



OpenMoko.dk

OpenMoko

Ole Tange <ole@tange.dk>

- A revolution on your mobile phone
in 4 parts

Wireless Center, February 2008





Ole Tange

- System developer at Ange Optimization (ange.dk)
- GNU/Linux since 1992
- Professionally since 1996
- Active in free software movement
- Best known for *the patented web shop, Parallel, and remindmail.net*
- Wiki-master for wiki.openmoko.org
- Speaks English every day

Åbent-Døgnet-rundt.dk's børnefilm

Mariehøne



Mere om mariehøns:

[Bøger om mariehøns](#)

(hos Gad.dk)

[Byt film om mariehøns](#)

(hos Den Blå Avis)

Filmen Mariehøne handler om ipsum dolor sit amet, consectetur adipiscing elit. Donec volutpat. Vivamus eu mauris. Quisque nulla augue, tristique at, mattis et, blandit id, magna. Nullam vitae diam eget massa bibendum malesuada. Donec at magna.

1-klik se nu i browser

1-klik hent film mpeg4-format


Din indkøbskurv er tom.

Soundtrack.mp3 Film

Læg i indkøbskurv

Send DVD eller bånd som gave til:

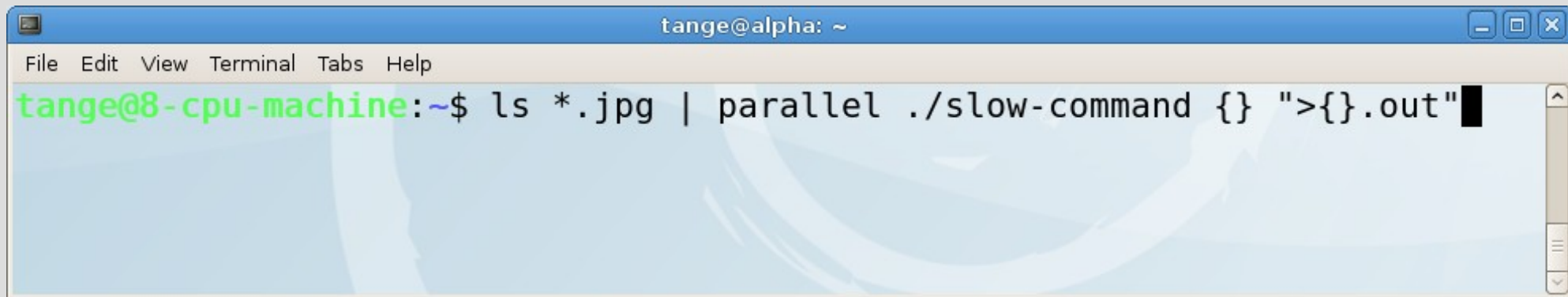
Anders Sand
Paradisæblevej 117
1234 A

 Betal med kreditkort

Få et lån

Betal via din internetydbyder

Parallel

A terminal window titled "tange@alpha: ~" with a menu bar containing "File", "Edit", "View", "Terminal", "Tabs", and "Help". The prompt is "tange@8-cpu-machine: ~\$". The command entered is "ls *.jpg | parallel ./slow-command {} ">{}.out". The terminal has a light blue background with a white arrow pointing to the right. The window has standard Linux window controls (minimize, maximize, close) in the top right corner.

```
tange@alpha: ~  
File Edit View Terminal Tabs Help  
tange@8-cpu-machine: ~$ ls *.jpg | parallel ./slow-command {} ">{}.out"
```

RemindMail.net

From: John Doe <john@example.org>
To: Phone company <info@example.com>
Cc: 30@RemindMail.net
Subject: Invoice for May 2004

To the Phone company.

Would it be possible for you to get me a copy of the invoice for May 2004?

Regards,

John Doe
CustomerNo: 12345678

article discussion edit history

navigation

- [Main Page](#)
- [Community portal](#)
- [Current events](#)
- [Recent changes](#)
- [Random page](#)
- [Help](#)

search

toolbox

- [What links here](#)
- [Related changes](#)
- [Upload file](#)
- [Special pages](#)
- [Printable version](#)
- [Permanent link](#)

Main Page

<p> Languages:</p>	<p>English • Русский • Deutsch • Svenska • 简体中文 • Polski • Nederlands • Eesti • 한국어 • Français • Español • Română • Български • Ελληνικά • Slovensky • Italiano • عربي • Česky • 日本語 • Português</p>
--	--

Welcome to the **OpenMoko™** public Wiki

OpenMoko™ is an [Open Source](#) project to create the world's first free mobile phone operating system which runs a full X server and can therefore run most X applications.

The **OpenMoko** project is a community that anyone can join, to help design their ideal phone.

You can install any OpenMoko software over the whole range of [supported phones](#), and if you upgrade your phone, you don't lose that software. Bugs fixed on any phone are fixed on all.

The **Neo1973** from **FIC** is the first of possibly many phones that OpenMoko



English

- *You* have a responsibility to get something from my talk

Topics

- The FIC Neo FreeRunner hardware
- The software
 - The ideas
- Price and availability
- Future developments

My dream

- The *personal* computer
- Like glasses or watch
- Like a laptop – only smaller
- Storage on network

Neo FreeRunner

(alias Neo1973 GTA02)

