

# Linux in Consumer Products: Nokia Learnings & Experiences

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@Linux World SF 2007



# Software in Nokia devices



Nokia 6151



Nokia N95



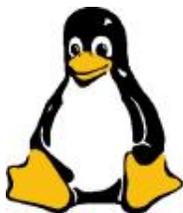
Nokia N800

# Internet Tablets



- 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

**NOKIA**  
Connecting People



**GNOME**

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

**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

#### News

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

#### Planet Maemo

**Building Mamona**

**garage.maemo.org**  
250 projects, 2647 users

**Featured:**  
**Carman**

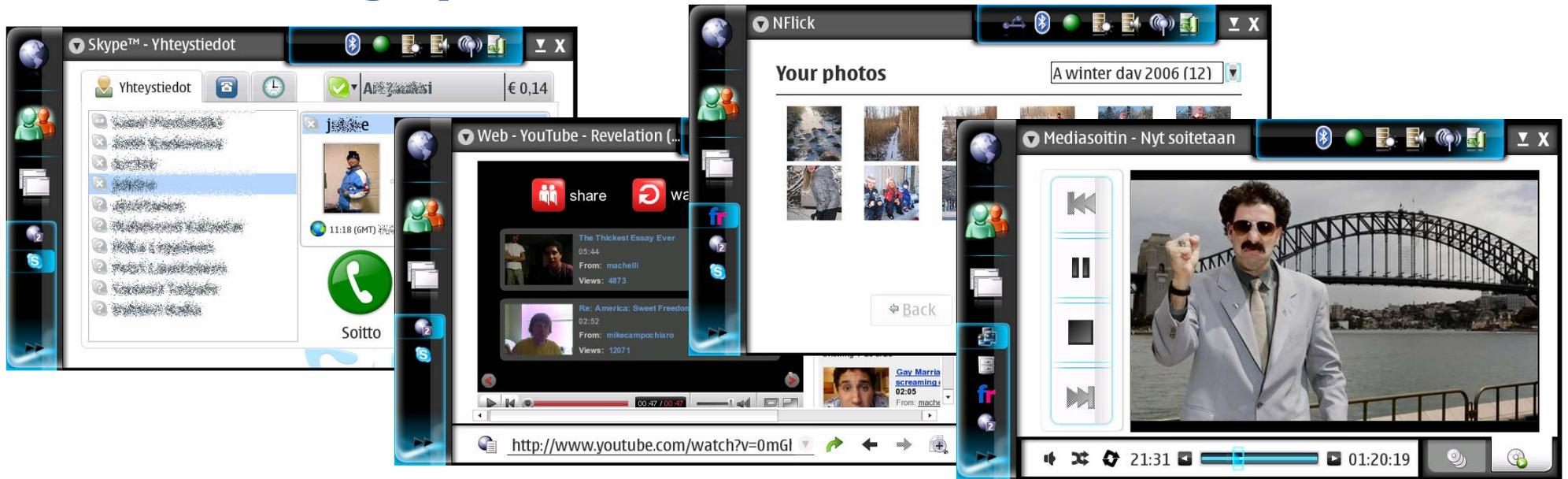
You are wondering why your car's Check Engine Light is on. Carman will help you answer that.

