

BlackBerry and Open Source, really? Why you should care.

**Adam Abramski, Handheld SW Product Manager
Eduardo Pelegri-Llopart, Sr. Director of Open Source**

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Agenda

- **The BlackBerry WebWorks Development Platform** 📱 Adam
- **RIM's Approach to Open Source**
- **Status and Near Future** 📱 Eduardo
- **Looking Forward:**
DevCon America, San Francisco, Oct 18-20



BlackBerry WebWorks Development Platform

WebWorks Mission Statement

To create, as a community, a simple to use cross platform SDK for Web Developers to package their Web assets as a mobile application with Secure access to integrated system level APIs

<http://github.com/blackberry>

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Open Source!

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What is WebWorks?

- Ability to create standalone applications with standard web technology (HTML, CSS, JavaScript)
- WebWorks applications leverage BlackBerry API's in a secure manageable container
- Same distribution/management model as Java/PlayBook applications and can be distributed through BlackBerry App World™
- Available in BlackBerry OS 5.0 and above and on Tablet OS

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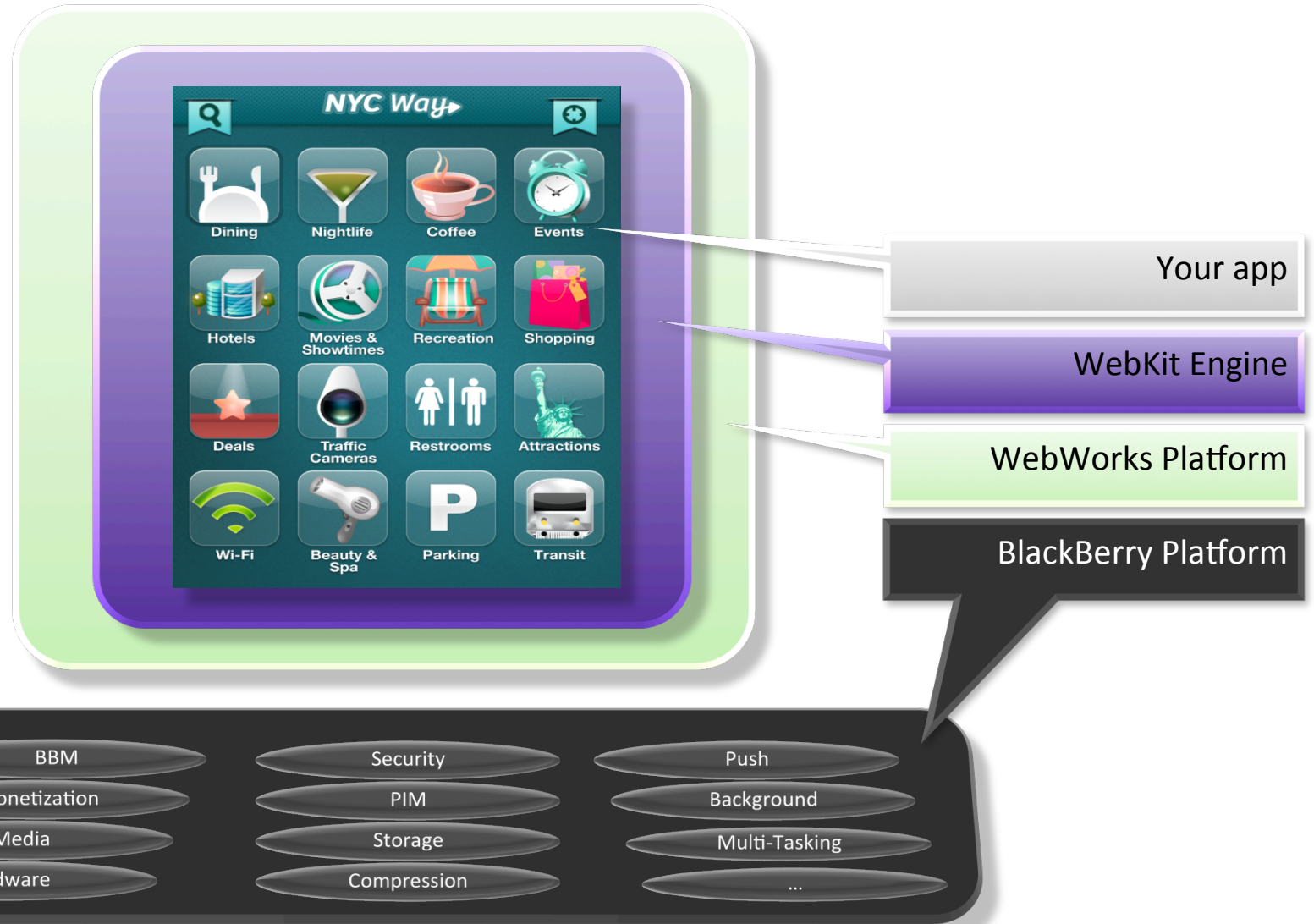
Open Source!