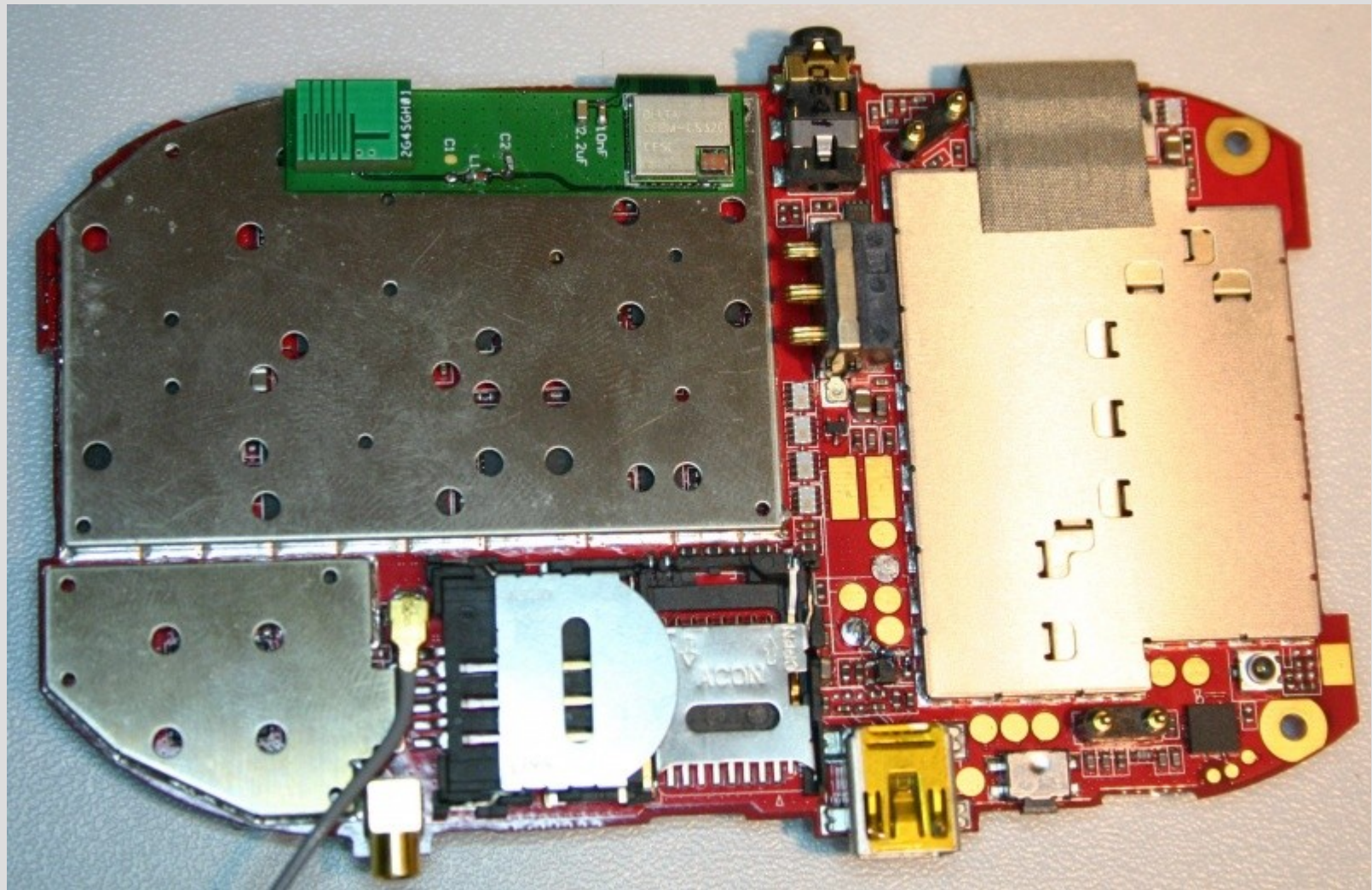
- The first OpenMoko smart phone
- The hardware
 - ARM 400 Mhz
 - 128 MB RAM
 - MicroSD Flash (4 GB tested – 8GB modules coming)
 - 3D graphics chip 640x480, 280 dpi
 - Bluetooth
 - Charge and sync using USB (USB2 powered)
 - WiFi (Atheros AR6K)
 - 2 accelerometers
 - GSM 2.5G (not EDGE)
 - GPS



Revolution part I: Backing from the supplier

- FIC – First International Computer
 - The company behind
 - Honest
 - Delays with explanations
 - Rather delays than flakey hardware
 - Flakey software is fine
 - Works *with* the community
 - Profit
 - Larger margin by selling direct to consumer

