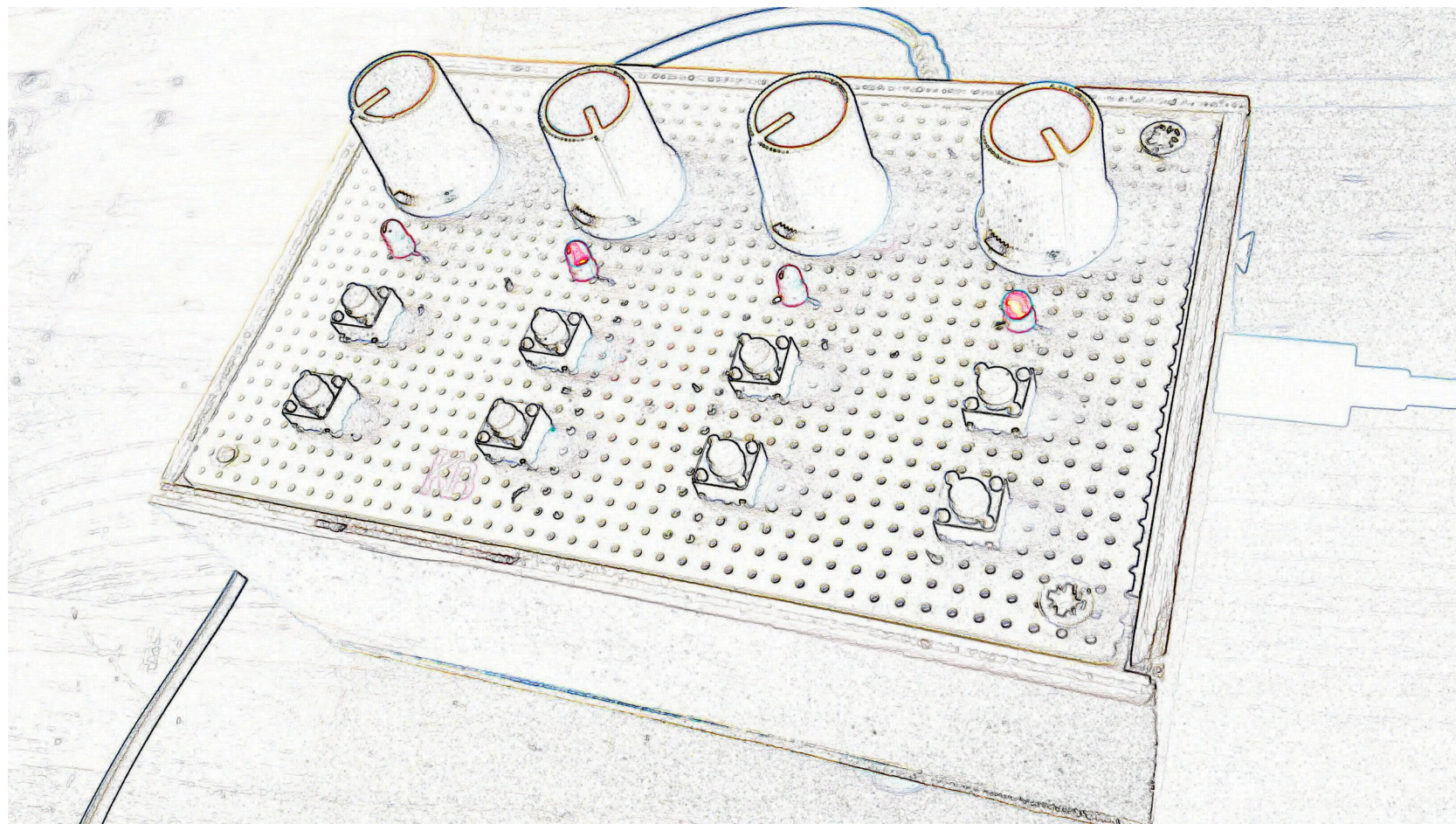


# RaspiSynth



A RaspberryPi based synth platform

Slavko Glamočanin, 2015, <http://www.naprave.net>

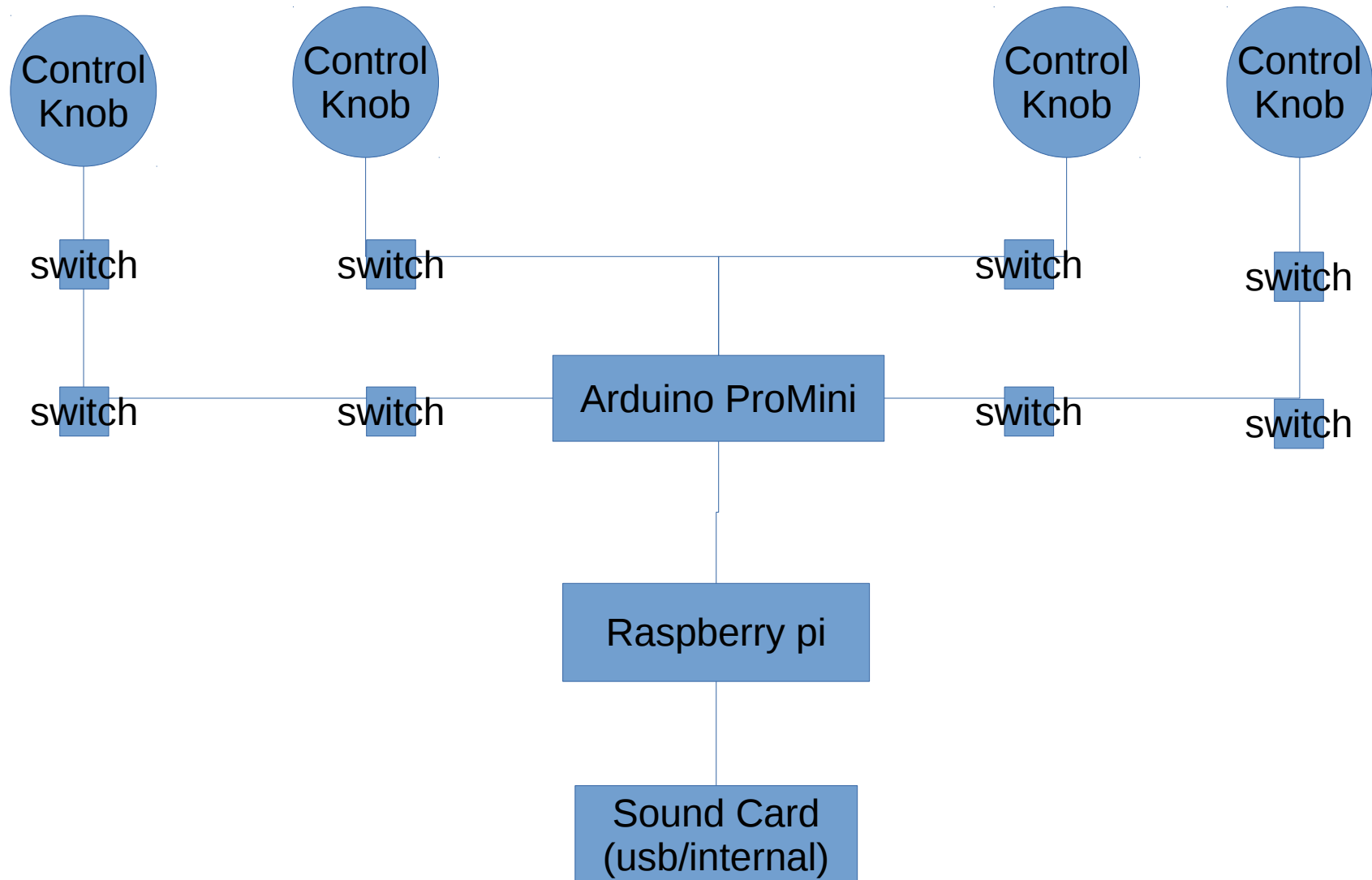
# Motivation

- **Hands on** – buttons and knobs
- **Replacing** a couple of mp3 players
- A hardware synth platform to **develop ideas**

# Parts used

- **Control surface** with 4 rotary knobs and 8 switches
- **Arduino** used only for reading analog values
- **RaspberryPi** does the actual sound processing
  - More flexibility
  - Future proof

