

# telenor

Innovation happens elsewhere

The cloud of open innovation

Hilde Lovett, Telenor R&I

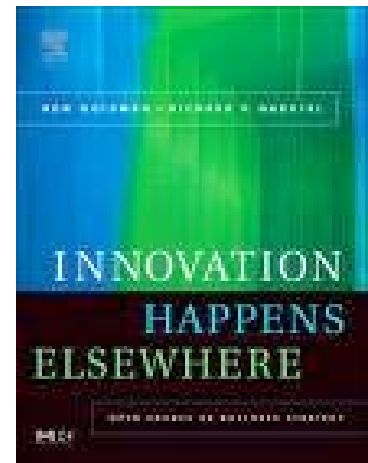
NOKIOS Trondheim, October, 2008

# content

- Our inspiration
- Introducing open source
- Introducing clouded computing
- About iLabs

# Innovation happens elsewhere

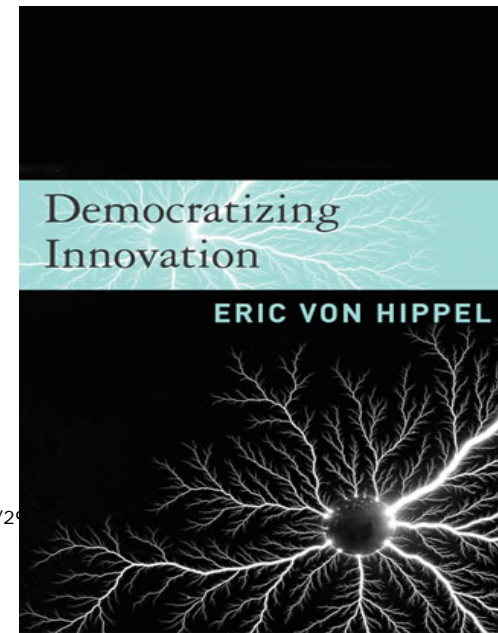
- "To many, open source is about Linux and a few other software systems and how to use them to make an inexpensive backroom. But open source is also a practice and a tool for encouraging and harvesting innovations. "
- "Open source is a way for companies to engage in highly effective marketing--both in the sense of marketing a company, software, and brand, and in the sense of finding out what products and product features to build."
- Gift economy:  
Opening up part of itself to the outside and provide gifts
  - technology, tools, and prototypes that are of high value to outside companies and organizations and that trigger them to work in areas important to the company
  - communities where others can work within a culture that supports the vision of the company



# Democratizing innovation

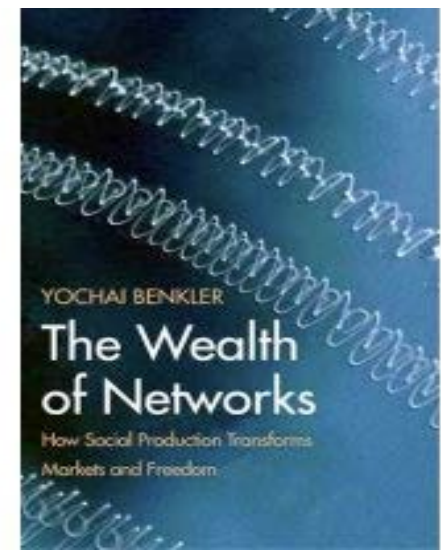
## User centric innovation

- Innovating users – both individuals and firms
  - innovations concentrated among “lead users”
  - solves their own problems
  - can develop exactly what they want
  - ahead of marketplace trends
  - but often proofs to be commercially viable
- Developers as lead users
  - free and open source code and communities important to achieve this
- Individuals as lead users
  - better tools and ways of sharing information and sw