How to take it apart

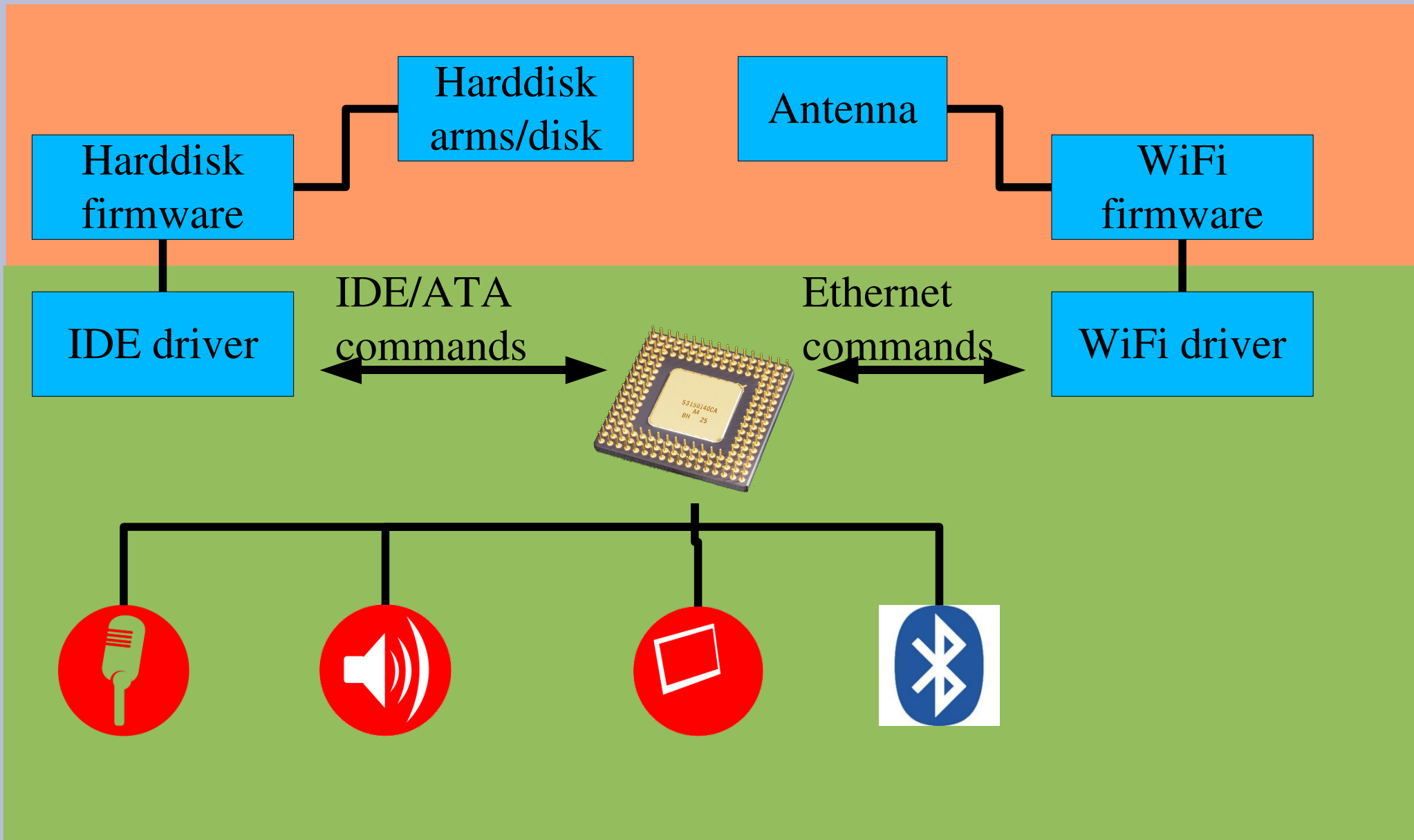


Revolution part II: The operating system

- OpenMoko GNU/Linux
 - Base for future hardware
 - Not only for phones
 - GNU/Linux with changes
 - 100% free software
 - Emulator and developer phone available today

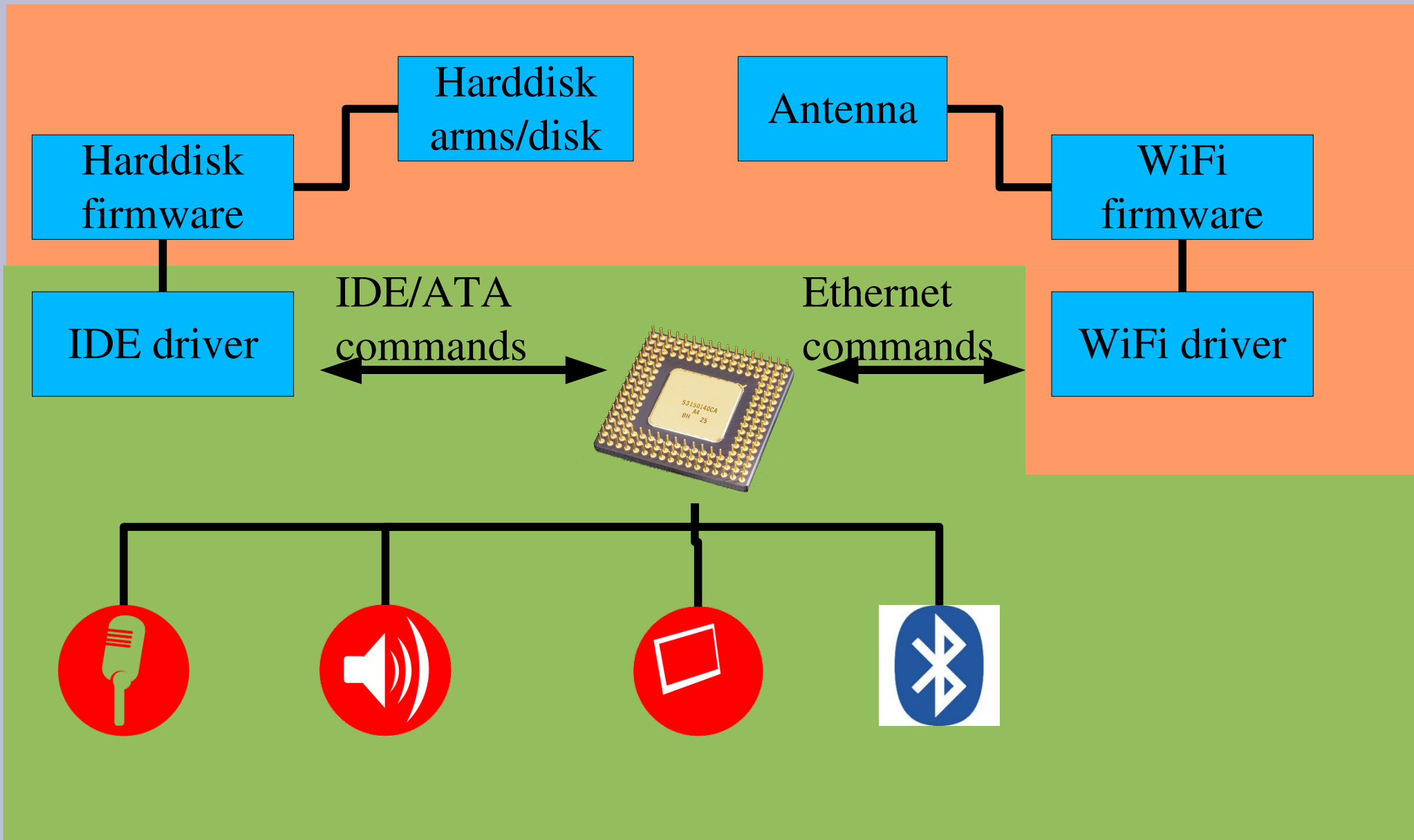
What is libre?