# HW architecture



# npSounder – prototype synth

- C++ based sound processing platform
- First implementation is a sample player

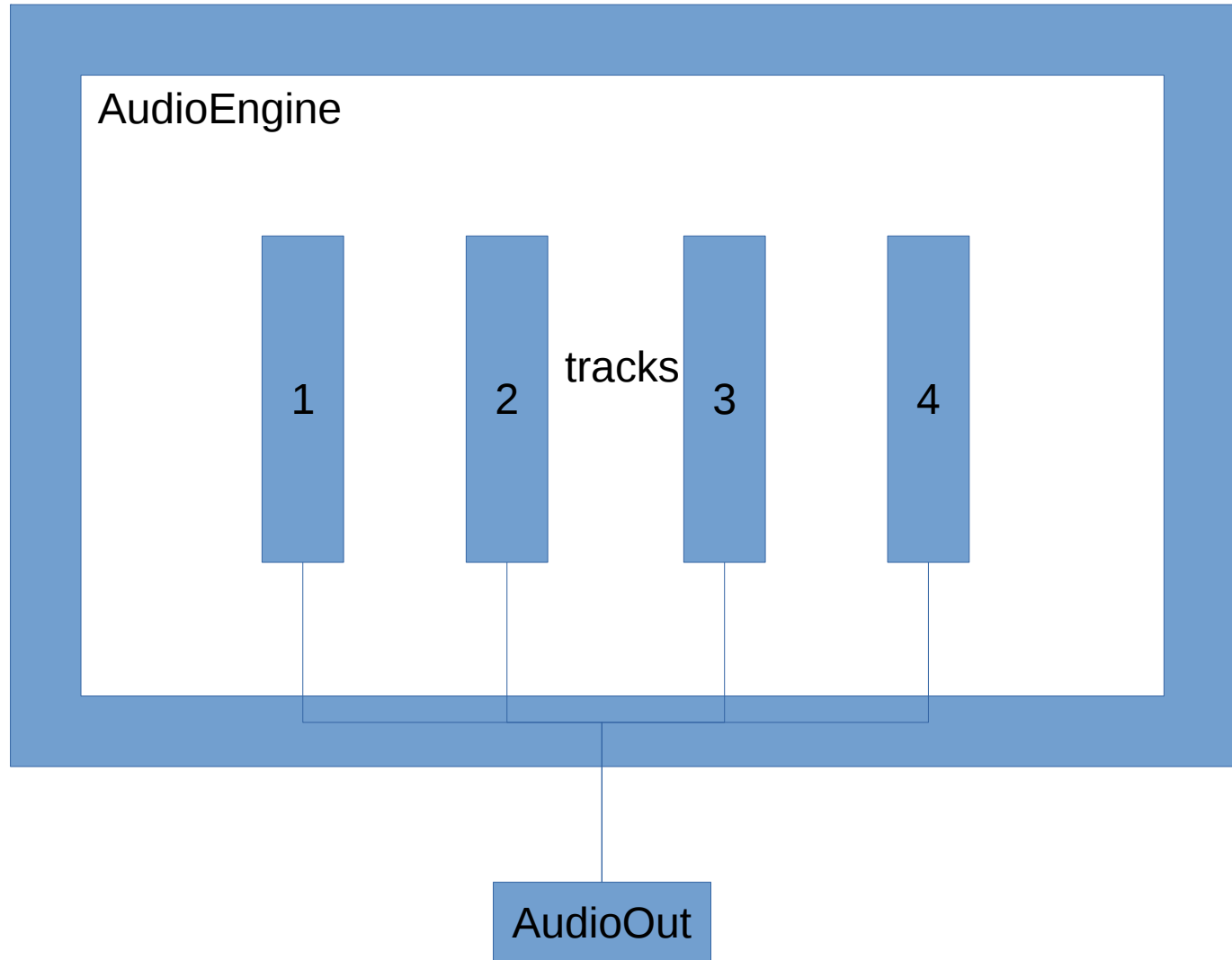
## Prototype implementation

- 4 channels
- stereo output soundcard