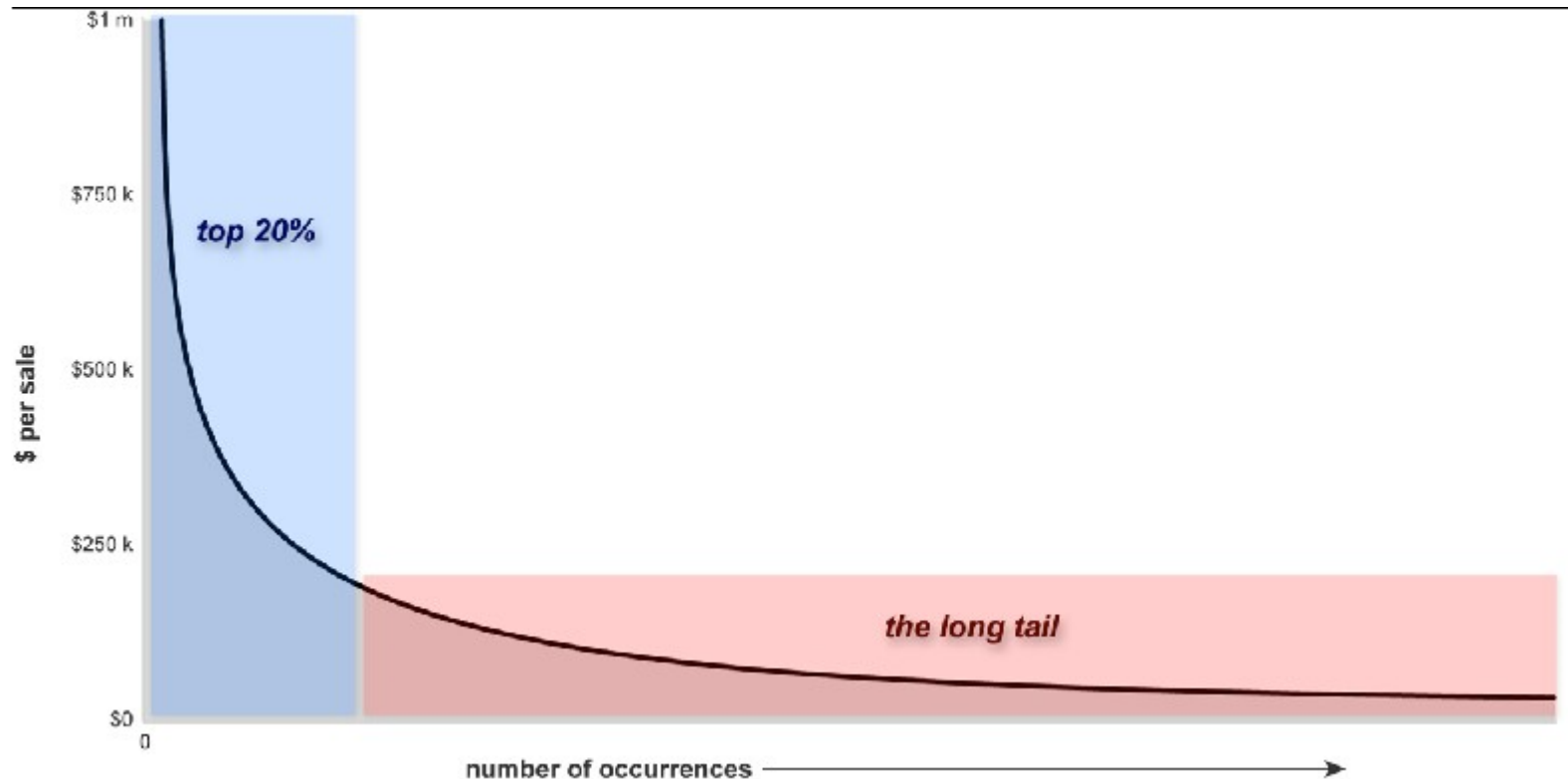


# Wealth of networks

- examines the ways in which information technology permits extensive forms of collaboration that may potentially have transformative consequences for economy and society.
- raises the possibility that a culture where information were shared freely could prove more economically efficient than one where innovation is frequently encumbered by patent or copyright law, since the marginal cost of re-producing most information is effectively nothing.



