



Funksensorik und Datenaquise unter Linux

Dr. Ralf Schlatterbeck
Open Source Consulting

Email: office@runtux.com
Web: <http://www.runtux.com>
Tel. +43/650/621 40 17



Contents

Projekt	3
Roundup	4
Mesh-Networking	5
Sheeva-Plug	6
Hardware	7
Hardware	8
Hardware	9



Projekt

- Hardware: Reder Funksensorik
- Acquire-Hardware: Linux auf [Sheeva-Plug](#)
- Web-Interface and Acquisition
Dr. Ralf Schlatterbeck Open Source Consulting
- Web-Design Beauty Parlour, Member osAlliance
- Realisierung 2010/11
- Data-acquisition-daemon in Python
- Web-Anwendung in Roundup
- Open Source: GPL



Roundup

- Issue-Tracking System
- Written in Python, used by bugs.python.org
- Web-Templating language
- Database API
- Email-Interface
- Command-Line Interface
- Detector interface: Middleware
- XMLRPC Interface
- Framework for fast realisation of small applications



Mesh-Networking

- Not all sensors need direct radio connection to central server
- A sensor-node can send data to the next node
- ... similar to mobile ad-hoc network (MANET)
- Sensor can be out of radio reach for some time
- ... when it comes back, logged data is sent
- 868 MHz ISM (Industrial Scientific Medical) Band
- Central station monitors battery status and signal strength for each sensor
- In the Future: 6LoWPAN (IPv6 for low data rate wireless)

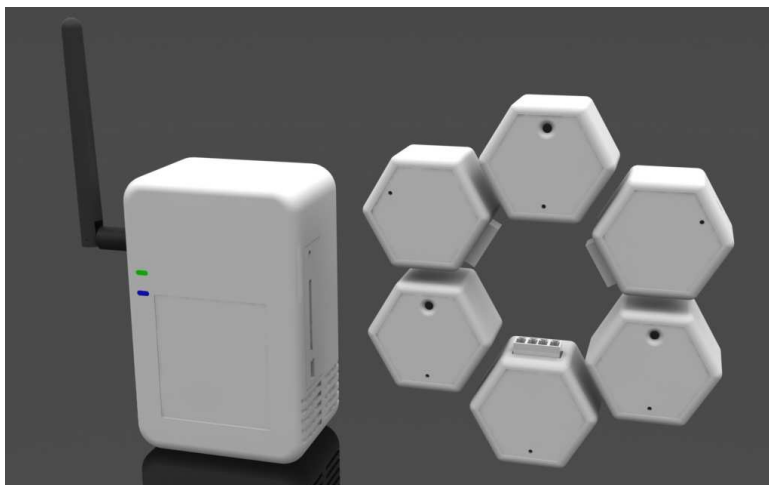


Sheeva-Plug

- Small Linux computer
- can be directly plugged into a wall-plug
- ... or use a cable
- 1.2 GHz ARM-base architecture
- USB 2.0, Gigabit Ethernet
- 512 MB RAM
- 512 MB Flash-bases storage, no moving parts
- Low power consumption
- Retro-fitted with 868 MHz transceiver-module from Reder



Hardware



Hardware