- on a PC



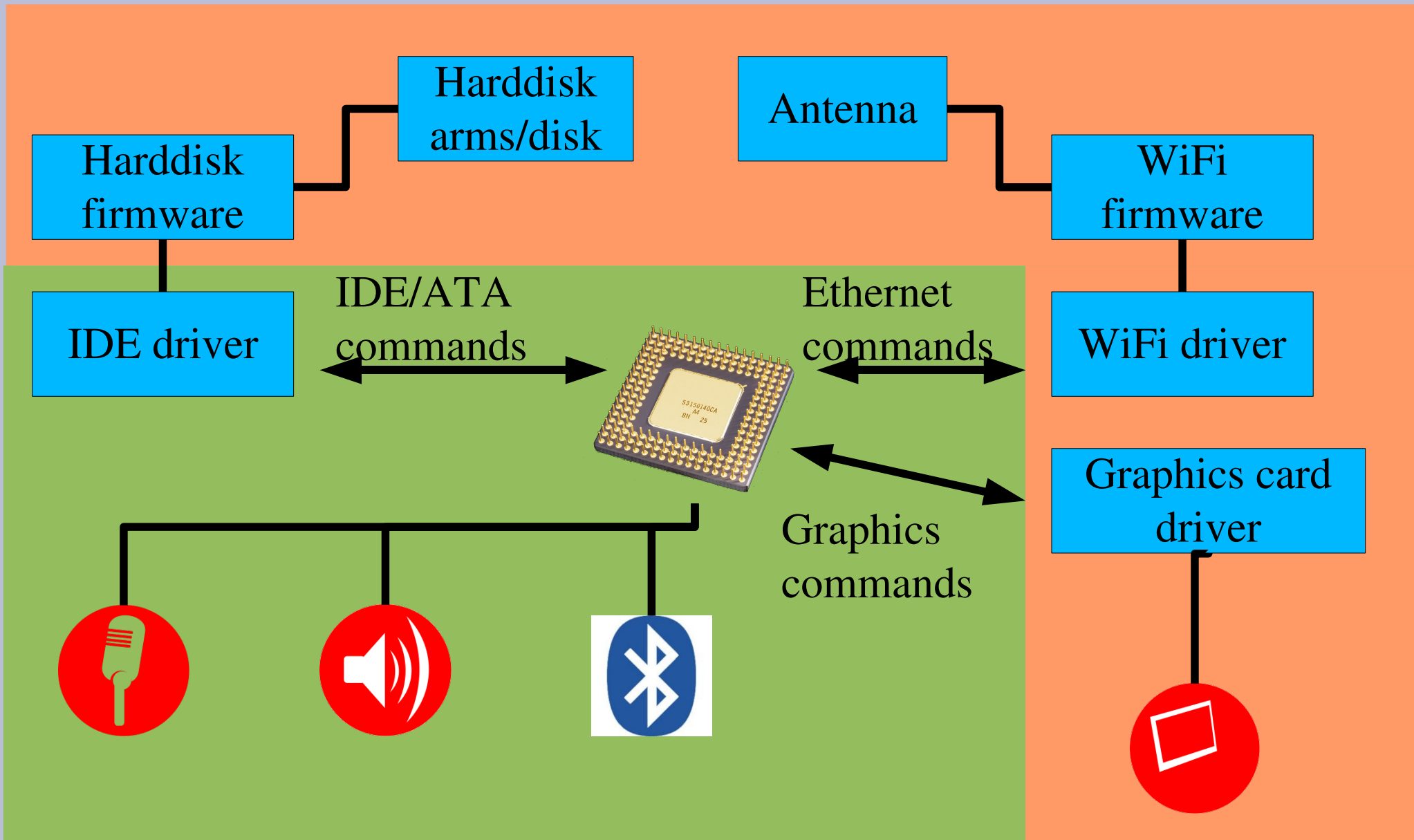
What is libre?

- on a PC



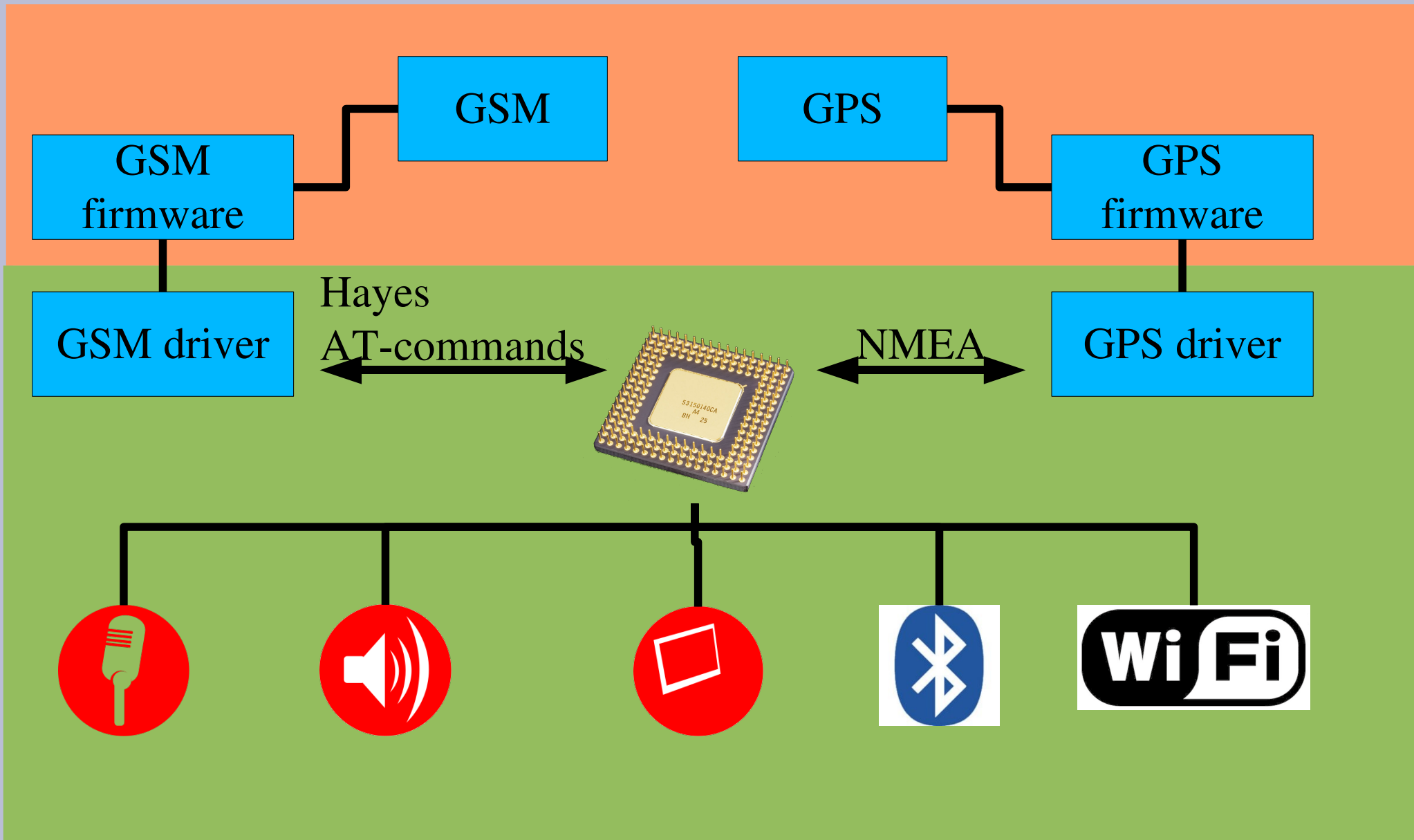
What is libre?