new opportunities are in micro niches



"We sold more books today that didn't sell at all yesterday than we sold today of all the books that did sell yesterday" Amazon employer

# Introducing open source



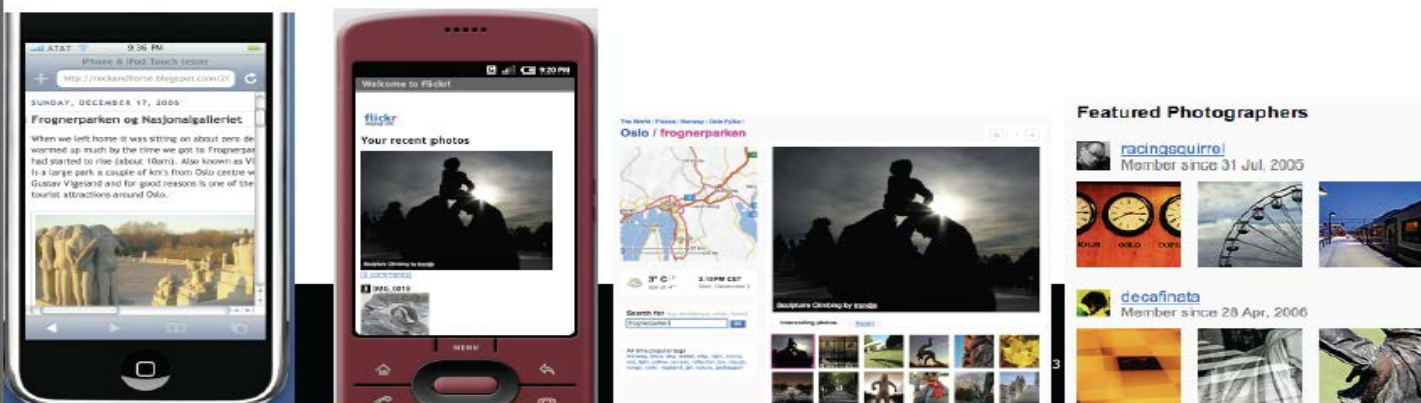
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# Bruker generert innhold brer om seg....

- Web 2.0 handler om den intelligente webben
  - Wikipedia som en ny type kollektivt leksikon
- Mobil Web 2.0
  - Brukerne leser og lager innhold "at the point of inspiration"
  - Flickr websted som ny type reiseguide
- God sirkel: bedre informasjon, bedre verktøy – mer intelligens
- Bruker, tilpasser, deler hverandres informasjon





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og dele mer læringsmateriale



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## Lydopptak Web 2.0 Skolen 5. samling - Niels

Niels Damgaard

Opptakk fra den [embedding and help](#)  
norske Web 2.0 skolen 2.10.07 - Niels Damgaard om "WebPedagogikk"

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LydopptakWeb2.0Skolen5.Samling-Niels_vbr.m3u	VBR M3U	<a href="#">Stream</a>
LydopptakWeb2.0Skolen5.Samling-Niels_vbr_mp3.zip	VBR ZIP	<a href="#">11.4M</a>

# 6 key drivers to Open Source

- **Agility & scale**

The ability to quickly grow and modify software systems to respond to rapidly changing business conditions

- **Breaking Vendor Lock-in**

Reducing proprietary vendor dependence and controlling enterprise IT architectures

- **Quality and Security**

Improving the operations of enterprise infrastructure by leveraging open source characteristics of transparency and rapid improvement

- **Cost**

Reducing overall IT operational costs by implementing free or low-cost open source software

- **Sovereignty**

Reducing dependence upon U.S.-based software companies for local economic development and national sovereignty reasons

- **Innovation**

Using open source to create new business offerings or creating open source products to reduce operational costs and make new offerings less expensive to bring to market



