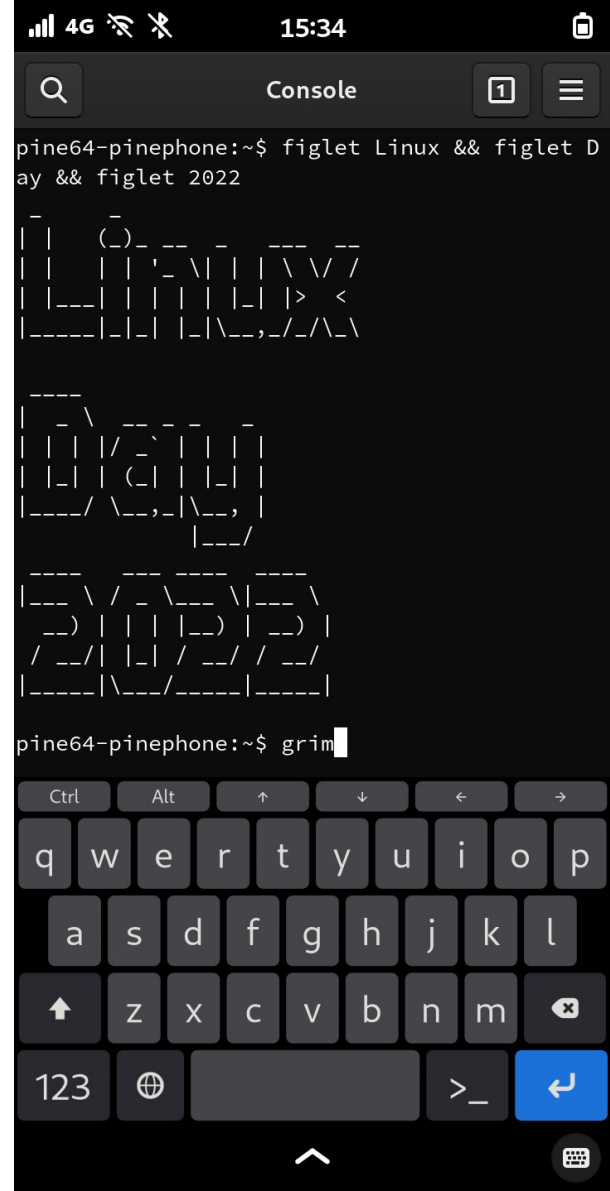


# Uno smartphone libero

Sonia Zorba

Linux Day 2022 - Trieste



# Perché?

- Lotta al Big Tech
- Avere il pieno controllo del mio device
- Piacere di smanettare / sperimentare
- Dare nuova vita a un vecchio device
- Interesse per la privacy\*

# Privacy e sicurezza



Librem 5 Privacy Switches

Android

```
>_ 99% 16:09
$ whoami
u0_a123
$ ps aux
USER          PID %CPU %MEM    VSZ   RSS TTY
              STAT START   TIME COMMAND
u0_a123      18262  0.0  0.3  6220  3160 pts/
0             S<s    1970    0:00 /data/data/com.term
u0_a123      18307  2.0  0.2  5332  2228 pts/
0             R<+   1970    0:00 ps aux
$
```

ESC ⌘ CTRL ALT - ↓ ↑

1 2 3 4 5 6 7 8 9 0

q w e r t y u i o p

a s d f g h j k l

⬆ z x c v b n m ⬇

?123 , . ⬅

Linux

```
4G 16:11
Console
6863 root    0:00 [kworker/u8:34-e]
6864 root    0:00 [kworker/u8:35-e]
6865 root    0:00 [kworker/u8:36-e]
6866 root    0:00 [kworker/u8:37-e]
6867 root    0:00 [kworker/u8:38-e]
6868 root    0:00 [kworker/u8:39]
6869 root    0:00 [kworker/u8:40]
6870 root    0:00 [irq/173-gt917s]
6873 root    0:00 [kworker/3:3-eve]
6886 root    0:00 [kworker/u9:0-hc]
6887 root    0:00 [kworker/u9:1-hc]
6888 root    0:00 [kworker/u9:2-hc]
6901 root    0:00 [kworker/0:1-eve]
7020 user    0:16 /usr/bin/kgx --gapplic
7072 user    0:00 /bin/ash
7164 root    0:00 [kworker/1:3-eve]
7202 root    0:00 [kworker/0:3-eve]
7219 root    0:00 [kworker/0:0H]
7276 user    0:00 ps aux
7277 user    0:00 /usr/bin/pulseaudio --
pine64-pinephone:~$ grim
```