- on a PC



What is libre?








- on Neo FreeRunner



2007 Stylus Applications.

PHASE 1	PHASE 2
<p>Contacts</p> 	<p>Feed Reader Messages Preferences Media Player Sketchbook Terminal IM</p>  
<p>Dates</p> 	<p>Web Browser Reader System Info</p>  
<p>Application Manager</p> 	<p><i>Your Applications...</i></p> 
<p>Today</p> 	

2007 Finger Applications.

PHASE 1	PHASE 2
<p>Dialer</p> 	
<p>Main Menu</p> 	<p>Clocks Screen Saver Calculator Unit Converter Game</p> 
<p>Music Player</p> 	<p>Guitar Tuning Code Memo</p>
<p>History</p> 	<p><i>Your Applications...</i></p> 

Qtopia


- Software from Trolltech's Green Phone
- Ported to Neo1973
 - Will work on Neo FreeRunner without modifications
- Released in September 2007
- Licens: GPL (non-free license is for sale)

Revolution part III: Developer

- Open possibilities for developers
 - No limitations
 - at the start
 - Later: Sandboxing (think chroot/normal user)
- Ideas
 - It is fun
 - Contribute yours

Idea: Location based calendar



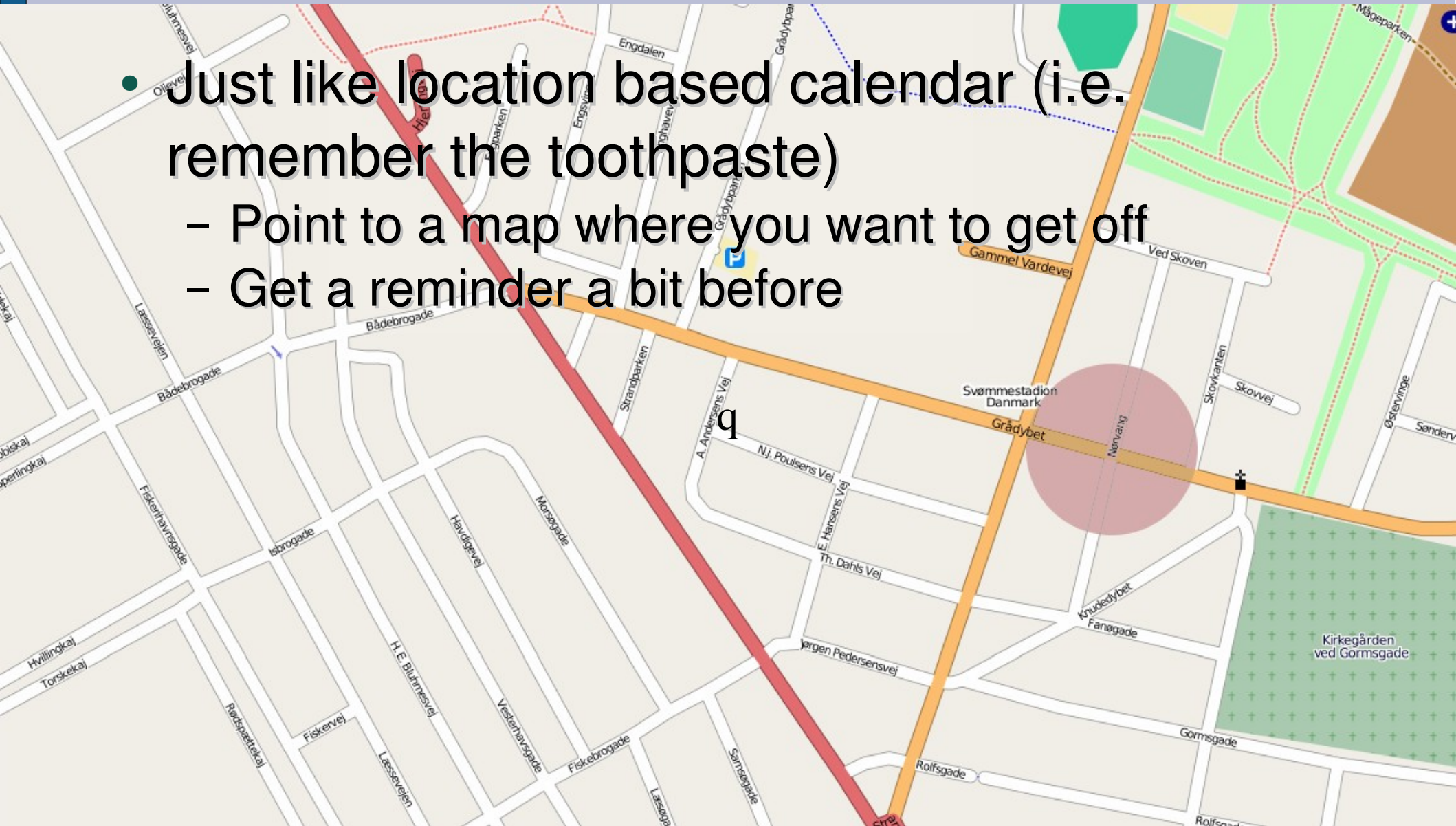
A man in a dark suit and sunglasses, holding a handgun, looking off to the side. The image is semi-transparent and serves as a background for the text.

