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Mobile 2.0
How Open Source &
Global Communities
are Ushering in a
New Generation of Mobile
Apps, Services & Widgets



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Overview

- Mobile & open milestones
- Key trends
- Development challenges
- Mobile 2.0 overview
- Core technologies
- Open Source and community innovation



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Mobile & Open – Milestones

- 2001: Sync4j project launched as a mobile open source application server
- 2005: Sync4j renamed Funambol (tightrope walker), reaches one million downloads
- 2006: OpenMoko announced
- 2007: Google launches Android
Limo Foundation formed
Verizon announces 'any device, any application'



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Mobile & Open – Milestones, cont.

- 2008: Nokia buys TrollTech, announce Symbian to be open source
- Vodafone announces free data with prepaid plans
- Apple opens iPhone to 3rd parties/App Store
- Rise of open source mobile browsers
- LiMo membership exceeds 50, ships 22nd handset
- Funambol V7 launched and the project reaches 2.5 million downloads
- ...first Android phones expected to ship
- ...Windows Mobile goes open source



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Key Mobile Trends

- 3.3 billion people have mobile phones
 - ▶ 1.4b connected to mobile internet
 - ▶ rapid growth in emerging markets ("next billion" phones)
 - ▶ Smartphones fastest growing segment
- Mobile networks are getting faster, cheaper, better
 - ▶ Data plan costs dropping (to zero)
- Networks are getting open (good-bye "on-deck")
- Open source is getting everywhere
- Mobile advertising is becoming real



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Mobile Developer Challenges/1

- Device fragmentation
 - ▶ iPhone, Android, BlackBerry, Windows Mobile, Java ME, BREW, Symbian, other Mobile Linux (which one?), Palm, Flash Lite/Silverlight, Mobile browser-based?
 - ▶ Browser-based, native apps or widgets?



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Mobile Developer Challenges/2

- Sync and push have become hot and required
 - ▶ but it is not easy e.g. ActiveSync, MobileMe, Live Mesh



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Mobile Developer Challenges/3

- Monetization
 - ▶ Razor vs. blades strategy
 - ▶ Mobile advertising, fact or fiction?



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Mobile 2.0 Overview

- Next generation of advanced mobile services, apps & content
- Web 2.0 (maybe) means:
 - ▶ user generated content (e.g. wikis)
 - ▶ collaboration (social networking)
 - ▶ AJAX, mash-ups and rapid development



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Mobile 2.0 Overview/2

- Mobile 2.0 is different – it's the outgrowth of
 - ▶ better, faster, cheaper wireless devices, networks and data plans
 - ▶ people seeking the next hip mobile experience
 - ▶ mobile messaging matures beyond SMS
- Examples: mobile search, mobile presence, location-based services, mobile social networking, phone-based navigation
 - ▶ it's more than just the "new" mobile web, it's "mobile everywhere"
 - ▶ all types of data and content must be mobilized and synced
 - ▶ it goes beyond mobile phones (e.g. navigation systems)



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Mobile 1.0 vs. Mobile 2.0

Mobile 1.0

Operator chooses
(walled garden)
Operator portals
Texting
MMS
411
Content consumption

Mobile 2.0

User chooses
(wide open network)
Mobile search
Mobile Email, social networking
Photo sharing
Google maps, location services
Content creation



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Mobile 2.0 Caveat

- Mobile 2.0 is NOT about squeezing the Web 2.0 experience into a mobile device
 - ▶ it has been tried with Web 1.0 and it miserably failed
 - ▶ if we make this the focus, it will fail again
- Mobile 2.0 is about a combination of locally installed apps with data locally stored, updated over-the-air via push while the user is not looking at the device
 - ▶ the browser is an element of the puzzle, but not the main driver
 - ▶ widgets are the closest thing to the perfect experience, if you add local storage, sync and push
 - ▶ Web 2.0 technologies might actually become the backbone of Mobile 2.0, though (e.g. Webkit and mobile AJAX)



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Mobile 2.0 is about OPENNESS

- OPEN NETWORKS
 - ▶ Is Verizon “Any Apps, Any Device” real and what about the 700Mhz spectrum? Will it rock our world?
 - ▶ What about WiMax, City-wide Wi-Fi, FON, Meraki, and so on?
- OPEN DEVICES
 - ▶ Is Google Android going to take off like a rocket?
 - ▶ Is the iPhone closed or open?
- OPEN CONTENT
 - ▶ Is the weather forecast an open content?
 - ▶ What about gambling, micropayments and adult entertainment?
- OPEN SOURCE
 - ▶ Is open source changing the game for good and how many Mobile Linux variations will we see? Why does it matter so much?
 - ▶ Will Funambol be the first billion dollars open source company?



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Mobile 2.0: Core Technologies

To build and deliver mobile 2.0, what's needed?

- Open mobile industry standards (e.g. SyncML)
- Synchronization between handsets, personal computers, the cloud & backend systems
- Push notification – one method does not fit all
- Easy integration with diverse backend systems (mash-up)
- Location based services
- Scalability
- Security

- AN OPEN SOURCE COMMUNITY



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Device Compatibility – A Huge Problem

- Mass market mobile 2.0 deployments: support 3B phones
 - ▶ constant device changes, different firmware versions, languages, network behavior, etc.
- Conventional approaches do **NOT** scale
 - ▶ 10+ engineers per country, buying every phone, testing and fixing each only supports tiny fraction of devices



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Open Source Solves It

- Lots of software downloads around the world = hundreds of people testing mobile devices everywhere
- Open source = large mobile developer community makes any device work on any network
- Highly scalable, minimal cost



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Open Source Advantages for Mobile 2.0

- Broadest mobile device compatibility
- Code transparency → reduced project risk
- Low cost/free → only way to deploy to mass market
- Large community → mobile innovation, resources, support



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Mobile Open Source Licensing

- Choice of software licensing can have huge impact on community
- License restrictions can be motivator and/or obstacle for developers and other community users

At Funambol:

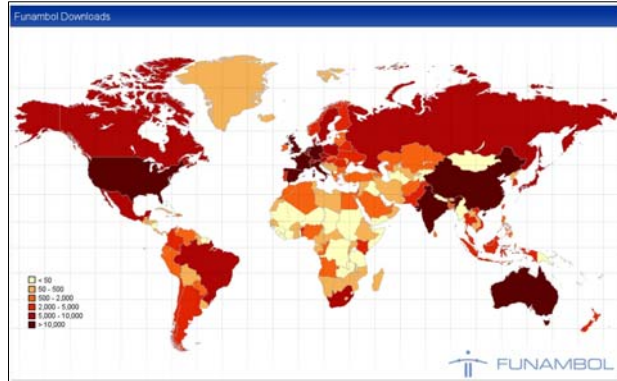
- We've pioneered AGPLv3 open source license, which we submitted to the OSI and was approved



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Mobile Open Source: Funambol

- #1 mobile open source project – founded in 2001
- Largest mobile developer community in the world
- 50,000 participants and contributors
- 200 countries and territories
- 2.5M+ downloads
- Developed dozens of projects e.g. for
 - ▶ Yahoo!
 - ▶ Gmail
 - ▶ iPhone
 - ▶ Android
 - ▶ BlackBerry
 - ▶ Exchange
 - ▶ Domino



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Mobile 2.0 Summary

- Mobile 2.0 is next generation of wireless apps, services & content
- Several core Mobile 2.0 technologies are required such as sync, push notifications and offline storage
- Open source is vital to Mobile 2.0
- Communities are key to Mobile 2.0