

GNU/Linux on Handheld Gaming Devices

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The Systems

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Nintendo DS

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Gp2x

- Gamepark Holdings
- Small Korean indie company
- Open

Handhelds not covered

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Gameboy Advance

- 2.0 uCLinux
- sash shell
- essentially useless

Hardware Rundown: The NDS

2 ARM Processors

4 MB Memory

NDS ROM cards – up to 128 megs

802.11 Wifi

D-Pad + Buttons

Touchscreen

2D Gfx

3D Gfx

Power/Battery

Storage

Hardware Rundown: The GP2X

Larger screen

TV out

Joypad + buttons

Power/Battery

2 ARM Processors on one die

64MB Ram

64MB NAND Flash

Storage

USB

EXT port

Breaking out the GP2X

Breakout board / Docking cradle

4 USB ports with Host mode

RS232

Audio

Composite Video

JTag

Mame/Media Cabinet?

USB Wifi?

Linux on the NDS

uClinux 2.4, 2.6

No MMU

8 bit write issue

Text segment XIP

Linux on the GP2X

2.4.25 with April 2006 Firmware
Firmware updates
Lots of nice libs
Themable interface
Not GPL :(
Linux runs on 1 CPU
Ideas for the other CPU

Linux on the GP2X

Troubles getting the kernel source

:(

Open2x

:)

Autostarting SD images possible

gp32x.com is GP2X hacker central

Targetting the NDS

Documentation @ <http://dslinux.org/>

Building the kernel

Porting apps and libs

TinyX

Targetting the NDS directly

NDSPython

Targetting the GP2X

SDL

Pygame!

:D :D :D

Statically linking libs

The DSLinux community

Support from Nintendo
Forums vs Mailing lists

Speed and direction of development

The GP2X community

Support from Gamepark Holdings
Difficulty of obtaining an SDK
Lack of mailing lists
Forums :(

Conclusion

Which one goes in my pocket?
Price comparison