Open Source Mobility
Software Freedom Day 2007

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Introduction
3 Major Movements

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2. 

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3 Major Movements

• **Internet**
  • Connecting both peoples and networks
  • Provided true global communications to more people
  • Encouraged sharing of information

• **Open Source**
  • Fueled by developers around the world
  • Made possible by the Internet

• **Mobile Telecoms**
  • Provided network connectivity to an even greater number of people
## The Numbers

**Mobile**
- **2.7 Billion** GSM Users and growing!
- Over **700 GSMA Operators** in **218 countries**
- **1.6%** of the world's GDP (transactions)
- Up to **1.5 Billion** SMS daily in the Philippines alone

**Internet**
- **1 Billion** Internet Users
- **80 Million** Registered Domains
- **100 Million** Websites
- **100 Million** Daily Video Streams from YouTube
- **14 Billion** IMs daily
- **6 Trillion** Emails daily

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Synergies

• **Internet + Open Source**
  • Have largely been tied together
  • Open Source made possible with the Internet
  • The Internet made possible with Open Source

• **Mobile + Internet**
  • Have own discrete communities – beginning to merge
  • Mobile players doing Internet things
  • Internet players doing Mobile things
  • Tools move across

• **Mobile + Open Source** (Next Big Leap)
Mobile + Open Source
# Tools of the Trade

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<td>- SIM Toolkit – Mobile</td>
<td>- HTML, CSS</td>
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<td>- Proprietary Firmware</td>
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<td>- Closed Platforms</td>
<td>- ActiveX, J2SE</td>
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<td><strong>Backend</strong> Tools</td>
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<tr>
<td>- SS7 Signal Manipulation</td>
<td>- PHP, ASP, J2EE</td>
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<td>- Proprietary Interfaces</td>
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- Mostly **closed proprietary systems**
- Diverse **open standards-based systems**
Open Telecoms

- Movement from **proprietary and complex** systems to **open and simple** systems

- **Open Systems**
  - J2ME, Symbian, Windows Mobile, Palm, Flash
  - From closed and proprietary CPE Interfaces

- **Standardized Protocols to Backend Systems**
  - Greater use of XML and Web services
  - Standardization with Parlay/OSA and JAIN

- **Simplification of Network Protocols**
  - Signaling is moving from complex SS7 to simplified SIP or H.323 (with the advent of VoIP)
What does this mean?

- **Tools are now publicly available**
  - Can be downloaded from the Internet
  - Open source software exists

- **Protocols are becoming more Internet-like**
  - With the use of XML and Web services, it is easy to simulate these systems on existing Internet software
  - No need to interface directly with production telecoms hardware

- Of course, **not all systems are open ... yet**
  - But, most mobile phone systems are standardized
Opportunities
Internet on Mobile

- **Internet Browsing** on Mobile Phones
  - Just need a better browser and mobile-friendly pages
  - Check out **W3C's Mobile Initiatives**
- **Internet Services** on Mobile
  - Skype, MSN, Yahoo, Google, Sling, Ebay

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Internet on Mobile

The Web is your App

- Poster child of Internet on Mobile
- No more native applications
- Everything is a service to be consumed off the Internet
- Ecosystem grows
Internet Messaging

- Allowing Internet messaging (IM) systems on Mobile
  - MSN, AOL, Yahoo, ICQ
- Build own communities
  - Check out the GSMA's Personal IM Initiative
- Allowing other Internet messaging forms like Email

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Enabling Mobile

- Mobile Entertainment
  - Content Delivery
  - Mobile Games
  - Television
  - Mobile Blogging
  - Integrated Devices
    - Music and Radio
    - Imaging / Camera
- Other enablers
  - Location-based Services
  - Touch Commerce
  - Alternative Access

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3rd World Mobile

- Bridging the **technology gap** is key!
- Cheaper Hand-sets! ($30 GSM, $100 laptop)
- Mobile pay phones
- Banking the Un-banked
- Increase access to **services**
3rd World Mobile

- Creating solutions to bridge the technology gap!
- Literacy and language barriers
- Access to technology
- Alternative uses
The Innovation Goal

Finding something for the NEXT BILLION Users

- Majority of new mobile phone subscribers will be coming from 3rd World Markets
  - Find them in BRIC, Next 11 and G20 countries
  - Must find applications and services that appeal to this demographic
- The Low ARPU - High Volume Game
Now What?
Where can I start?

**Handset Application Development**
- Java Mobile Edition (JavaME) from SUN
- Eclipse or Netbeans IDE (w/ Mobility Pack)
- Symbian S60 SDK and Carbide from Nokia
- C++ with Palm SDK from Palm Source
- MS Visual Studio and Mobile SDK from Microsoft

**Backend and Web Services Integration**
- Telecoms APIs such as JAIN and CORBA
- Learning SOAP or REST-style XML web services
- Know the platforms J2EE, dotNET and LAMP
- Practicing with AJAX might be helpful
- Know message brokering and OR mapping
The Mobile and Internet worlds are showing **spectacular growth**!
- Bigger market place with **new and diverse needs**
- **Opportunity** for new players
- Worlds are beginning to converge
- Room to create **exciting combinational services**
- Models, tools and technologies are beginning to coalesce to **simpler and open standards**
- Traditional **barriers to entry are disappearing**!
More Information

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