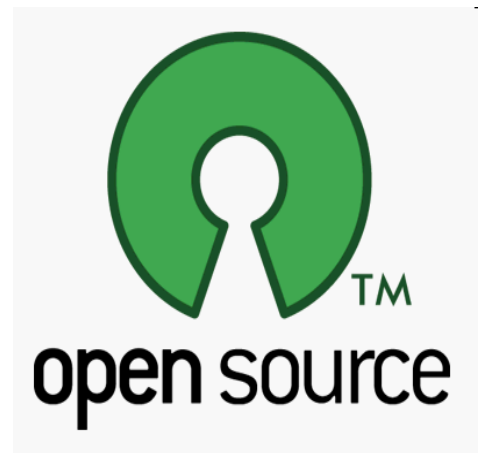
Source: Open Source in the Enterprise, 2008.  
By Bernard Golden, An O'Reilly Radar Report

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It's all about  
COOPERATION!  
Well proven licenses regulates  
cooperation



**Freedom to:**

- Run the program, for any purpose.
- Study how the program works, and adapt it to your needs.
- Redistribute copies so you can help your neighbor.
- Improve the program, and release your improvements to the public, so that the whole community benefits.

*Access to source code necessary for 2 and 4.*



Source: The Free Software Foundation

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# Integration of services within applications (mash-ups)

**A Zimlet**  
is a mechanism for integrating the

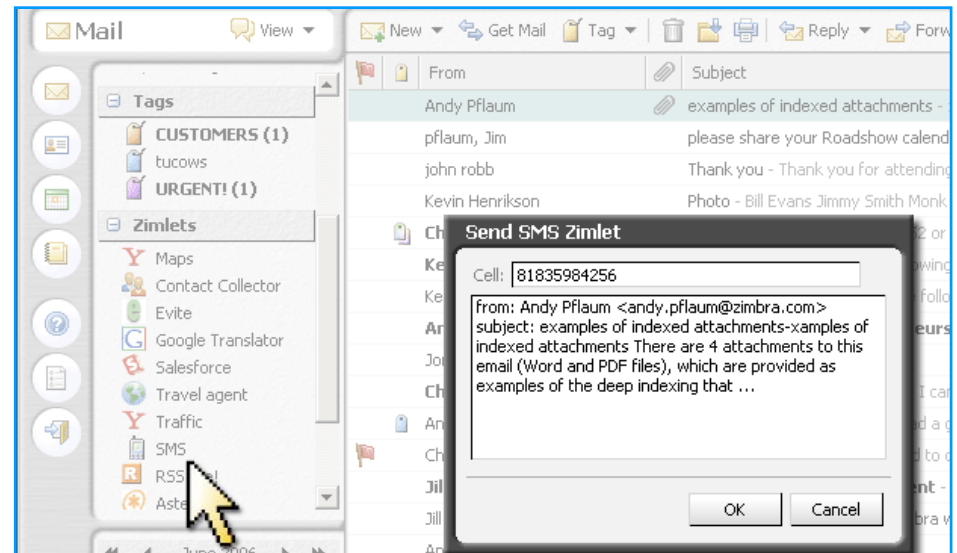
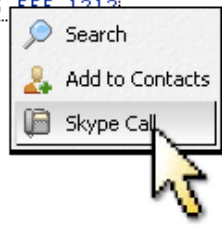
**Zimbra™**  
Collaboration Suite

with third party information systems and content.



Subject: **Skype Hype**  
▶ Sent by: Satish Dharmaraj On: Tuesday, August 23, 2005 11:23:16 AM

Please call me anytime today at 415.555.1212



Send SMS Zimlet

Cell: 81835984256

from: Andy Pflaum <andy.pflaum@zimbra.com>  
subject: examples of indexed attachments-xamples of indexed attachments There are 4 attachments to this email (Word and PDF files), which are provided as examples of the deep indexing that ...

