



The Wonderful World of M & E

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Mobile & Embedded
Community Leader



Top Ten Reasons You Know Your At A Brazillian Churrascarias

10 Meat is Cooking on Spits at the Entrance



9. There is a salad bar – but not a vegetarian in sight



8. The Cheese is So Large it Looks Like Bread



7. Caipirinha is Served From a Cart



6. Tongs Are An Essential Utensil



5. Waiters Appear with Swords and Knives



4. Food is Served with Traffic Signals



3. Toothpicks are On the Table and Your Host Will Try Put Them Back in the Bottle from 20 centimeters



2. Papaya and Avocado Cream is Served for Dessert



1. Your Host Wants to Take You to the “Best”, “Favorite”, or “Special” Restaurant

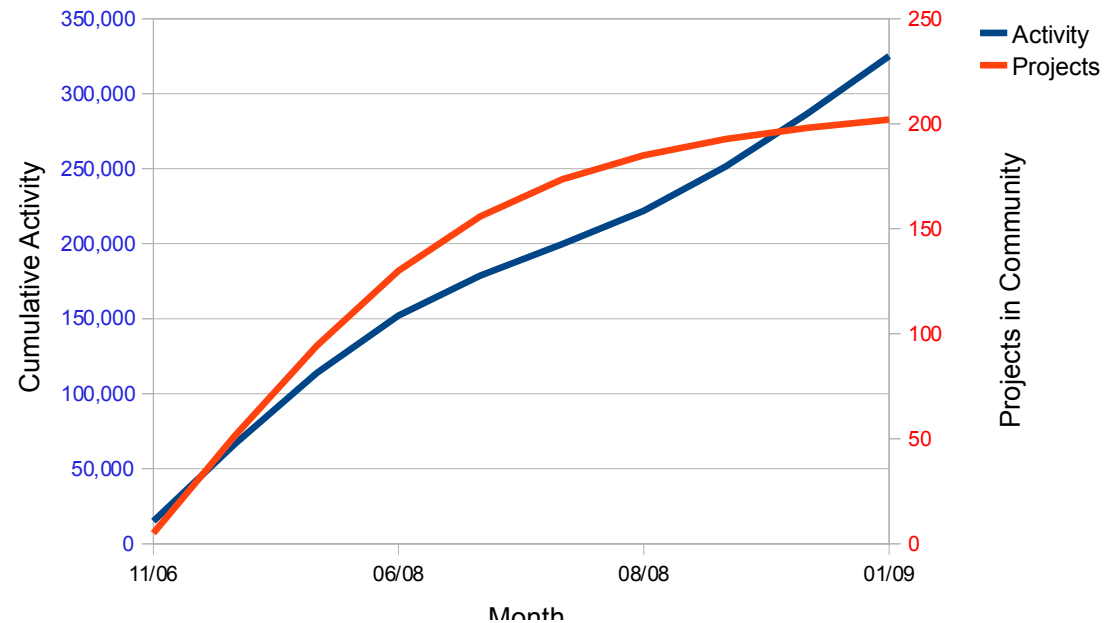
Agenda

- Introduction to the Mobile & Embedded Community
- Mobile
- Media
- Embedded

Community Snapshot

- > 20,000 activities per month
- News, blogs, podcasts, forums
- Vibrant and friendly community for all things mobile & embedded Java

Java Mobile & Embedded Community Growth



welcome
to the Mobile &
Embedded
Community



Top Projects

- Java Device Test Framework (JDTF)
- Java Application Terminal Alignment Framework (JATAF)
- phoneME Feature & phoneME Advanced
- Lightweight UI Toolkit (LWUIT)
- HD Cookbook (Blu-ray tools)
- CableLabs OpenCable - tru2way
- Java TV Developers Project
- Sun SPOT and Squawk VM
- Conformance and Quality Testing (cqME)

Why Get Involved?

- The **only** place in the industry that brings together
 - > Complete source code of Java ME implementations
 - > Platform experts and spec leads
 - > Testing tools
 - > Experienced application and content developers
 - > Lots of cutting-edge samples and source code under BSD
 - > 3rd party technology, collaboration, and code
 - > Active community, very friendly and helpful
- The best place to jump-start your involvement with Java ME

Java™ Mobile, Media & eMbedded Developer Days

January, 2010

Sun Campus, Santa Clara, California, USA

October, 2009

Sun Campus, St Petersburg, Russia

June, 2009

Goiania,, Brazil

The **only** conference devoted to mobile, embedded, and entertainment-related Java
Technical sessions, lightning talks, discussions, and poster presentations