Ctrl Alt ↑ ↓ ← →

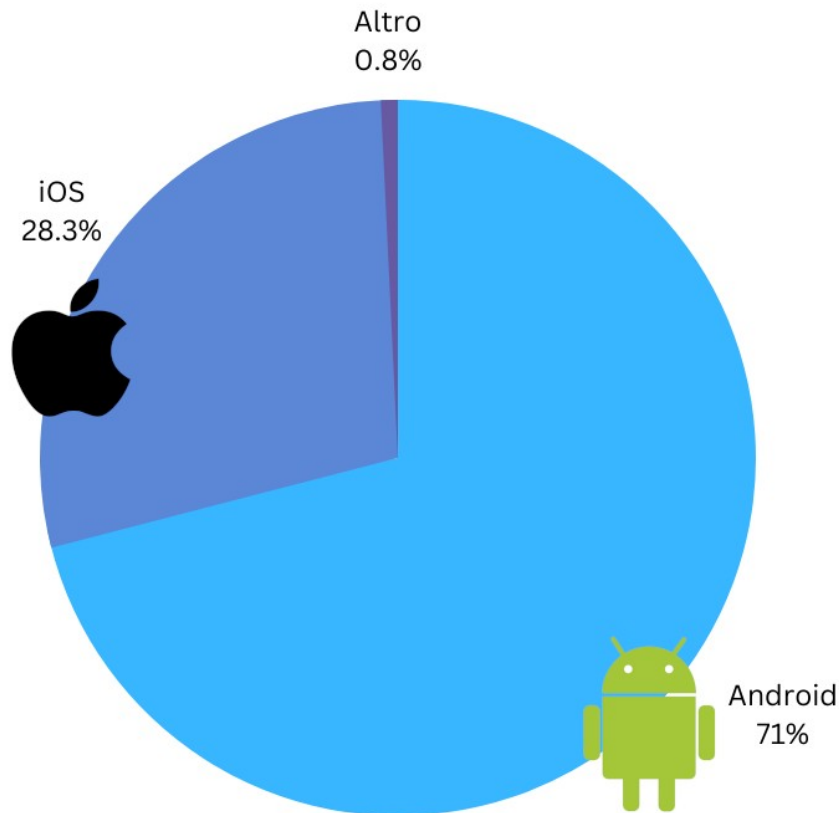
q w e r t y u i o p

a s d f g h j k l

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123 ⌐ >\_ ⬅

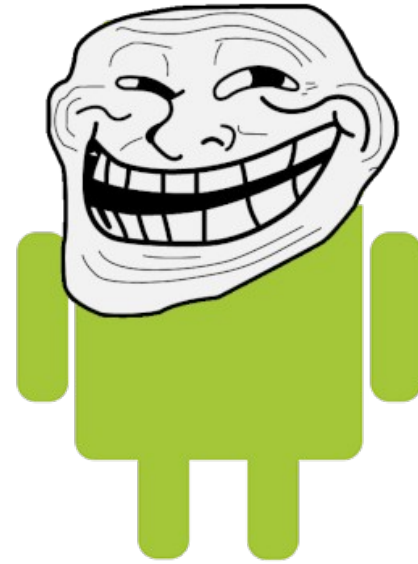
# Market Share dei sistemi operativi mobile



Statistica di "Stat Counter" - febbraio 2022



Software  
proprietario



core open-source  
+ software proprietario\*

# Far girare Android “FOSS”

- Unlock del bootloader
- Installazione di una versione di Android open-source:



**Replicant**

# Android è sempre meno libero

Passaggio da open a proprietario:

App	Anno
Search	2010
Music	2010
Calendar	2012
Gallery	2013
Keyboard	2014

[https://arstechnica.com/?post\\_type=post&p=339141](https://arstechnica.com/?post_type=post&p=339141)

# Android è sempre meno libero



## Notifications

---

Since [Android 8.0 Oreo](#), Google doesn't allow apps to run in the background anymore, requiring all apps which were previously keeping background connection to exclusively use its Firebase push messaging service.

As one can't use Google's push messaging in a FOSS app, Telegram-FOSS has to show you a notification to keep the background service running. Otherwise, you wouldn't be notified about new messages.