OK Cancel

# Fri programvare i skolen

## hva og hvorfor

- frihet til å bruke, videreutvikle og dele programvare
- senker kostnader
  - mer penger til andre ting - og flere programmer
- senker terskel
  - flere aktører kan lage skreddersydde løsninger
- enkelt å tilpasse verktøy og programmer til egne behov både for lærere, foreldre og elevene selv
  - tillasse språk (nynorsk, samisk)
  - tilpasse fagområde
- skaper holdinger som elevene tar med seg videre
  - lære å dele programvare





## “Barnas datamaskin” - One Laptop Per Child



- “en rimelig bærbar datamaskin ment for å distribueres til barn over hele verden, spesielt til dem i fattige land, for å skaffe dem tilgang til kunnskap og moderne former for undervisning”
- Kjøp en til deg selv - og gi en til et barn i et utviklingsland
- MIT Media Lab designer, produserer og distribuerer datamaskinene

**717,000 sold  
May 2008**



# Introducing cloud computing



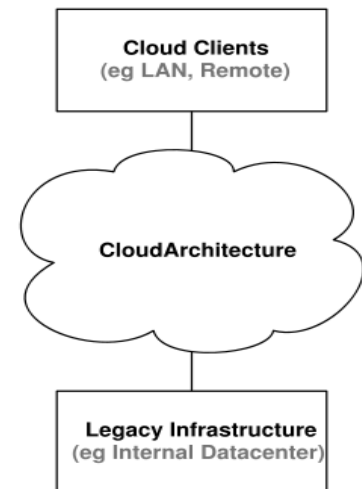
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# Definition of cloud computing according to Wikipedia

- *"Cloud is a metaphor for the Internet, derived from its common depiction in network diagrams (or more generally components which are managed by others) as a cloud outline."*
- *It is a style of computing in which IT-related capabilities are provided "as a service", allowing users to access technology-enabled services from the Internet ("in the cloud") without knowledge of, expertise with, or control over the technology infrastructure that supports them*
- However, in June 08 it looked like this at Wikipedia



## Cloud computing

From Wikipedia, the free encyclopedia



**This article may require cleanup** to meet Wikipedia's **quality standards**.  
Please improve this article if you can. (April 2008)



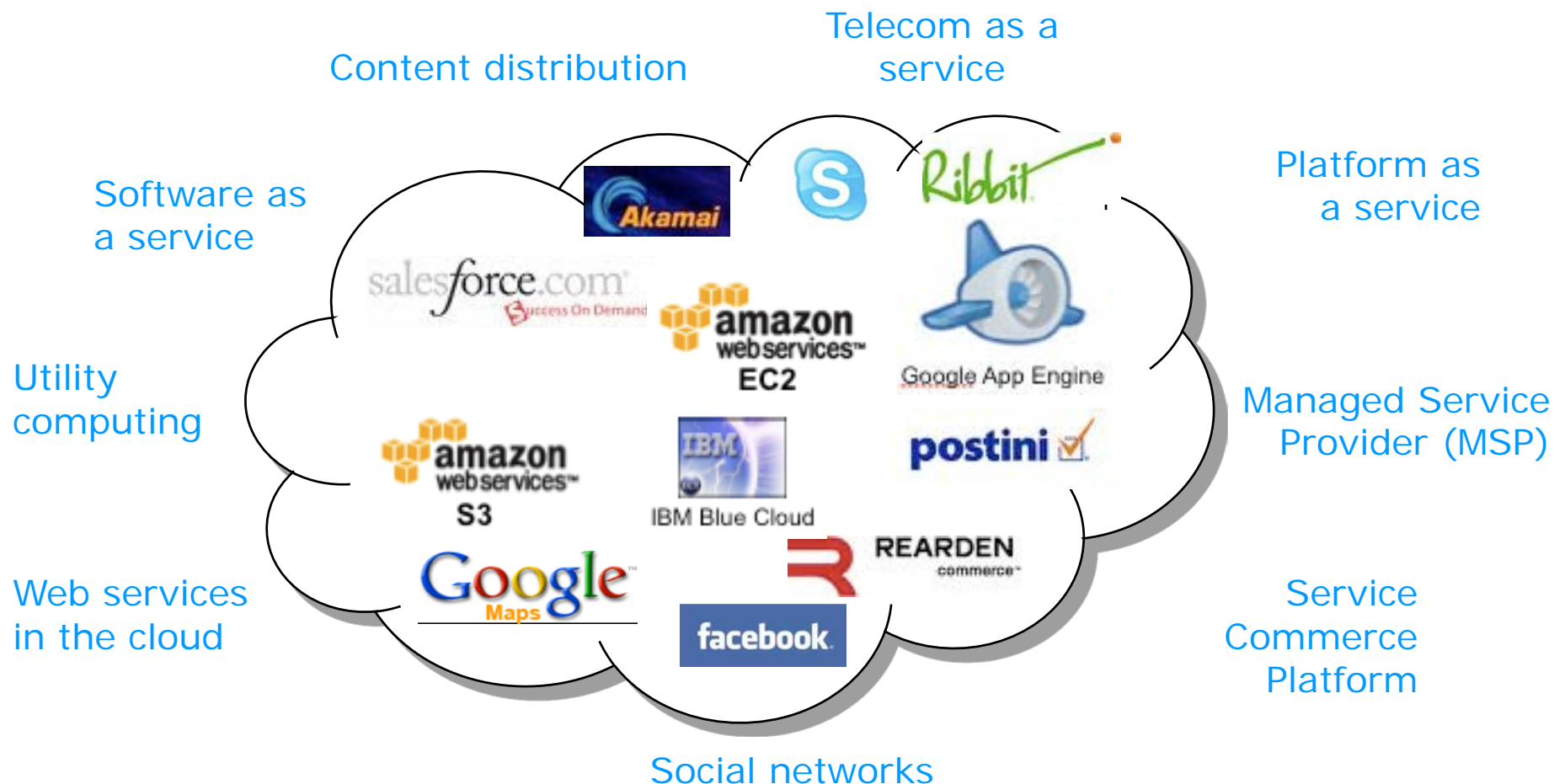
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Wikipedia spam consists of **external links** mainly intended to promote a website. Wikipedia spam also consists of external links to websites which primarily exist to sell goods or services, use objectionable amounts of advertising, or require payment to view the relevant content. If you are familiar with the content of the external links, please help by removing promotional links in accordance with [Wikipedia:External links](#). (You can help)