<http://developerdays.dev.java.net>



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Java Device Test Framework (JDTF)

- Just released!
- Mature and robust testing framework
- Based on Sun's Java Device Test Suite product
- GPLv2 + classpath exception
- Basis for JATAF
- <http://jdtf.dev.java.net>

Java Application Terminal Alignment Framework (JATAF)

- Just released!
- Open sourced test suite for testing JavaME device implementations, uses JDTF as the testing framework
- Helps drive platform consistency
- Current sponsors are Orange, Sony Ericsson, Sun, and Vodafone
- <http://jataf.dev.java.net>

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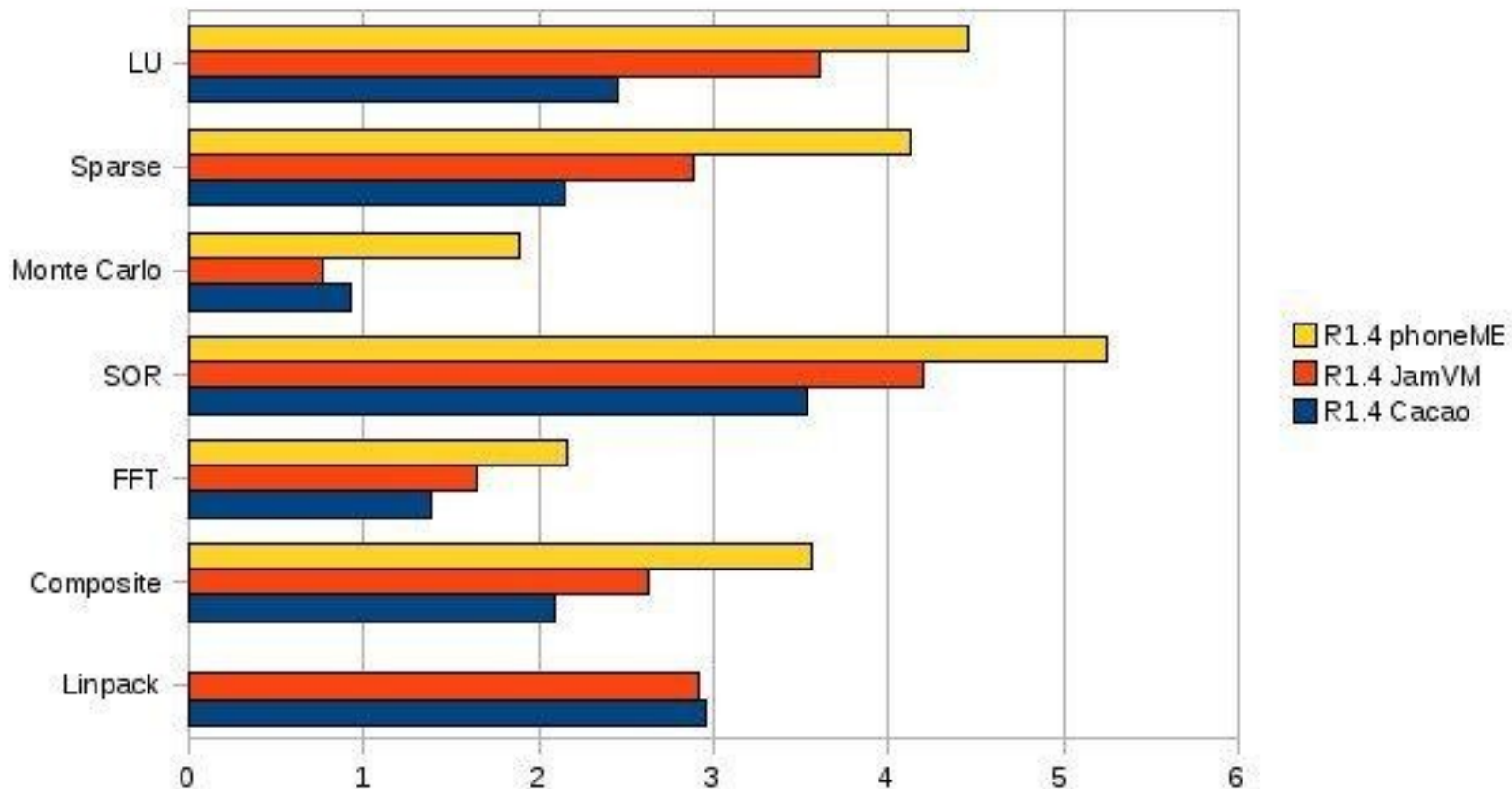
phoneME Feature / Advanced