**Alternative ?**

# Download PureOS

Version 10.0



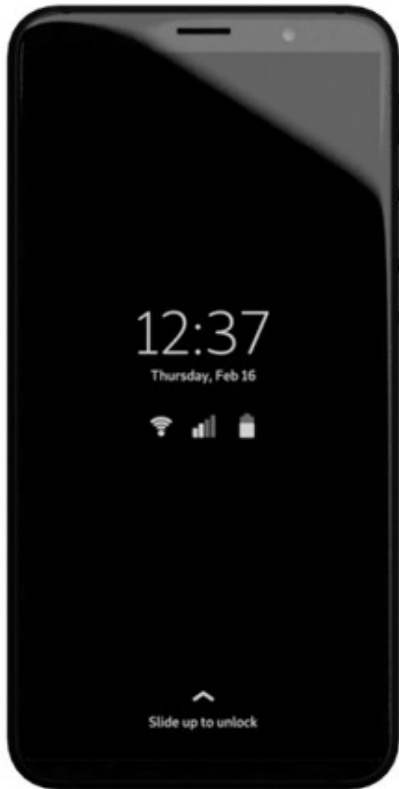
# PureOS

- PureOS – derivata Debian
- Mantenuta da Purism – USA
- app che si adattano alla dimensione dello schermo grazie alla libreria libhandy (creata da Purism e ora parte di GNOME)
- Phosh: UI basata su GNOME e Wayland
- Supporto anche per Plasma Mobile (KDE)

# PureOS su Librem 5



The Librem 5  
loves diversity.



## Librem 5

From: \$1,299.00

Librem 5, the phone that focuses on security by design and privacy protection by default. Outfitted with hardware kill switches and specially designed hardware, you are in control of the flow of information. [Learn more about the Librem 5...](#)

**Currently shipping through backorders.** Lead time for new orders: 52 weeks.

[A post about the electronics supply chain from Purism CEO Todd Weaver](#)

Want a Librem 5 sooner? Our [Librem 5 USA](#) ships within our standard 10 business days.

Home / Smartphones / PINEPHONE – Beta Edition Linux SmartPhone



# PINEPHONE – Beta Edition Linux SmartPhone

**Community price:** \$149.99

(Retail price: \$249)

Pine64 – Hong Kong  
Manjaro – Plasma Mobile

# Hacking selvaggio



Galaxy S III

Nokia N900



Xiaomi Redmi 2



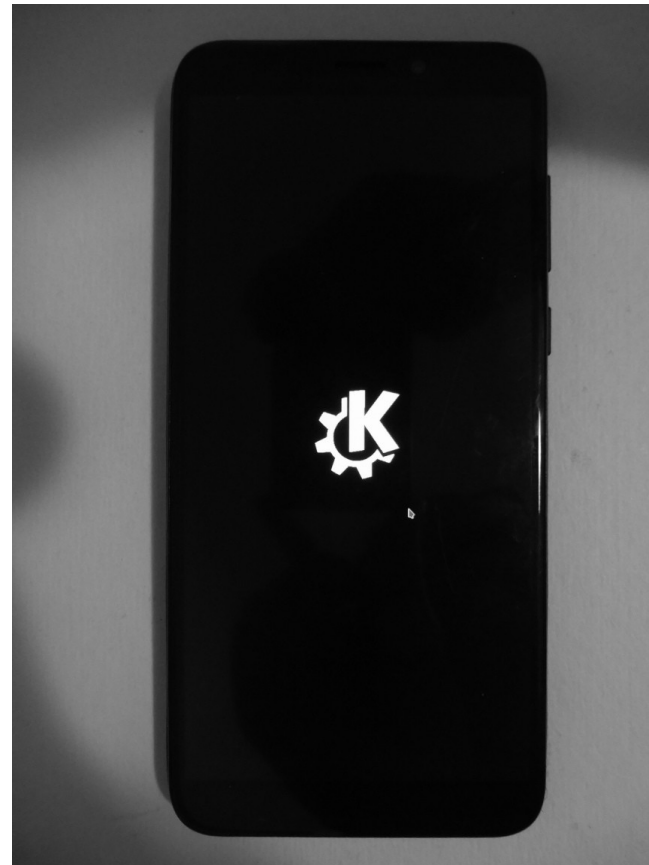
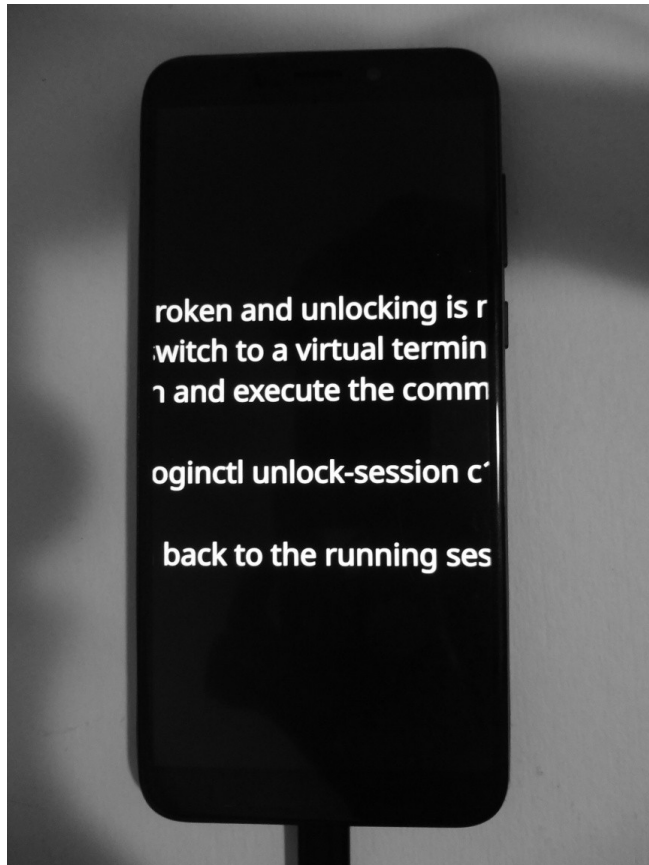
# PinePhone – Manjaro – Plasma Mobile