**BBOS 5.*
BBOS 6.*
BBOS 7.0**

All!

Simple Architecture Diagram

1. Exploit HTML5, CSS and advanced JavaScript Frameworks
 2. Exploit the full BlackBerry platform
 3. Open Source
- It's a Web app and a Super App



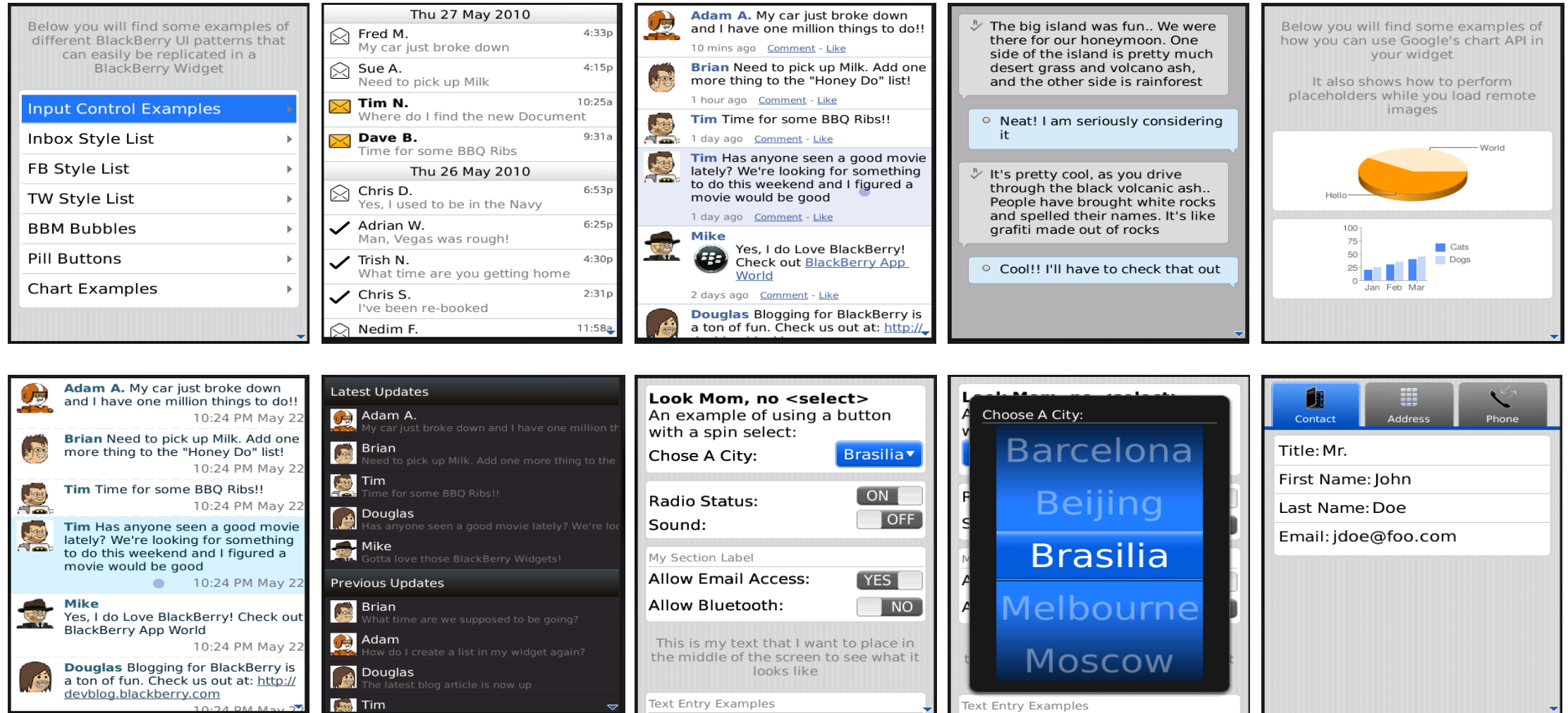
Project Goals

- **Cross Platform Support:**
 - Ensuring that common functionality is implemented in a common way
 - Allowing for platform specific integration when a common approach isn't attainable
 - Not a lowest common denominator approach
- **Rich feature set of system level APIs & Functionality**
- **Simple SDK download, install, creation and distribution of mobile web applications**
- **Great Source of Documentation**
 - User API Reference, Tutorials & Samples, Contributor Support Material
- **Great Application Emulation and Testing Tools**



WebWorks APIs & Deep Device Integration

Some UI Examples



Total time to create all the screens seen above: 4 days!



