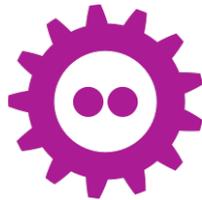# NPLN
the answer to EDA, the repair universe and everything

FOSDEM '16

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NPLN
the answer to EDA, the repair universe and everything

Intro

- ▶ 'NPLN' still does not has a deeper meaning

- ▶ 1st code name was 'Napoleon'

- ▶ short, w/o all vowels 'NPLN'

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NPLN
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Intro

▶ Napoleon is thoroughly FOSS

▶ Napoleon is devoted to OSHW

▶ Napoleon is for Makers, RepairCafés & everyone

▶

▶ Napoleon is ambitious and needs your help

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Vision

- ▶ Napoleon generates sophisticated repair handouts for OSHW boards
  - ▶ machine readable, computer-based guidance
  - ▶ w/ support for guided measurement
  - ▶ w/ support for Augmented Reality gadgets
- ▶ Napoleon understands all FOSS EDA file formats
  - ▶ gEDA, KiCAD, ..
- ▶ Napoleon caches almost all circuit information
  - ▶ data sheets, symbols, footprints, ..
  - ▶ various models like spice3, IBIS, verilog, ..

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Vision

- Napoleon get a search engine for OSHW
  - delivers links to original sources
  - delivers patches for bad models
  - delivers simulation results
  - delivers repair information

- Napoleon becomes a community-owned foundation

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usage

- ▶ use the web frontend to search for your defect OSHW
  - ▶ well, found it on Napoleon
- ▶ prepare your test environment – as site recommends
  - ▶ oscilloscope, digital multimeter, probes, ..
- ▶ follow Napoleon's repair handout
  - ▶ hold your probe against point X, check the waveform, should be similar to right one, or one of the wrong alternatives
  - ▶ click which waveform your are seeing
  - ▶ go to point Y, repeat, …
- ▶ replace recommended circuit, repeat, .. done :-o

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usage

- ▸ use the web frontend to search for your defect OSHW
  - ▸ d'oh, didn't find on Napoleon
- ▸ send an (encrypted) email with URL of your OSHW
  - ▸ spammer usually do not use PGP :-)
- ▸ some hours, days, weeks later Napoleon will know your defect OSHW
- ▸ prepare your test environment, follow Napoleon's repair handout ..

DON'T PANIC

no rocket science!

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- ▶ developed in the eighties, 3 decades back
- ▶ now it is cheaper to replace modules than repairing
- ▶ complexity was raising – our computing power, too
- ▶ nobody cares about old technology anymore
- ▶ patents are expired already
- ▶ it is completely legal <3

Science

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Tasks

- ▸ every emperor needs compliant helper

- ▸ currently implemented 3 task roles

- ▸ cncrg ("Concierge") - web crawler

  - ▸ file grepping, tagging & caching

- ▸ jsphn ("Joséphine") - web frontend

  - ▸ user interface

- ▸ npln ("Napoleon") - himself

  - ▸ EDA handling

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▶ something like:

    ▶ 'the' search engine addicted to OSWH

    ▶ spicelib (*https://github.com/werner2101/spicelib*) at larger scale

    ▶ ???

    ▶

▶ an expert in electronics

▶ an AI helping brave humans repairing their stuff

Wish List

```
# uname -a
OpenBSD prime.npln.dd 5.8 GENERIC.MP#1229 amd64
# which python3
/usr/local/bin/python3
# ls /home
cncrg devel jsphn npln
#
```

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Done List

- ▶ conceptional work

- ▶ programming language decision (Python 3.4, bash 4.3)

- ▶ FOSS license decision (AGPL v3 +)

- ▶ domain name registration

- ▶ web server set-up (*http://npln.net*)

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▶ work server set-up (@ OpenBSD 5.8)

▶ 'cncrg' is up and crawling

▶ 'jsphn' has placeholder w/ small static content

▶ 'npln' has some experimental stuff

Done List

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▶ set-up mailing lists

▶ essay writing & publishing as prior art against patent trolls (*http://www.iusmentis.com/patents/priorart/donaldduck*)

▶ improve / enhance / add code continuously for all task roles

▶ community building

▶ involve more supporter / programmer / user

▶ image movie, campaign

▶ establish a non-profit foundation, handover ownership

ToDo List

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DON'T PANIC

HELP!

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me:
freelancing Chip Designer
-
SoCs, ASICs, FPGAs

please use PGP-encrypted email for communication, otherwise might be ignored.

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Questions?

Contact!