- Installata di default sulla eMMC (memoria interna) del PinePhone – si può installare un'altra distro sulla microSD
- l'ho testata solo per qualche ora
- Maggior numero di app disponibili rispetto ad altre distro mobile, anche se non tutte le app installabili funzionano
- Riaperta dopo qualche mese per fare alcuni screenshot per il Linux Day...



# PinePhone – Manjaro – Plasma Mobile



# PostmarketOS



postmarketOS

[blog](#) [faq](#) [wiki](#) [src](#) [merch](#)

[download](#) [podcast](#)

[@postmarketOS](#)

[donate](#) [edge](#)

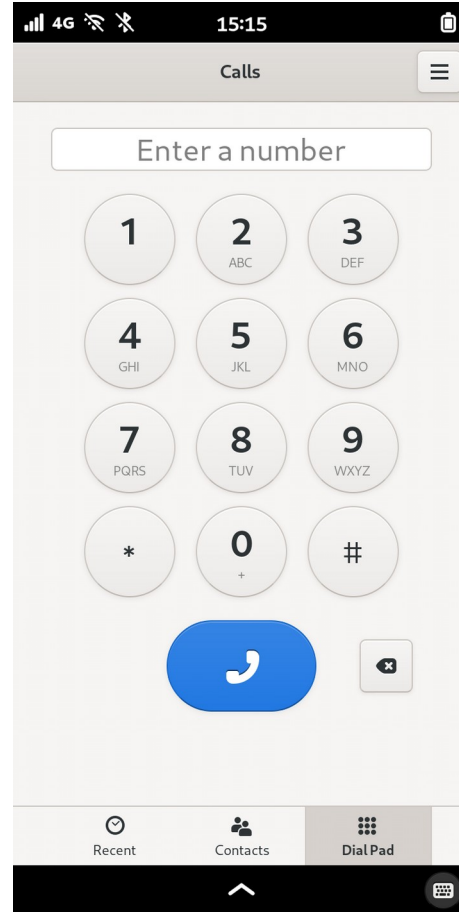
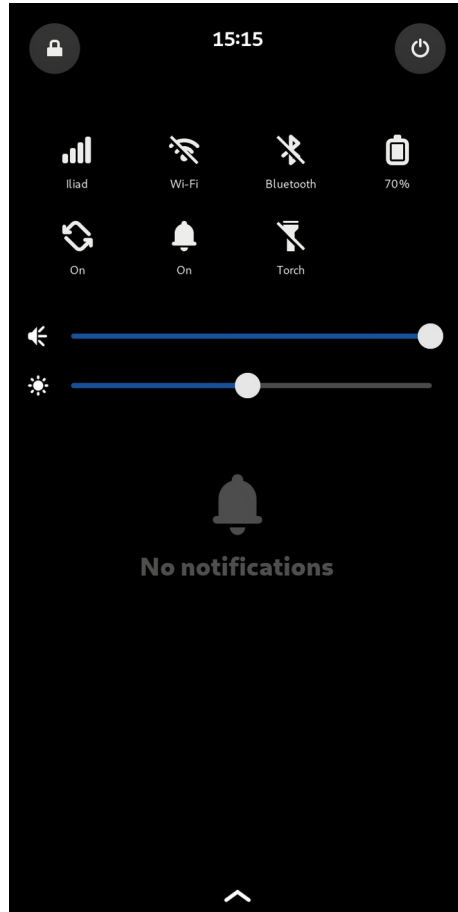
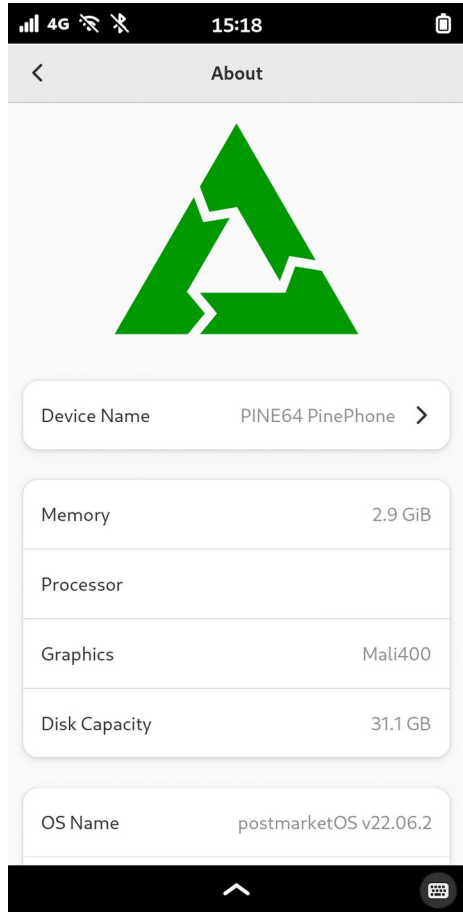
**A real Linux  
distribution  
for phones**