**All or part of this article may be confusing or unclear.**  
Please help *clarify the article*. Suggestions may be on the *talk page*. (April 2008)



# Services in the cloud, where businesses live



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Source: inspired by "What cloud computing really means"



# Case: Amazon/Plum/via Michelin

- Online summer 2008
- Example of high volume consumer service wholly based on cloud computing
- Ingredients
  - Hosting services from Amazon.com
  - Community software from plum.com
  - Navigation and content from viaMichelin



# Amazon in the cloud (hosting etc.)



- ✓ *open and documented APIs*
- ✓ *self service agreements*
- ✓ *pay for what you use*
- ✓ *support edges*
- ✓ *easy to scale when successful*
- ✓ *global presence*

*Elastic Compute Cloud = EC2*

*Simple Storage Service = S3*

*Flexible Payments Service = FPS*

*Simple Queue Service = SQS*

*Simple DB*

*Block storage*

*Web Store*



*"Pay for what you use.  
There is no minimum fee."*

*Scale easily to very high volumes*





# ViaMichelin – Plum – Amazon

This is a screenshot of the ViaMichelin website. The top navigation bar includes links for 'Maps &amp; Driving directions', 'Tourism, Hotels &amp; Restaurants', 'My ViaMichelin', and 'Business'. A map of Europe is visible in the background. The main content area is titled 'My Trips' and features a search bar. Below the search bar, there's a section for 'hildelovett2 &gt; Michelin recommendations'. This section includes a thumbnail image of food, the title 'Michelin recommendations', and a description: 'Created 08/26/08 by You'. It also has links for 'Share by Email' and 'Save a Copy'. To the right of this section is a 'Click to Save:' area with icons for different sharing options and a 'Save' button. The bottom of the page shows a 'plum' logo and a navigation bar with 'Home', 'Explore', 'Tools', and 'Help' links.