- Product-quality, high-performance Java ME stacks
- CLDC/MIDP implementation (phoneME Feature)
- CDC/FP implementation (phoneME Advanced)
- Runs on Windows desktop, Windows Mobile, Linux, and deeply embedded operating systems
- Used in mobile and embedded devices, set-top boxes, and other open source projects
- GPLv2
- <http://phoneme.dev.java.net>

phoneME Advanced (4)

High performance, small footprint

R1.4



See <http://community.buglabs.net/kschultz/posts/>

Windows Mobile

Sun and Sprint sponsored port

MIDP implementation

About 9 months in duration

Getting more community backing

Davy Preuveneers ported Personal Profile to WM

Buildable today from Open Source

Lightweight UI Toolkit (LWUIT)

- Advanced UI library to enable easy creation of compelling applications on TODAYs devices
- Inspired by Swing, familiar APIs
- Portable to MIDP, CDC, Java SE, ...
- Consistent across devices
- Rapid adoption in a number of commercial and open source applications and projects
- GPLv2 + classpath exception
- #15 project on java.net
- <http://lwuit.dev.java.net>



Buglabs

Enabling a new generation of engineers to build any type of device they want

Without having to solder

Learn solid state electronics

Or go to China

Open Source software

Entire stack is Java except for thin Linux layer

Use phoneME Advanced
CDC/FP/PP/PBP

Extended to add their application
APIs and hardware modules3



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Media Development

Blu-Ray - <http://hdcookbook.dev.java.net>

OCAP - <http://opencable.dev.java.net>

TV - <http://javatv.dev.java.net>

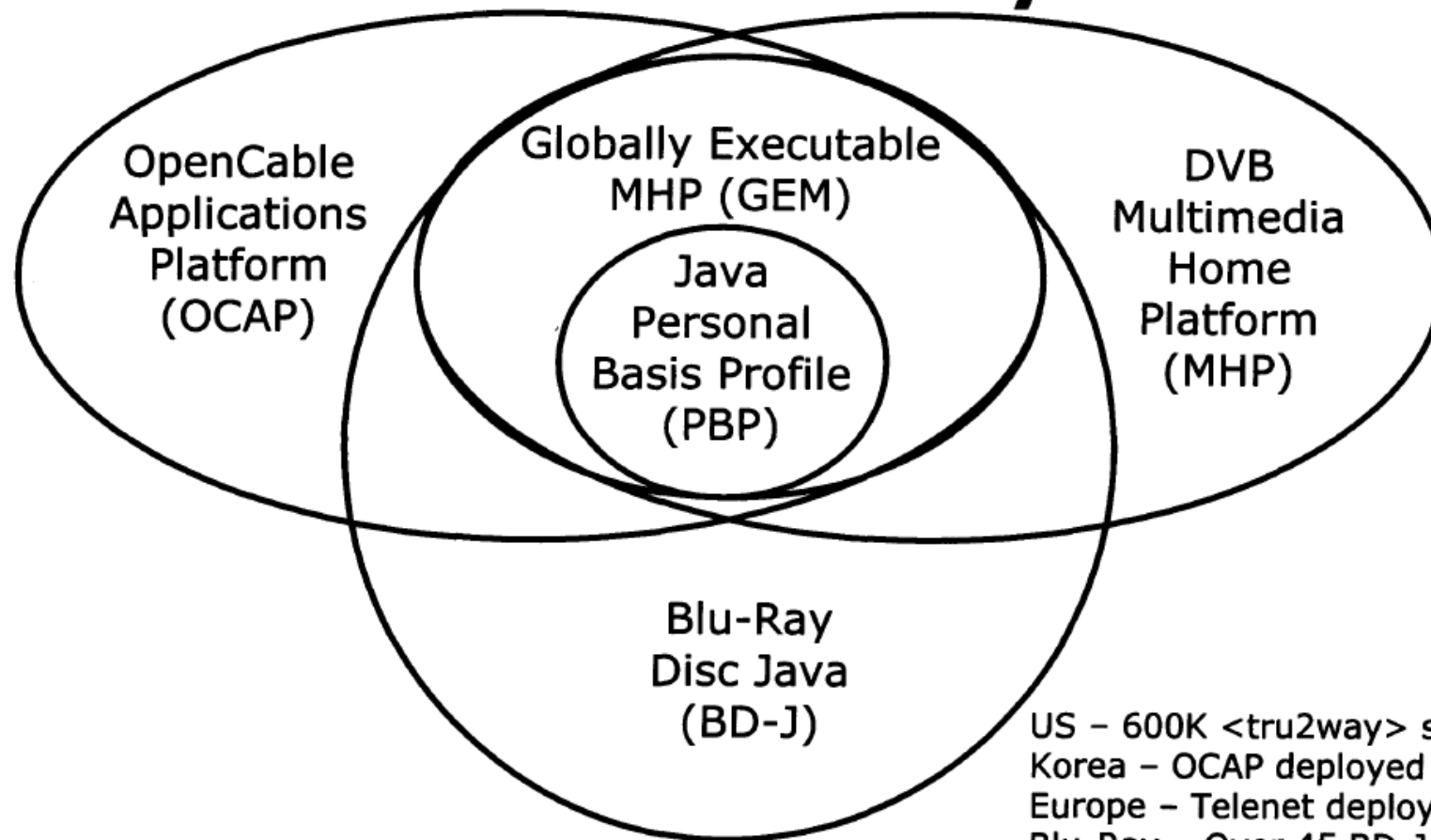
HD Cookbook

- Open source tools to help with creation of Blu-ray content
 - Disc image building, font strips, VFS update, sound file conversion
- <http://hdcookbook.dev.java.net>

OCAP-RI

- Cablelabs open source reference implementation for Tru-2-way implementation
- Completely open sourced with GPL V2.
- <http://ocap-ri.dev.java.net>

Internationally



US – 600K <tru2way> set-tops
Korea – OCAP deployed since 2005
Europe – Telenet deploying OCAP/MHP
