

Linux in Consumer Products: Nokia Learnings & Experiences

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Nokia

@Linux World SF 2007



Software in Nokia devices



Nokia 6151



Nokia N95

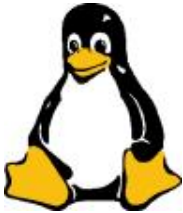


Nokia N800

Internet Tablets



NOKIA
Connecting People



- With the 770 and N800 Internet Tablets, Nokia created a new class of consumer devices to combine the **Internet experience of a Desktop PC** with the **mobility of a handheld**
- Internet use cases
 - Browsing
 - Internet Calls
 - Chat and email
 - Multimedia
- Open platform for developers
- Open platform for businesses

- Docs
- Tutorials
- Roadmap
- Bug tracker
- Lists
- Wiki
- Chat
- SDK
- Repository
- Hosting



The screenshot shows the Maemo website homepage. At the top is the Maemo logo with the tagline "code in your hands". Navigation links include "Intro", "Downloads", "Community", "Development", and "News". A secondary navigation bar lists "Documentation", "Tutorials", "Roadmap", "Lists", "Bugzilla", "Wiki", "IRC", "SDK", and "Repositories". The main heading is "open source development" with a sub-heading "for Internet tablets". Below this are sections for "Announcements" and "News", each with a list of updates and a "More..." button. A "Planet Maemo" section is also present. On the right, there's a "garage.maemo.org" link with statistics, a "Featured: Carman" section with a car dashboard image and text about a Check Engine Light, and a "Not a developer?" section with a "Tablet user?" sub-section and a "Visit tableteer" link. At the bottom, there's a "Building Mamon" section with a user icon.

maemo » code in your hands

Create account Log in

Intro Downloads Community Development News

» Documentation - Tutorials - Roadmap - Lists - Bugzilla - Wiki - IRC - SDK - Repositories

open source development

▼ for Internet tablets

Announcements

- » Additional tools for maemo developers and power users
- » Development platform plans available in the maemo roadmap
- » maemo trademark policy draft
- » New maemo website (and this is just the beginning)
- » Nokia and maemo, members of the new GNOME Mobile & Embedded Initiative

More...

News

- » Release 0.0.4
- » Plutohome Orbiter package
- » PluThon 0.1.0 has been released
- » Gnocl for N800 0.3 released
- » Maemo Mapper v1.4.6 Released

More...

Planet Maemo

More...

garage.maemo.org
250 projects, 2647 users

Featured:
Carman



You are wondering why your car's Check Engine Light is on. Carman will help you answer that.

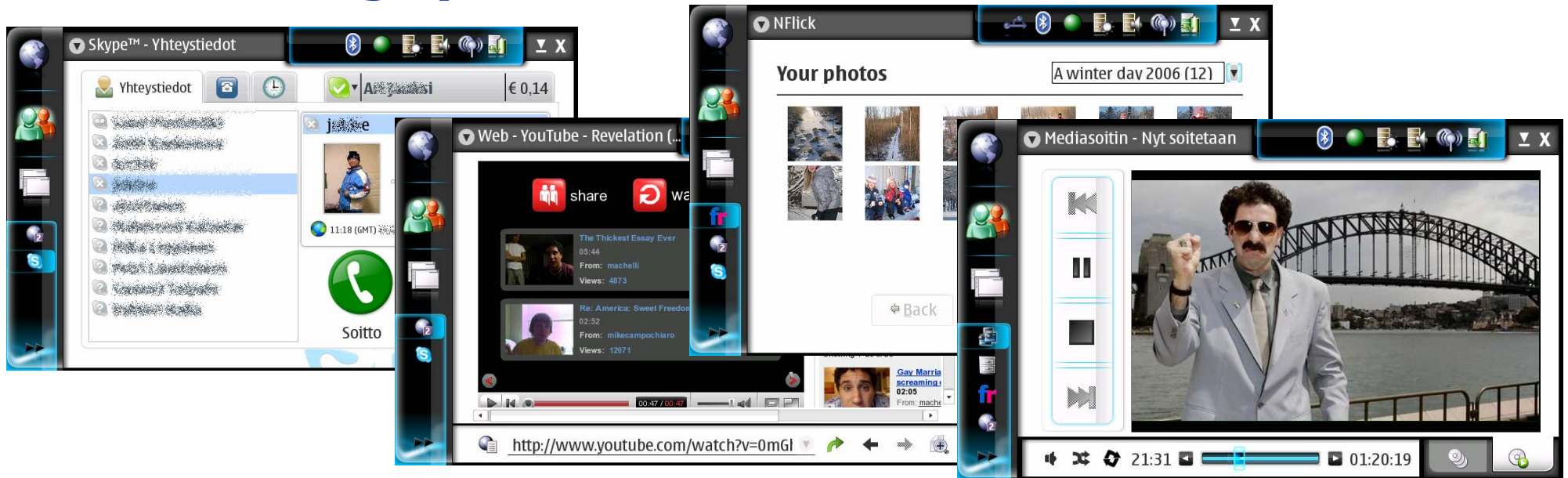
Not a developer?