# npSounder Synth

Values are read off the rotary knobs

Switches can set this value to the **pitch** or **volume**



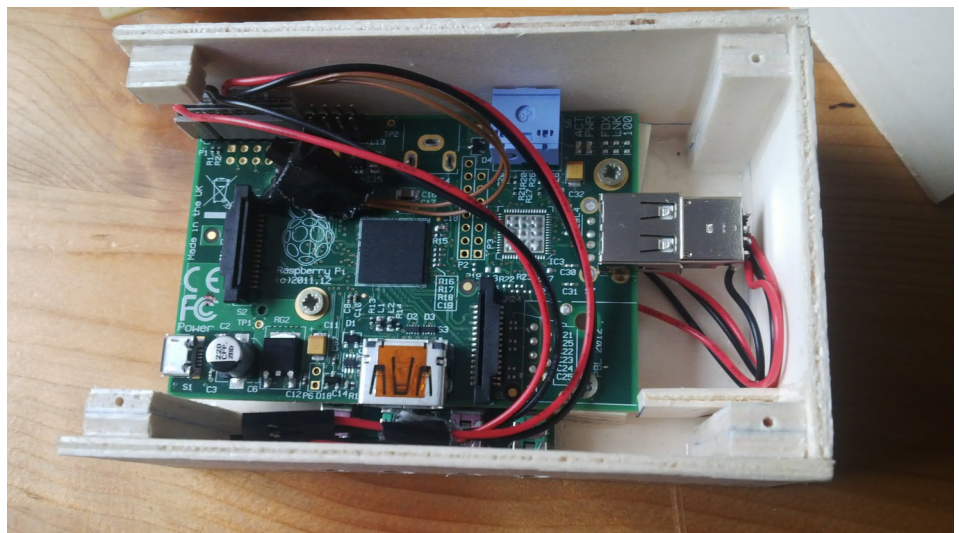
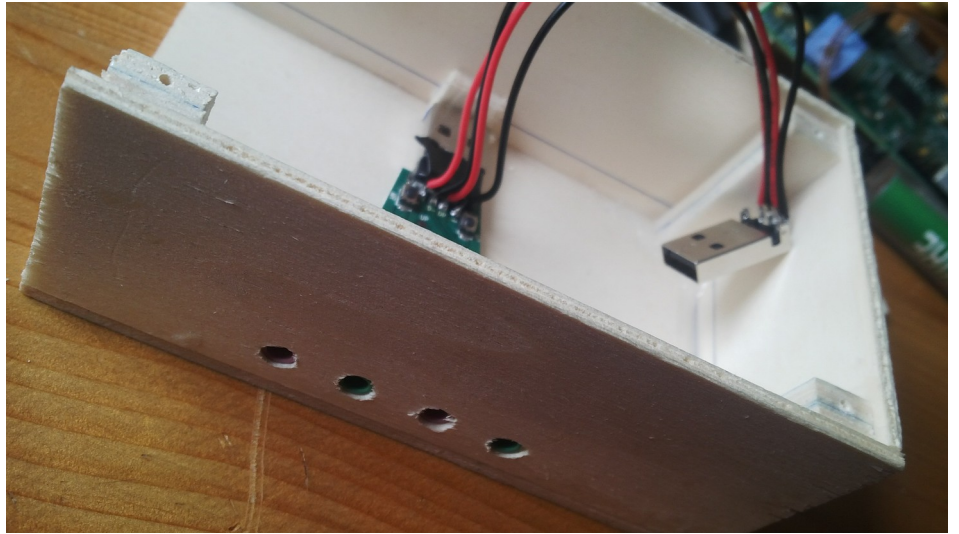
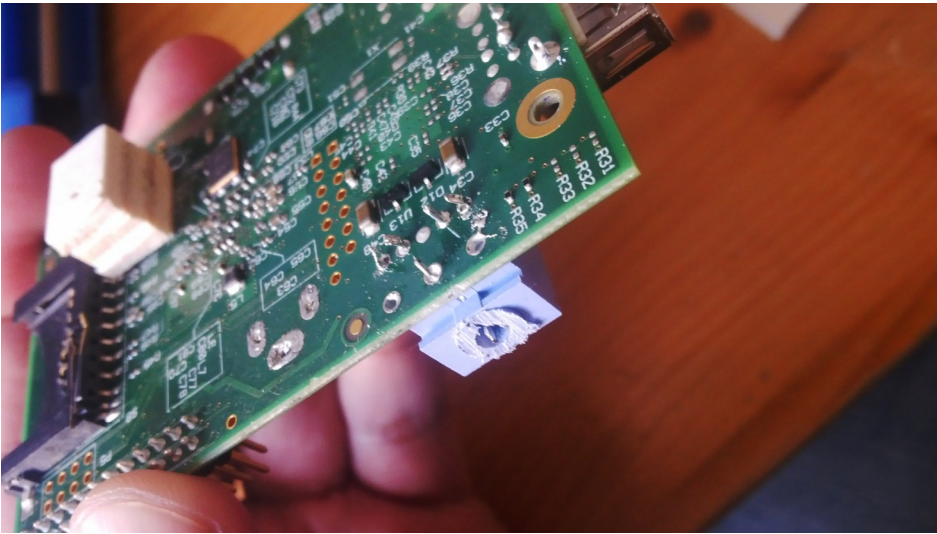
# npStarter – custom init system

