
15           "action": "main",  
16           "category": "launcher"  
17         }  
18       ]  
19     }  
20   ]  
21 }
```

- Name
- Publisher
- Descriptions
- Version
- Entrypoints

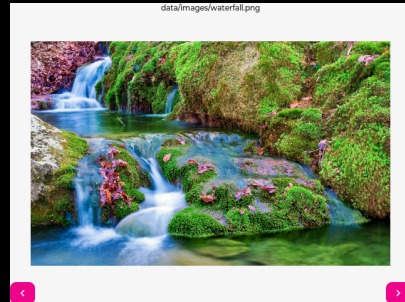
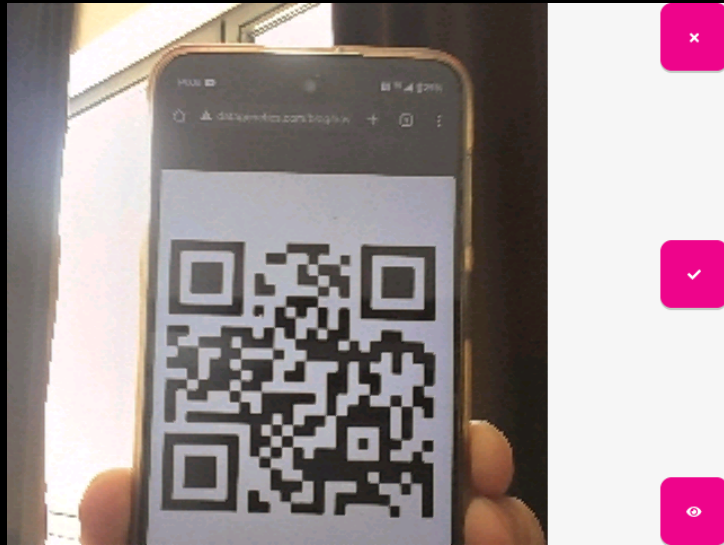


# Android-like file structure

```
apps/com.micropythonos.helloworld/  
├── assets  
│   └── hello.py  
├── META-INF  
│   └── MANIFEST.JSON  
└── res  
    ├── mipmap-mdpi  
    │   └── icon_64x64.png
```

- Code (hello.py)
- MANIFEST.JSON
- Icon(s)
- Zipped to .mpk

# More Apps in the AppStore



- Camera + QR decode
- Image Viewer
- <Your Apps Here>
  - Games / Education
  - Nostr Client
  - Music Player
- Lightning Piggy

# LightningPiggy App

164 sats

8 sats: 8 coins  
2 sats: 2 coins  
7 sats: seven  
6 sats: up  
5 sats: balance up  
4 sats: sweet!



Wallet Type

- ☐ LNBits  
☒ Nostr Wallet Connect

Save

Cancel

Nostr Wallet Connect

nostr+walletconnect://ba80990666e...

Save

Cancel

Scan data from QR code

Tip: Create your own QR code,  
using <https://genqrcode.com> or another tool.

176 sats

12 sats: 12  
8 sats: 8 coins  
2 sats: 2 coins  
7 sats: seven  
6 sats: up  
5 sats: balance up



- First Release
- Showcase OS
- Validate Frameworks
- Feature Parity
- Ported python-nostr

# Live Demo

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- You are looking at it.
- Yes, really!
- You were in it...
- the whole time!

# MicroPythonOS.com is Here



- Open Source
- Open to Developers
- Perfect for OEM's
- Grants and Funding
- Commercialization



# Your turn!



**WE WANT YOU  
IN OUR  
TEAM!**

- Get a few Piggies
- Build Cool Apps
- Share
- Reach out
- [chat.MicroPythonOS.com](https://chat.MicroPythonOS.com)