WebWorks on BlackBerry PlayBook (Time Permitting)

WebWorks API Examples

- **Application and system events**
 - onBackground, onCoverageChange, etc.
- **Push services**
 - Both Corporate and Consumer push using existing techniques
- **Identity information**
 - Phone numbers, PIN, email addresses
- **Personal information management**
 - Search and edit email, calendar, tasks, notepad, contacts, phone logs, etc.
- **Application launcher**
 - Invoke native apps with data, invoke third-party Java[®] apps with data



WebWorks API Examples

- **File IO**
 - Read, write, traverse local files on eMMC and SDCard
- **System properties**
 - Change home screen icon, background, etc.
- **User interface**
 - System Dialogs, Dynamic Menu items
- **Utilities**
 - Parsing URLs, BlobToString, Generate unique ID, etc.



WebWorks API Examples

- **Home screen**
 - Dynamically change your Home Screen Icon and display text or change the Home Screen background image
- **Geolocation**
 - Capture GPS information and also plot routes and points of interest on BlackBerry® Maps
- **Navigation**
 - Customize the trackpad/touch interfaces to create a native look and feel



Some Example JavaScript

```
<script type="text/javascript">
  // Create our Appointment
  var newAppt = new blackberry.pim.Appointment();
  newAppt.location = "Your office";
  newAppt.summary = "Talk about new project";
  // Create our hour time slot
  var start = new Date();
  newAppt.start = start;
  var end = start.setHours(start.getHours() + 1);
  newAppt.end = end;
  // Create Attendee
  var attendees = new Array();
  var onlyAttendee = new blackberry.pim.Attendee();
  onlyAttendee.address = "john@foo.com"; attendees.push(onlyAttendee);
  // Save Appointment
  newAppt.attendees = attendees;
  newAppt.save();
</script>
```



WebWorks JavaScript Extensions

- RIM will continue to add new BlackBerry JavaScript APIs; most will not require new BlackBerry Handheld OS versions to be used
- As a developer you can create your own custom JavaScript extension to provide access to any of the existing BlackBerry Platform APIs
- We encourage those building extensions to consider contributing them to the open source project
 - <http://www.github.com/blackberry>



Existing WebWorks Tooling

- **Command line utility in the BlackBerry WebWorks SDKs**
 - Input: Zip Archive
 - Output: Packaged BlackBerry Application
- **Integrated into Free BlackBerry WebWorks Plug-in Tools**
 - WebWorks plug-ins available in both Microsoft® Visual Studio® 2008 and in Eclipse®
 - Full JavaScript debugging (v5.0) and live Hot Swap simulator capability
- **Integrated into Tablet OS and BlackBerry 7**
 - WebKit Web Inspector containing debugging and profiling from your desktop browser (Chrome & Safari)