Tablet user?

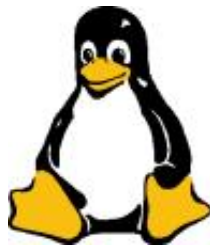
» Visit **tableteer** for cool stuff

Building Mamon

We are Taking Open Source to Consumer Mainstream ...



GNOME Mobile Platform with Hildon application framework



Linux kernel – Debian Tools – GNOME / GTK+

...a step at a time – the latest upgrade from July

- Skype to download
- Flash 9
- 8GB memory card support
- Better battery life
- Application improvements
- Touch screen improvements
- New preinstalled content



.. and a Mozilla based browser engine available for testing

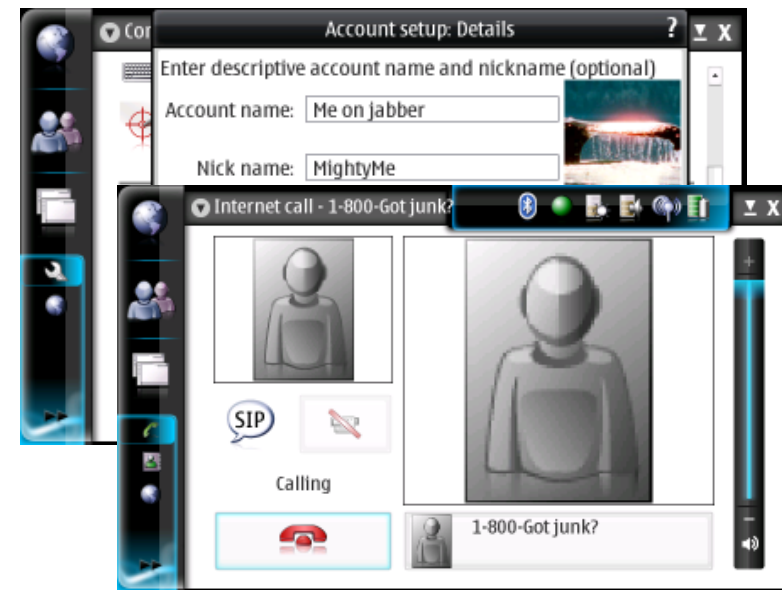


<http://browser.garage.maemo.org>

- Shares the key components of Firefox
- Desktop grade web browser with AJAX support
- Extendable computing platform -- extensions based on the same interfaces as on Firefox
- Developed as a part of the Mozilla community

... and an Internet Communications SW update for N800 for developers and testers

- SIP connection manager for Telepathy Framework
 - Open, based on Sofia SIP stack
 - Support VoIP calls to SIP addresses (including PSTN numbers)
- UI improvements
 - Avatar support (XMPP)
 - Account configuration UI updates
 - Improvements in Call, Chat and Address Book UIs
- Google Talk relay support
 - Improved NAT traversal for Google Talk calls
- Various other updates (telepathy, mission-control etc)



<http://rtcomm.garage.maemo.org/>

...and the Hildon contribution to GMAE

- The desktop for mid sized handheld devices:
 - Home
 - Task navigator
 - Status bar
 - Control panel
 - GTK+ based widgets
 - Themes
 - Library for application integration