This is a screenshot of the Plum website. The top navigation bar includes links for 'Home', 'Explore', 'Tools', and 'Help'. Below the navigation bar is a 'Collections' section. The main content area is titled 'My Plum' and features a search bar. Below the search bar, there's a section for 'My Collections' with a link to 'Add collection'. The bottom of the page shows a 'Views' section with a thumbnail image of food and the title 'Michelin recom'. It also has a link to 'View My Contacts'.



# The Cloud of Open Innovation

## What

- ✓ Open and documented APIs
- ✓ Self service agreements
- ✓ Pay for what you use
- ✓ Easy to scale
- ✓ Support edges
- ✓ Global presence

## Why

- ✓ Shift risk and complexity to best container for it.
- ✓ Less investments needed to launch services
- ✓ Physical production facilities less important
- ✓ More human talent available
- ✓ Reduced time to market
- ✓ Reduced coordination cost

## Why not

- Lock-in to service provider?
- Less perceived control
- over stored data
- Unfamiliar
- actors, agreements and business models
- impact of national legislations



# The edges of the cloud where people live



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Source: inspired by "What cloud computing really means"



# The edges of the cloud can benefit from open source communities

- Free revealing of code provide significant benefits
  - collaboration around improvements of common features
    - focus energy and resources on core service
  - create trust in platform
    - avoid lock-in
  - positive network effects due to increased diffusion
  - easier to recruit competence around this platform
    - attractive for developers
  - enhancement of reputation
- Innovation communities
  - increase speed and effectiveness for development and testing
  - increase the ease to build larger systems from interlinkable modules
- “Innovation happens elsewhere”



# iLabs



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# iLabs Mobile Developer's Toolbox

helps develop edges for Java handsets  
for internet services in the cloud



developers  
lead users



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# iLabs Mobile Developer Toolbox (beta)

Help developers  
create mobile  
Internet applications

Example  
applications  
and libraries for  
Java enabled  
phones

Open Source  
Licence: L-GPL  
allowing  
commercial use



open  
mini  
blogger



open  
mini  
chatter



open  
mini  
browser



widger

ATOM

XMPP

HTML

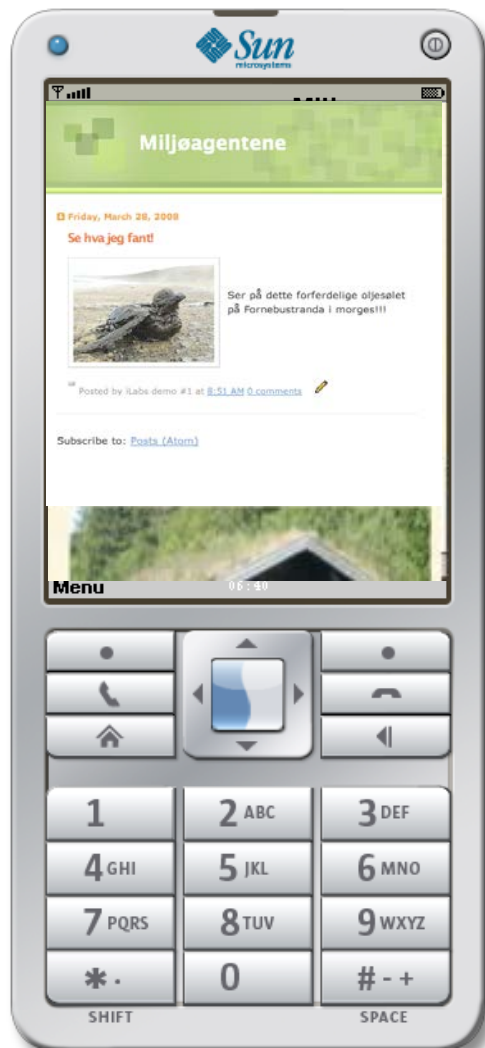


twitter

<HTML>

facebook

# Eksempel: Mobil klient som hjelper brukere å samhandle om informasjon om miljøsyndere



# Twitter client



# iLabs downloads



# iLabs so far: open source opens doors



Thank you for your attention



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