- **Basic C-based init system**, sets up a minimal working environment
- **Read only SD card** for surviving poweroffs
- Makes the raspberry pi behave more like an **embedded system**

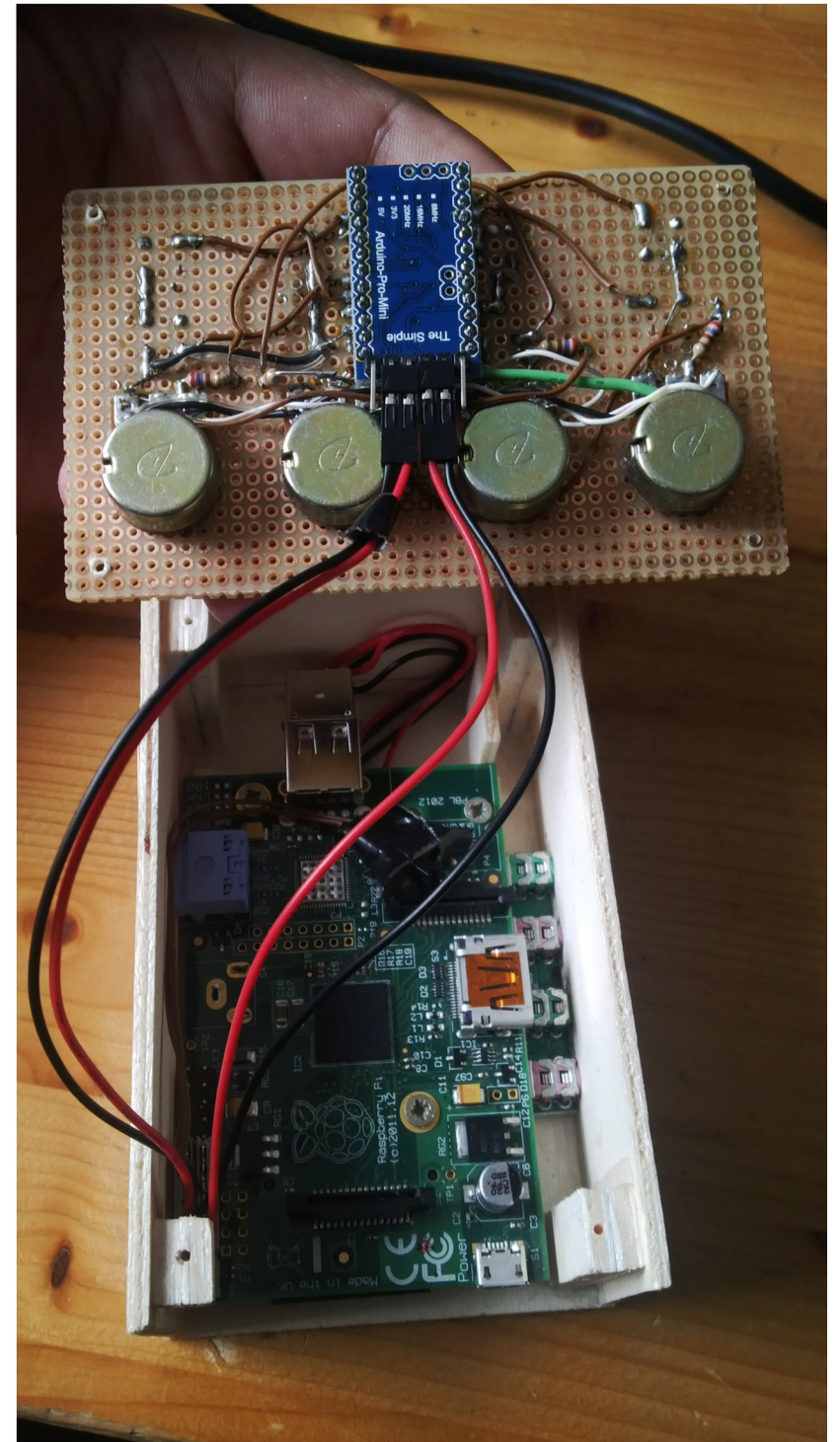