**Not a developer?**

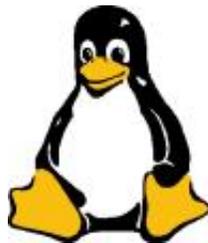
**Tablet user?**

» Visit *tableteer* for cool stuff

# 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

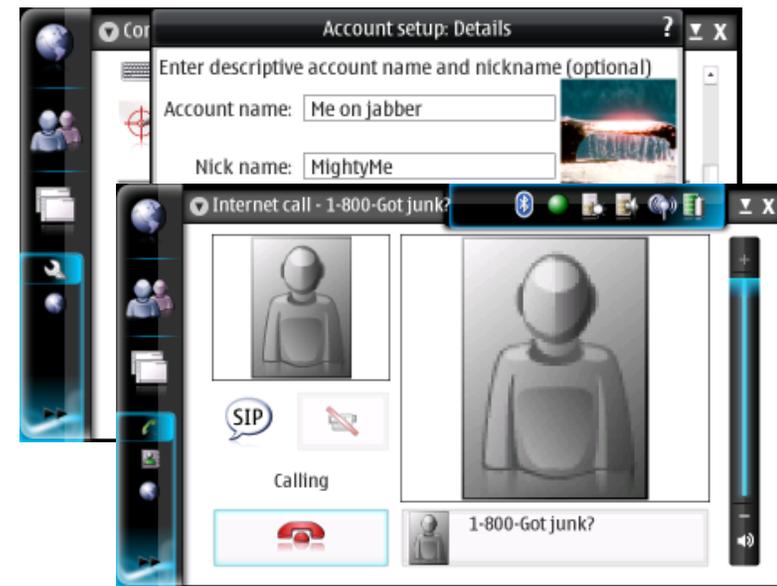


<http://browser.garage.maemo.org>

- 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

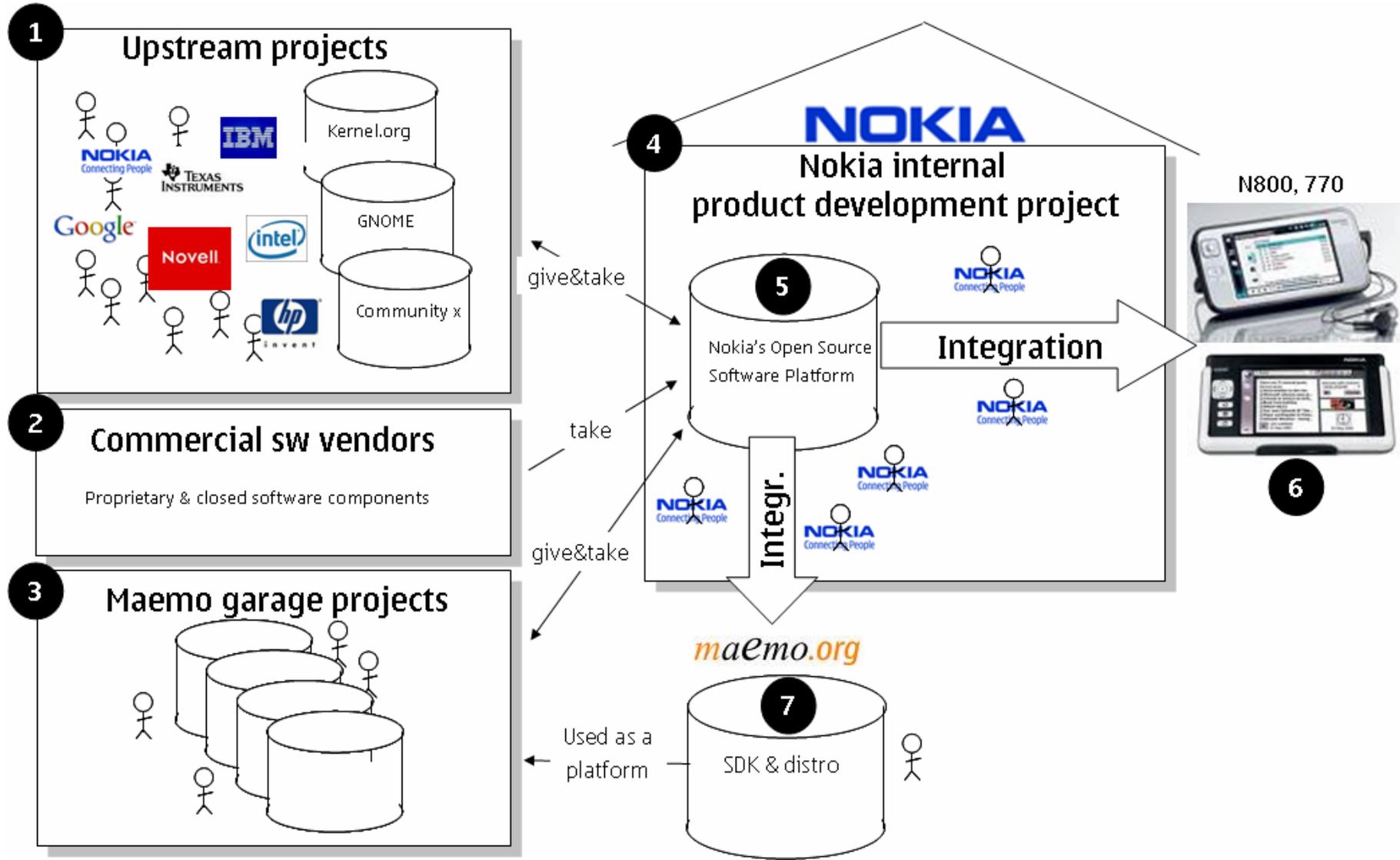


# Hildon goes Upstream

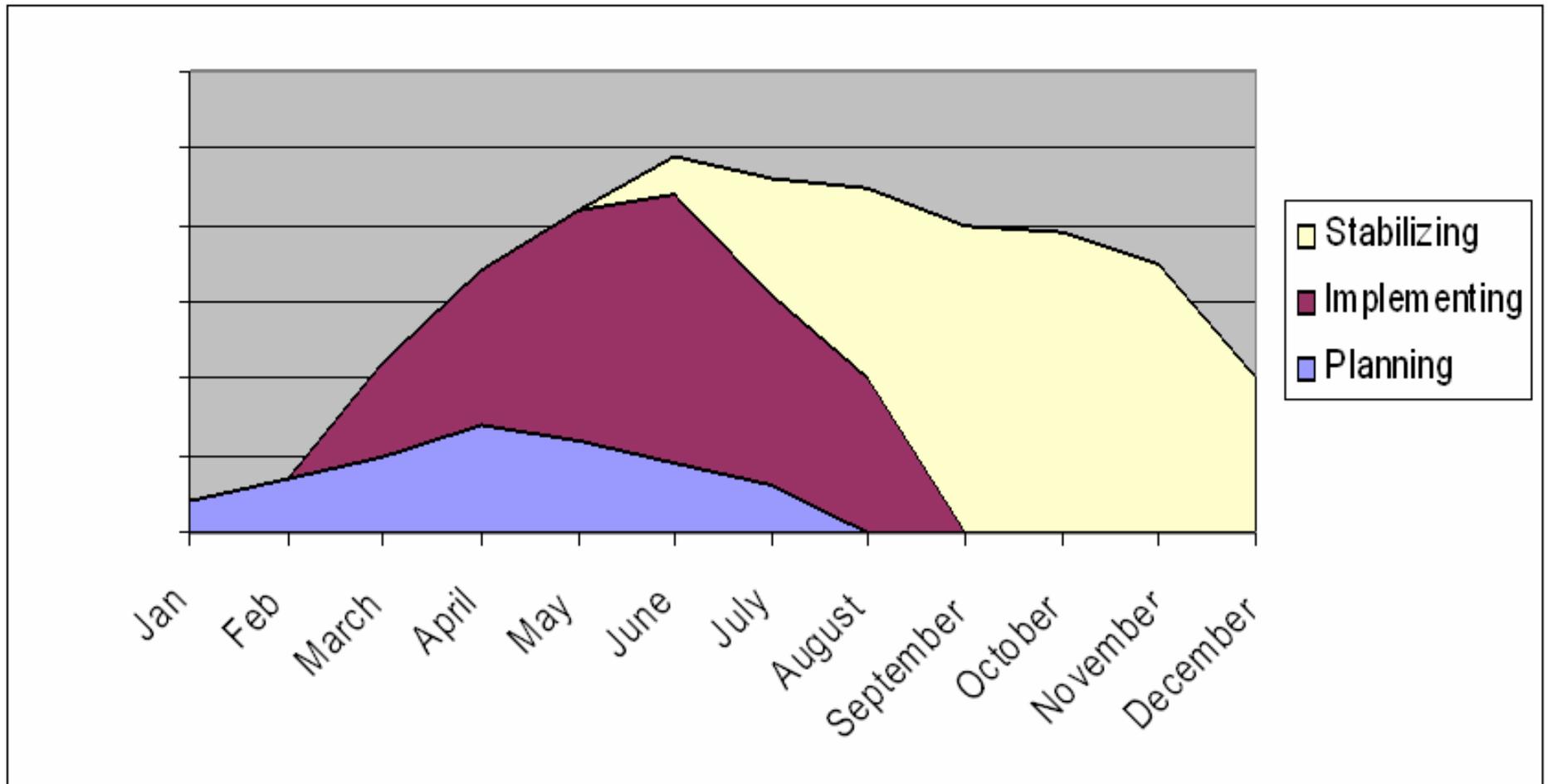
- We are promoting Hildon as the framework to be used with the GNOME Mobile!
- User environment designed for mobile devices with a strong focus on usability and attractive look & feel. Designed for touch screen input with a stylus or thumb.

```
> 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](http://www.nokia.com/N800)

[www.maemo.org](http://www.maemo.org)

[www.jaaksi.net](http://www.jaaksi.net)