Maemo is built on the
GNOME Mobile Platform

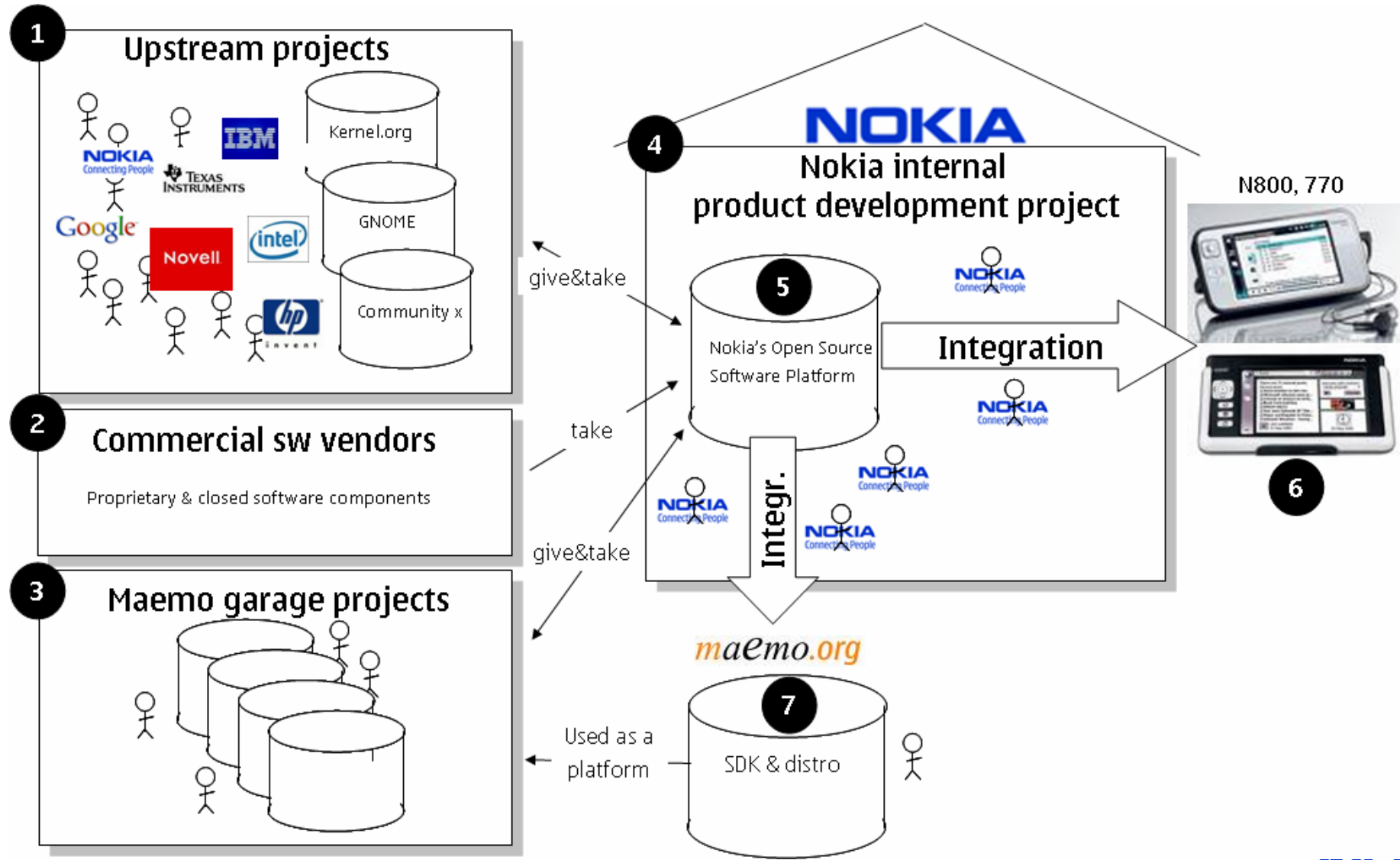


Hildon goes Upstream

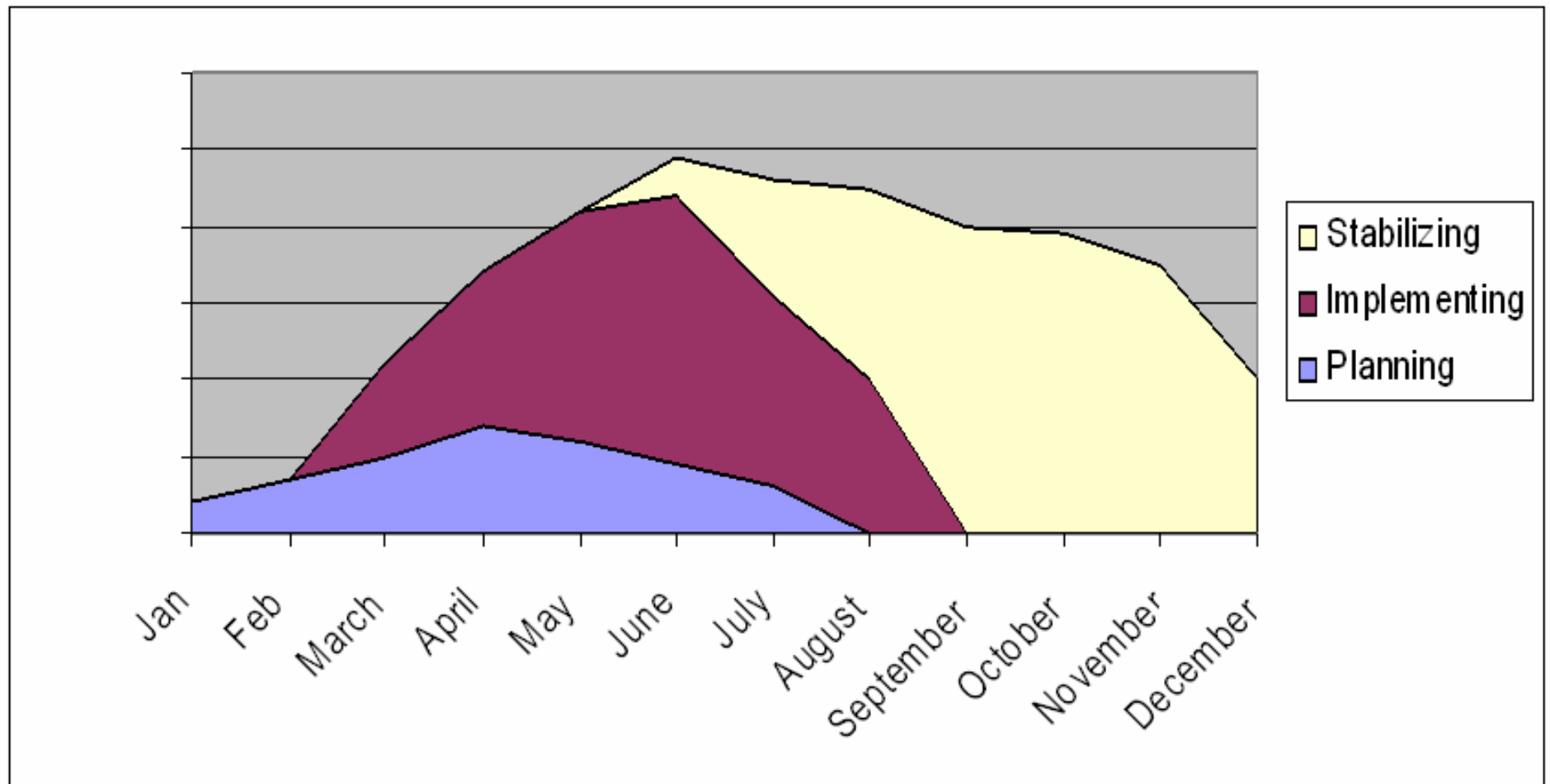
- We are promoting Hildon as the framework to be used with the GNOME Mobile!
- User environment designed for mobile devices with a strong focus on usability and attractive look & feel. Designed for touch screen input with a stylus or thumb.

```
> Mobile
> -----
>
> As announced, Ubuntu 7.10 will be first release to include a
> new Mobile and Embedded edition targeted at hand-held devices
> and other mobile/embedded form factors.
>
> This integrates the Hildon UI components developed by Nokia
> into Ubuntu, on top of the existing Ubuntu platform.
```

Creating software as a part of communities



The N800 case



Benefits

- Efficiency
 - Speed & cost
 - Compared to proprietary
- Quality
 - Better than code developed by us
- Flexibility
 - Possibility to “just fix it”; no need to ask for permissions
- Software licensing
 - Done in advance
- Future and roadmaps
 - Open
 - Created jointly – possibility to participate

Issues and challenges

- Hacking vs. stabilizing
 - Modes of development; development projects
- Architecture management
 - IPR, legal, licenses
- Community alignment vs. backwards compatibility
 - Stop the world!
- Community participation in product integration and finalization
 - How close – what is “product integration”?
- Investing in community work
 - Creating communities, participating – not free

Conclusions so far @ Nokia

- Open source is *the* way to write software
 - Speed
 - Quality
 - Flexibility
- In addition to voluntary hackers, more and more company employees are working in open source communities – to meet business goals.
 - Communities need to accept this
 - Corporate need to play by the open source rules
 - Open source licensing models must allow different business models
- Companies that ship end products, must run product integration, user experience management, and overall quality control of an integrated product. I see no evidence that open source projects and communities could do that.
- Using software from upstream projects and participating the community work are the skills to learn for all hi-tech companies. These skills will become valuable assets that no product development companies can live without.

Summary – it's all about the products!



www.nokia.com/N800

www.maemo.org

www.jaaksi.net