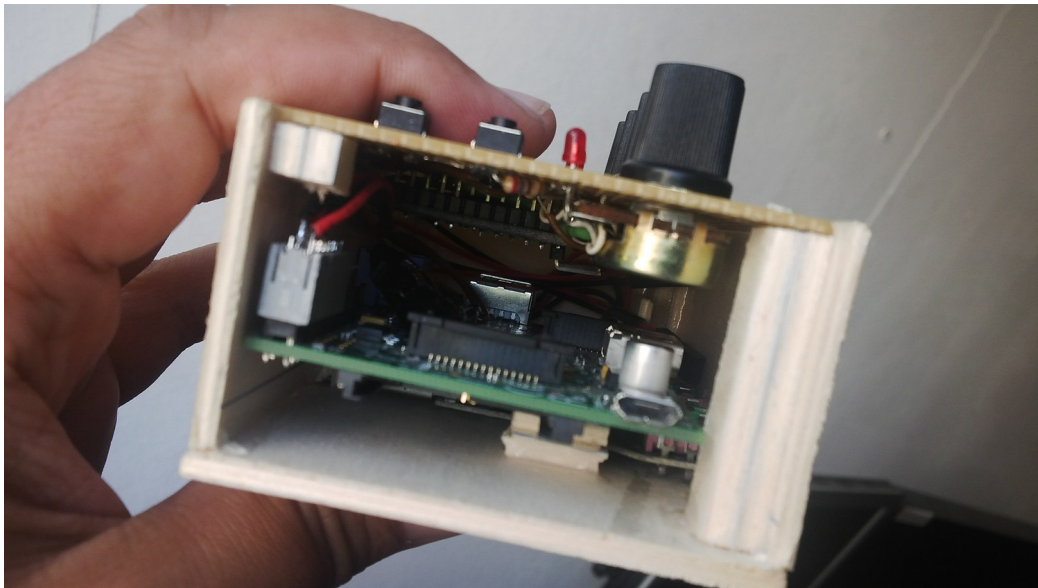
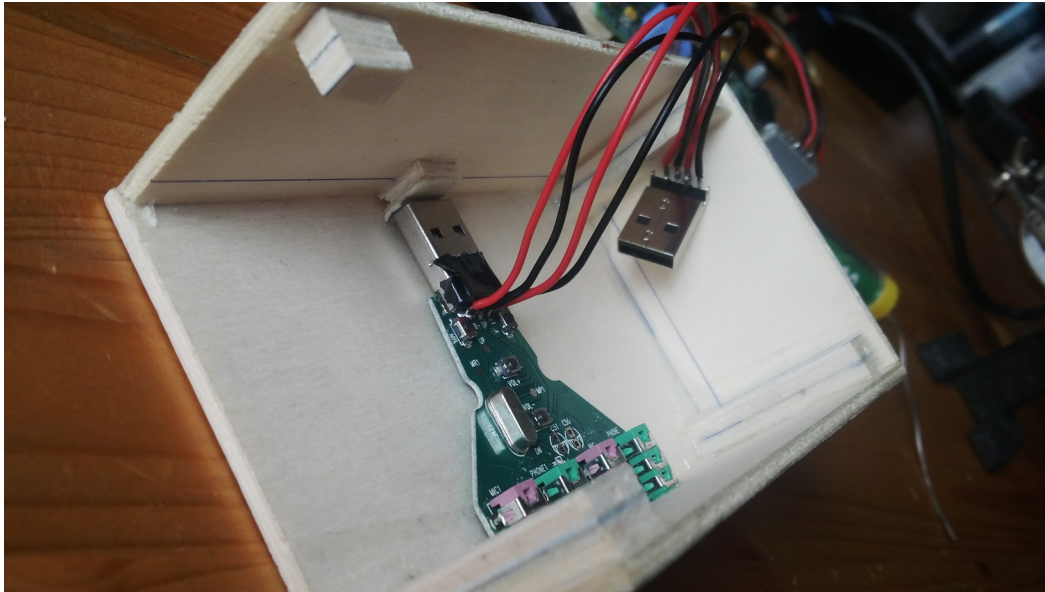
# Product Development Gallery



# Hacking (with a saw)



# Final Integration



Thank you! :)



Visit <http://www.naprave.net> for more projects.