“Never send a human to do a machine’s job.”

Agent Smith, 1999.

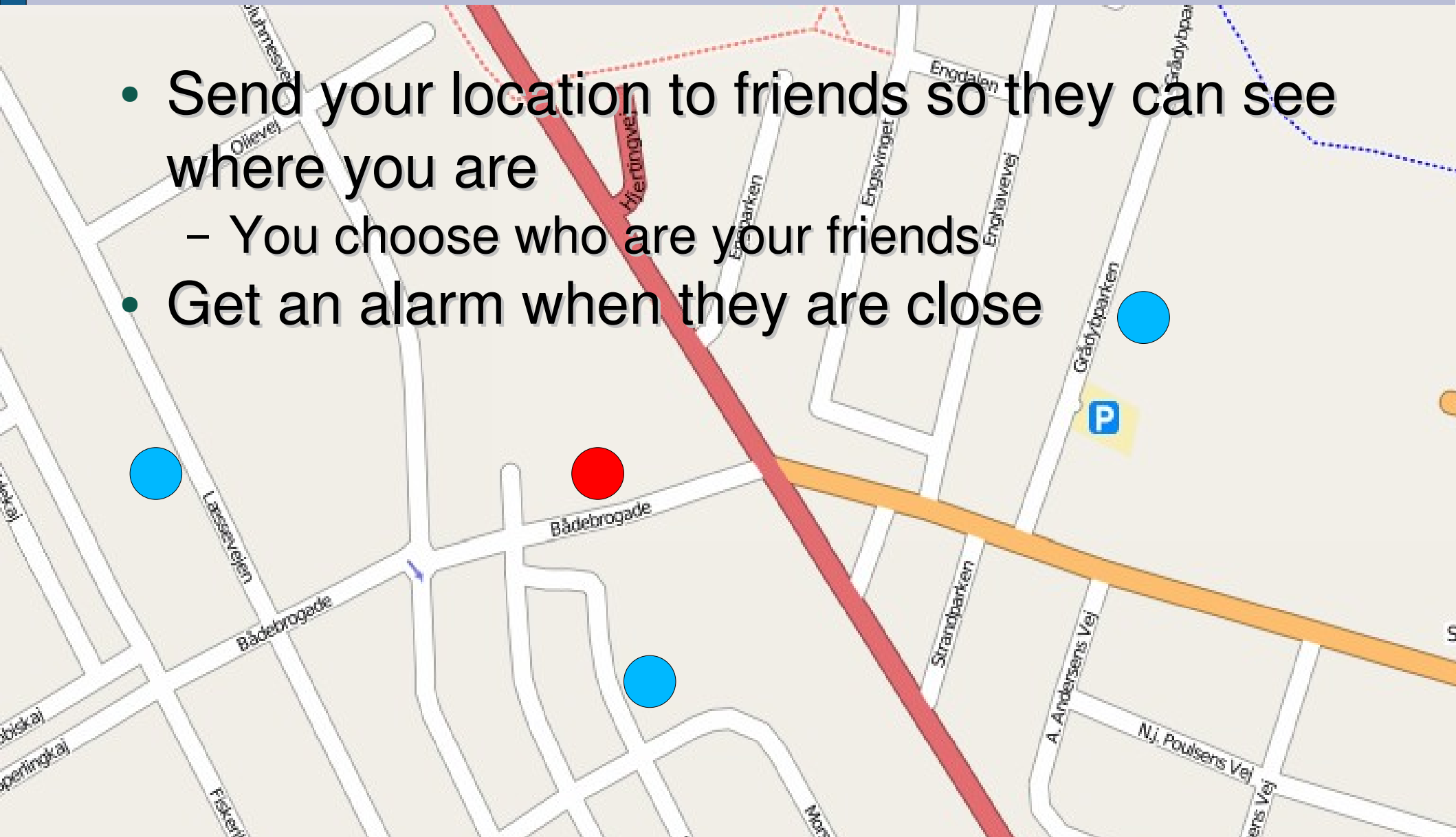
Idea: Get off at bus stop

- Just like location based calendar (i.e. remember the toothpaste)
 - Point to a map where you want to get off
 - Get a reminder a bit before



Idea: GPS Friends

- Send your location to friends so they can see where you are
 - You choose who are your friends
- Get an alarm when they are close



Idea: Closest WiFi

- If a WiFi is nearby then upload the position to a central server using the WiFi
 - This way the connection is tested
- Show a map with the nearest WiFi located