**and other mobile devices**

For **Linux** enthusiasts

Latest news: [v22.06 SP2](#)

# PinePhone – PostmarketOS – Phosh



# Pmbootstrap

Tool di sviluppo di  
PostmarketOS

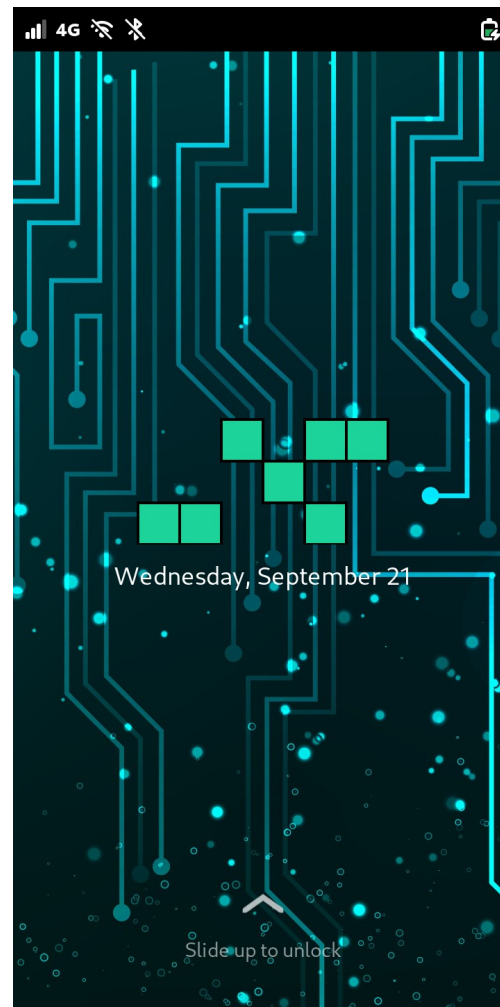
```
xonya@andoria:~ $ pmbootstrap init
[20:02:52] Location of the 'work' path. Multiple chroots (native, device arch, device rootfs)
will be created in there.
[20:02:52] Work path [/home/xonya/.local/var/pmbootstrap]:
[20:02:55] NOTE: pmaports path: /home/xonya/.local/var/pmbootstrap/cache_git/pmaports
[20:02:55] Choose the postmarketOS release channel.
[20:02:55] Available (6):
[20:02:55] * edge: Rolling release / Most devices / Occasional breakage: https://postmarketos.org/edge
[20:02:55] * v22.06: Latest release / Recommended for best stability
[20:02:55] * v21.12: Old release (unsupported)
[20:02:55] * v21.06: Old release (unsupported)
[20:02:55] * v21.03: Old release (unsupported)
[20:02:55] * v20.05: Old release (unsupported)
[20:02:55] Channel [edge]:
[20:02:56] Choose your target device vendor (either an existing one, or a new one for porting
).
[20:02:56] Available vendors (70): acer, alcatel, amazon, apple, ark, arrow, asus, bq, cubiet
ech, essential, fairphone, finepower, fly, goclever, google, gp, hisense, htc, huawei, infocu
s, jolla, klipad, kobo, lark, leeco, lenovo, lg, medion, meizu, microsoft, mobvoi, motorola,
nextbit, nobby, nokia, nvidia, odroid, oneplus, oppo, ouya, pegatron, pine64, planet, purism,
qemu, raspberry, samsung, semc, sharp, shift, sipeed, sony, sourceparts, surftab, t2m, table
t, teclast, tokiyo, tofino, trekstor, vernee, volla, wexler, wiko, wileyfox, xiaomi, xunlong,
yu, zte, zuk
[20:02:56] Vendor [qemu]:
[20:02:57] Available codenames (2): aarch64, amd64
[20:02:57] Device codename [aarch64]:
[20:02:58] Which kernel do you want to use with your device?
[20:02:58] Available kernels (3):
[20:02:58] * edge: Alpine Edge kernel
[20:02:58] * lts: Alpine LTS kernel
[20:02:58] * virt: Alpine Virt kernel (minimal, no audio)
```