Blu-Ray – Over 45 BD-J titles and
over 2.7M players

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Sun SPOT & Squawk VM

- Sun SPOT
 - Small Programmable Object Technology
 - Micro-controller and sensor hardware
- Squawk
 - Java Operating Environment for small devices
 - Java ME CLDC 1.1 + IMP 1.0
- Used in a variety of embedded control and sensor applications
- Hard- and software under GPLv2

Open Sourced in M&E Community

squawk – Java Virtual Machine

spots-libraries – libraries used by SunSPOTs

spots-hardware -

spots-applications – demos and apps

spots-curriculum – instructional materials

Trackbot

8 built in sensors modules

Beaconing

obstacle avoidance

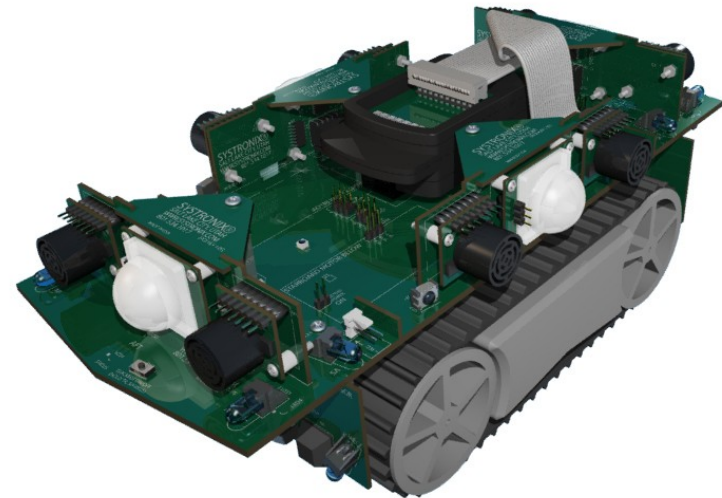
spatial awareness

Communication

Navigation

4 transducer stations for
optional/homebrew sensors

Designed specifically for
university-level education and
research



Swarm of Brian

- Tests a variety of robotic swarming technologies
 - > Bump sensing
 - > Ambient light sensing
 - > Beconing
- Effectively used Greenfoot to simulate
- Senior project
- <http://swarm-of-brian.dev.java.net>

Play Sim

- New application developer testing arena for Java Cards V3.0
- Developed by Telenor and Sun
- Daughter Boards for SunSpot Platform
 - > PlaySIM board enables a SunSPOT to emulate a SIM card
 - > eGSM board has been made to experiment with the role of the SIM card in the machine-to-machine (M2M) domain
- <http://playsim.dev.java.net>

Sensor Motor Gloves

- Objective: wireless manual input device for computer
- Two parts
 - > Sensor-motor gloves with sun spot device
 - > Java library which gives you ability to use this sensor-motor gloves in application
- Minority report is a SunSpot/JavaFX example app
- Senior project
- <http://sensormotor-gloves.dev.java.net>

FIRST

- For Inspiration and Recognition in Science and Technology
- International Competition
- Exciting mentor-based programs that build science, engineering and technology skills
- 2010 Competition will feature Java using Squawk
- <http://usfirst.org>

Final Demo





Thank you.

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