Neo900 the next N900

Nikolaus Schaller, Golden Delicious Computers OpenPhoenux Hard & Software Workshop Garching, 30. 11. 2013





Finally the first true successor to the N900. Following the FOSS spirit of Openmoko.

The Neo900 project aims to provide a Fremantle (Maemo™ 5) compatible successor to the N900, with a faster CPU, more RAM and an LTE modem. This is all based on a free, mature and stable platform - the GTA04.

We'll provide complete, **ready-to-use devices**, as well as **motherboard replacements** for your current devices.





Project Team

- Jörg Reisenweber (Openmoko veteran):
 Project initiator/Product manager
- Nikolaus Schaller (GTA04 project lead): development (based on GTA04 design, hence internal project name = GTA04b7)
- Sebastian Krzyszkowiak (SHR, FSO):
 Web page www.neo900.org

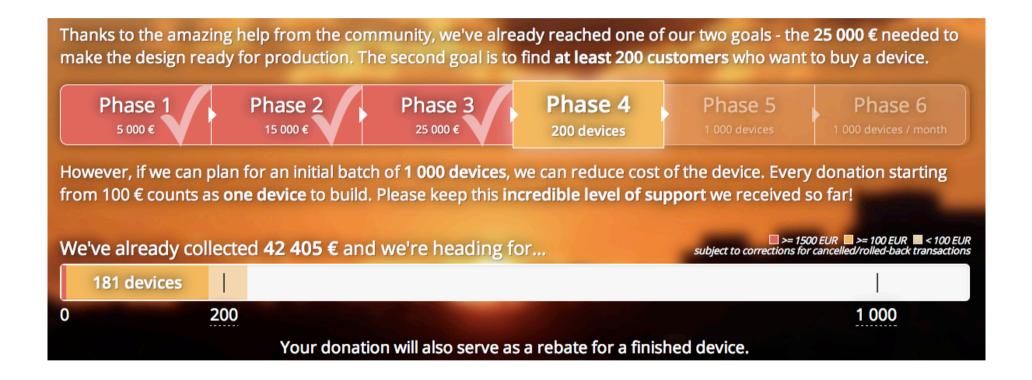


The idea

https://www.youtube.com/watch?v=EJHMXQ3nSt0



Project Phases





Phases

Phase 1: Thanks to reaching 5 000 EUR we expect that we can do the schematics, component identification and initial mechanical PCB design.

Phase 2: Thanks to reaching 15 000 EUR we expect that we can build ~5 prototypes with basic functionality.

Phase 3: Thanks to reaching our goal, 25 000 EUR, we expect that we can build around 15 prototypes, test, fix bugs detected with them and make the design production ready.

Phase 4: The milestone of 200 devices is what we are using in our price estimations and what allows us to safely assume feasibility of mass production.

Phase 5: Reaching I 000 (or more) would allow us to buy the components earlier and at better prices, shortening the time till production and dropping the cost per device.

Phase 6: Reaching I 000 (or more) per month would allow us to establish constant mass production, lowering costs even more and allowing us to produce more types of components instead of relying on their availability as spare parts.



Work behind the scenes





Phase I is done!

- we have a mechanical protoype
- and even some electrical things working

Time for a demo ➤➤➤➤➤







Showing some AT commands (life)

- ATI2 get identification
- AT+CMEE=2 extended error message format
- AT+CPIN? check pin status
- AT+CLIP=I enable CLIP presentation
- AT+CR=I;AT+CRC=I enable more result codes
- AT+CSQ show signal quality
- AT^SMONI monitoring networks
- AT^SMONP monitoring cells
- ATD+49....; dial
- ATA answer
- AT+CHUP hang up
- AT^SMSO turn modem off



What's next in Phase 2?

Thanks to the amazing help from the community, we've already reached one of our two goals - the 25 000 € needed to make the design ready for production. The second goal is to find at least 200 customers who want to buy a device. Phase 4 Phase 1 Phase 2 Phase 3 Phase 6 5 000 € 25 000 € 15 000 € 200 devices However, if we f 1 000 devices, we can reduce cost of the device. Every donation starting Thanks to reaching 15 000 EUR we ease keep this incredible level of support we received so far! from 100 € cour expect that we can build ~5 prototypes with basic functionality. □ >= 1500 EUR □ >= 100 EUR ■ < 100 EUR subject to corrections for cancelled/rolled-back transactions We've already collected 42 405 € and we're heading for... 181 devices 200 1 000 Your donation will also serve as a rebate for a finished device.



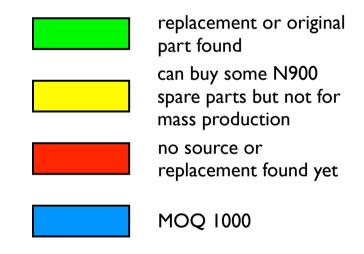
What's next in Phase 2?

- fix bugs identified in Phase I (e.g. position of Camera button, Mounting holes)
- add real CPU, Audio Codec, Display, Touch etc. to UPPER board, WLAN to LOWER
- Solution for Keypad and Illumination, Spacer
- Build ~5 devices which run some OS and can be used for further debugging of the design



Getting components from distributors...

| Component | Status Nov 2013 |
|---------------------|-----------------|
| Pushbuttons | |
| Camera Button | |
| CPU | |
| I GByte RAM | |
| USB -> OTG | |
| GPS+UMTS (LTE) | |
| Display connector | |
| Keyboard Dome Sheet | |
| Battery Connector | |
| SD Reader | |
| SIM Reader | |
| Camera socket | |
| Contact springs | |
| Audio Codec | |





Project Funding

Thanks to the amazing help from the community, we've already reached one of our two goals - the 25 000 € needed to make the design ready for production. The second goal is to find at least 200 customers who want to buy a device. Phase 1 Phase 2 Phase 3 Phase 4 Phase 5 Phase 6 5 000 € 15 000 € 25 000 € 200 devices However, if we can plan for an initial batch of 1 000 devices, we can reduce cost of the device. Every donation starting from 100 € counts as one device to build. Please keep this incredible level of support we received so far! We've already collected 42 405 € and we're heading for... 181 devices 200 1 000 Your donation will also serve as a rebate for a finished device.



Crowd Funding

- We have almost reached the 200 units!
- But building 1000 would make life easier (we get better prices and can easier get replacements for hard to source components)
- But since we don't have a time or budget limit like Kickstarter, you can still jump in! Any time. Any level.



Some Learnings so far

- You don't need a Kickstart platform
- You need a good idea and a community (here: talk.maemo.org + openphoenux.org) that finds the idea attractive irresistible
- You can organise fundraising (crowd funding) yourself
- You must describe what you plan and which challenges you expect - and be credible
- You must be responsive and open. Like we are today



Visit www.neo900.org