# Pmbootstrap - personalizziamo Phosh!

Clone di <https://gitlab.gnome.org/World/Phosh/phosh>

```
pmbootstrap aportgen --fork-alpine phosh
```

```
pmbootstrap build phosh \  
  --arch=aarch64 \  
  --src=~/.code/phosh
```



# Funziona?

## Ok

- Chiamate
- SMS
- Browser (Firefox)
- E-mail
- Fotocamera
- Telegram (circa)

## Fastidi

- Lentezza
- Qualche crash / restart

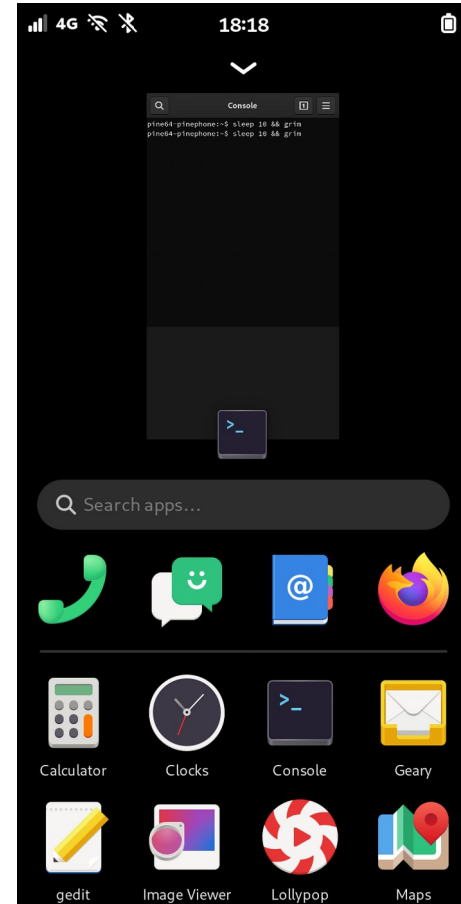
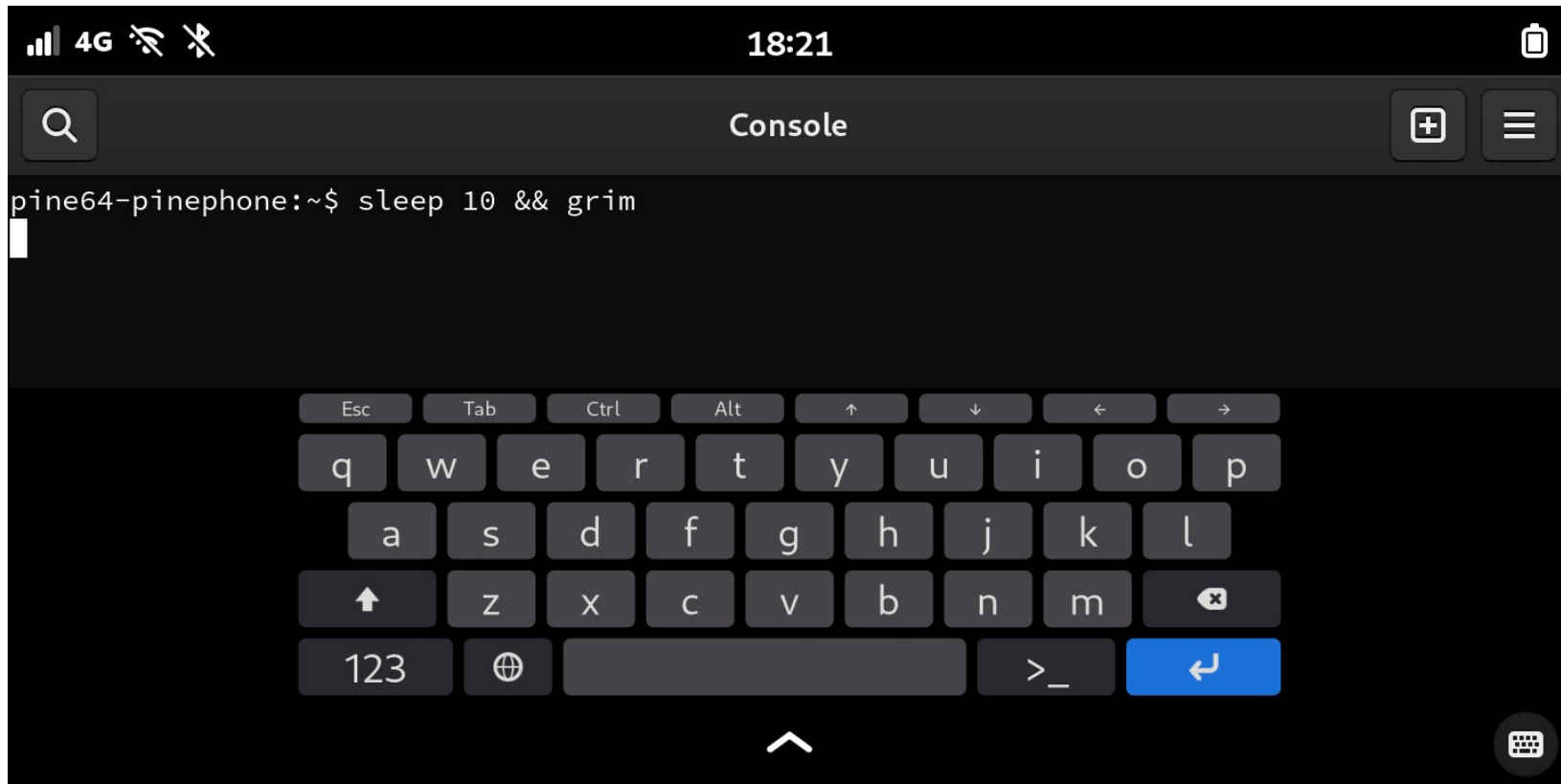
## Cose di cui sento la mancanza