Idea: Closest *whatever*

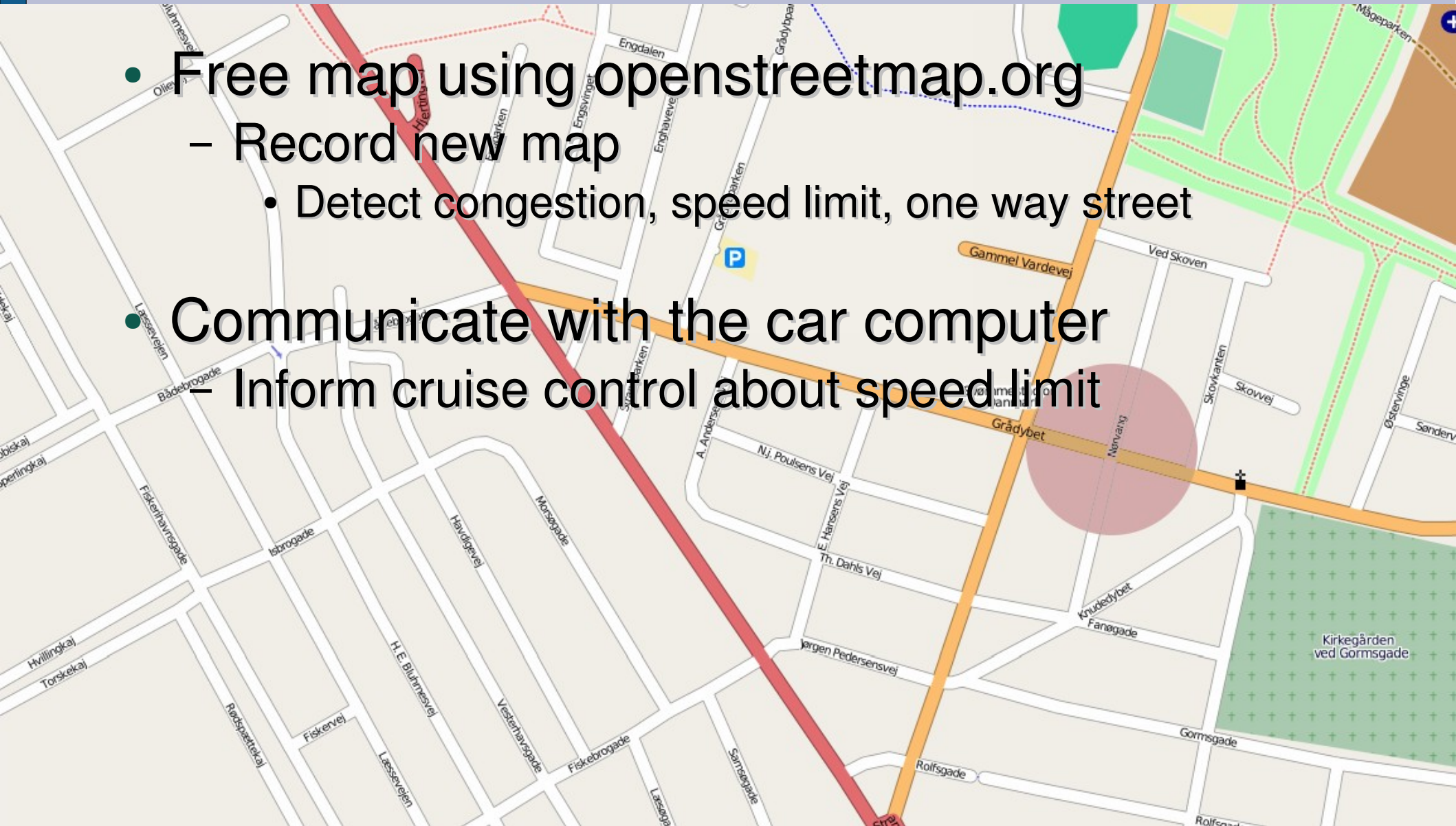
- Users tag a location with information
 - E.g. gas prices, restaurant reviews
- The information is uploaded when internet access is available
- Show a map with the nearest *whatever*