- Navigatore

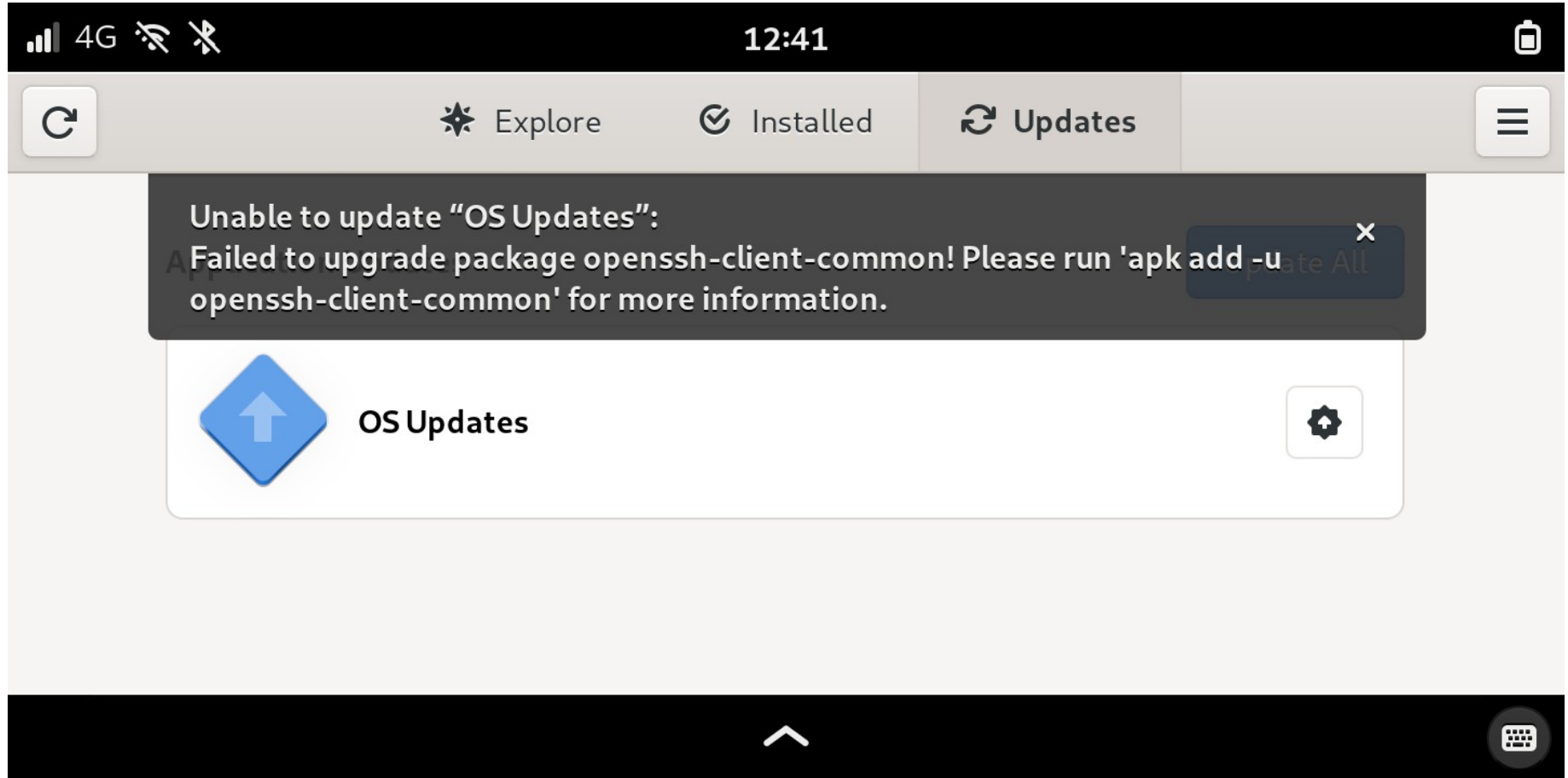
## Problemi critici

- Batteria
- Roaming “altamente instabile”
- Sveglia che non si risveglia

# Alcune cose sono un po' spartane...



# Bisogna sapersi arrangiare...





# WhatsApp

Possibilità:

- 1) smettere di usarlo
- 2) usarlo tramite emulatore sul PC
- 3) mettere su un server con un bridge verso Matrix (mautrix-whatsapp)
- 4) usarlo con Waydroid





# Waydroid

A container-based approach to boot a full Android system on a regular GNU/Linux system like Ubuntu.

[Documentation](#)

[Learn More >](#)

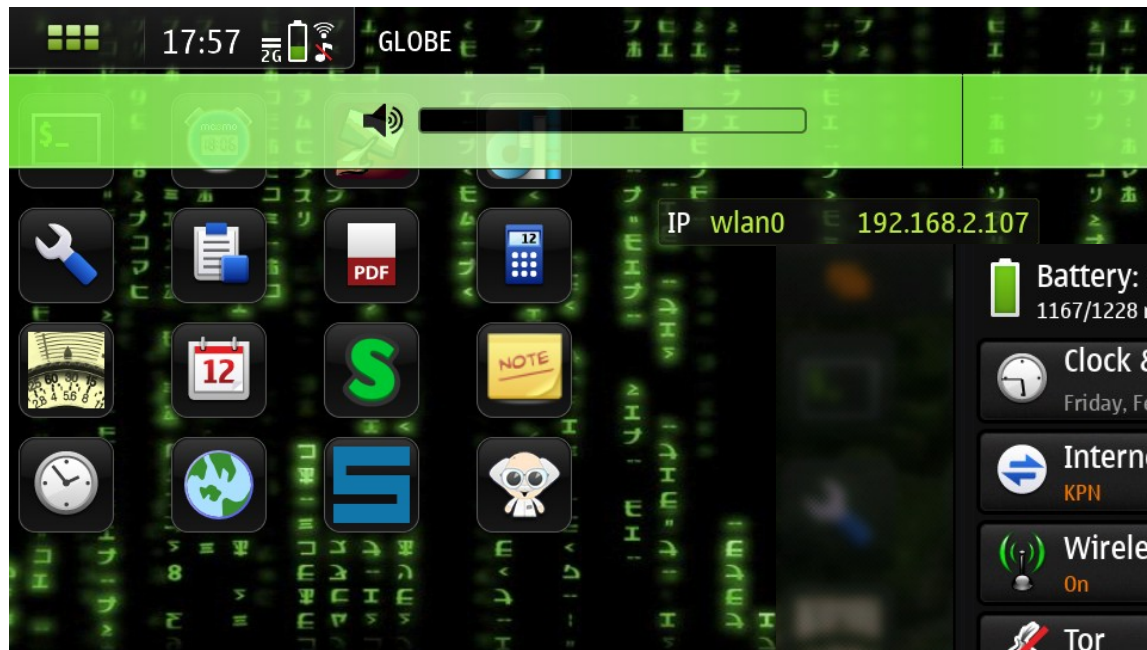


# Altre distro





# Maemo Leste



Continuazione di Maemo – Nokia  
Usa x11



# Conclusioni

- C'è molto potenziale, sopravviverà?
- Per ora consigliato solo ad entusiasti
- Questi progetti non hanno bisogno solo di sviluppatori ma anche di utilizzatori!