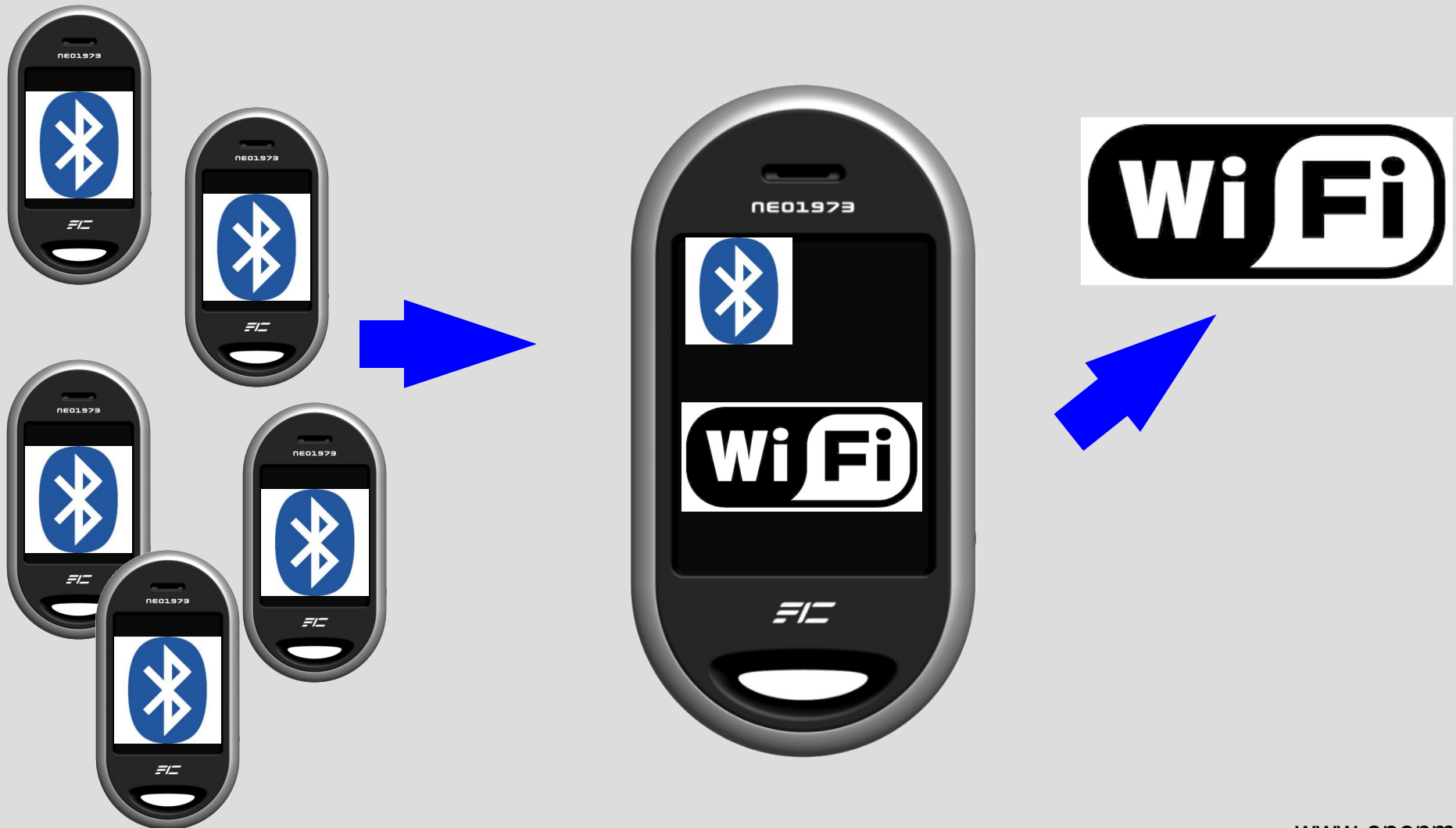
Idea: Navigation

- Free map using openstreetmap.org
 - Record new map
 - Detect congestion, speed limit, one way street

- Communicate with the car computer
 - Inform cruise control about speed limit



Idea: Bluetooth/WiFi gateway



Idea: Graphics Tablet

Idea: Profiles

- Time based
- Location based
- Timeout
 - Time based
 - GPS based
 - Motion based

Idea: Voice over IP

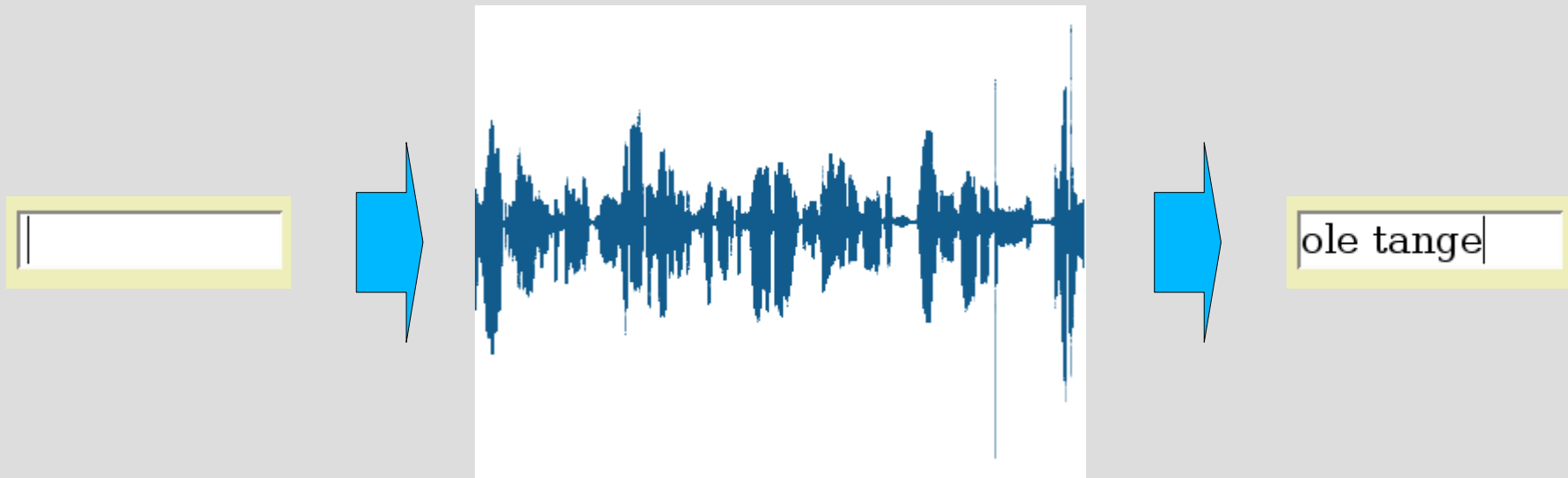
- Voice mail on the phone
- Asterisk

Idea: Firewalling

- Time based
- Location based
- White lists

Idea: VoiceText

- Text fields with dictation machine
- Secretary to do “voice recognition”



Idea: Distance measuring

- Repeat and do a speedometer

Idea: Cheap data transfer

- Different subscriptions give different ideas
- Free voice
- Free data
- Free SMS
- Free call (but not minute)

Idea: Games

- Drainers'n'gainers

- My Account
- 3D Viewport
- Ambient Noise Detection
- Bootable USB device emulation
- Computer Mouse
- Data Traffic Monitor
- Dynamic Screen Orientation
- Graphics Tablet
- Ignore Call Button
- Least Cost Routing
- Set Local Time

Software patents

- The ideas might be patented
 - as software
 - as firmware
 - as hardware
- Help us fight software patents
 - Danish: Join www.itpol.dk
 - English: Join www.eff.org

Revolution IV: End user

- Packaging system
- Subscribe to
 - Stable
 - Tested and authorized by FIC
 - Experimental
 - Tested by FIC
 - Development
 - Works for me
 - Brick your phone

When and how much?

- 12th July 2007
 - Phase 1 device (GTA01B_v04): USD 300 (base model), USD 450 including additional development hardware
- 2008 Q1
 - Neo FreeRunner: USD 450 (base), USD 600 (including development hardware)

Your Mobile Lab for Experimentation.



Create New Building Blocks.



Summary

- The FIC Neo FreeRunner hardware
- The software
 - The ideas
- Price and availability
- Future developments

More info

- www.openmoko.org
- wiki.openmoko.org



Questions?
<ole@tange.dk>