Future of WebWorks Tooling

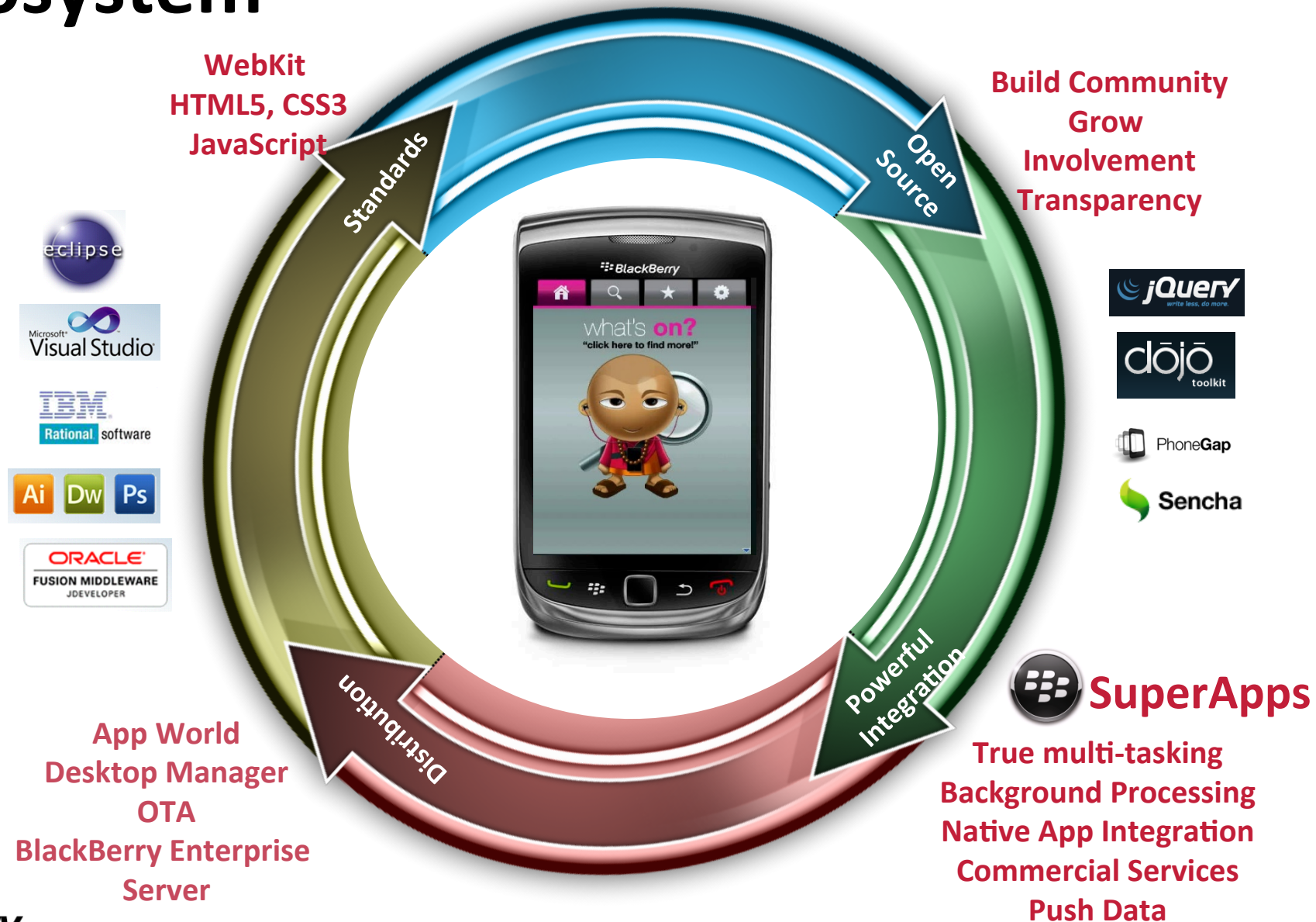
- **Eclipse & Visual Studio WebWorks Plug-ins EOL**
 - Web developers will be able to pick their web tooling of choice
- **Enter tinyHippos and Ripple!!**
 - tinyHippos were acquired about 9 months ago
 - Ripple emulator allows for common Web Developer workflow
- **Ripple Emulator going Forward**
 - Enhanced to include the actual Torch WebKit rendering engine to run on user's desktop





Partners & the Ecosystem

Full Ecosystem





WebWorks and Open Source

WebWorks and Open Source

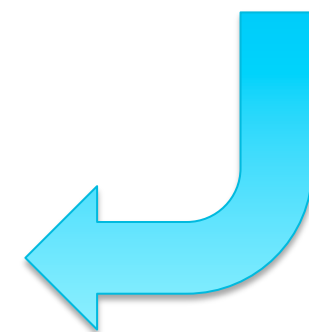
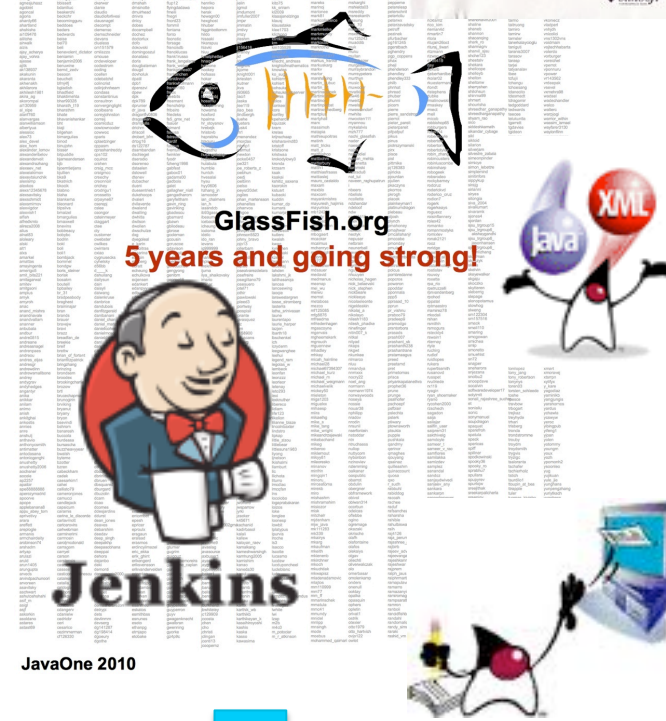
- The first RIM-Sponsored Open Source Project (Sep '10)
- Builds on RIM's Existing involvement in OSS, most notably WebKit
- Prelude to Later Projects (in Web Area and Elsewhere)
- Adapting OSS Practices to RIM Environment
- The Cost/Impact of a First Project
 - From "Consume OSS" to "Participate and Lead in OSS"
 - OSS involves all groups in a Corporation
 - Engineering, Testing, Product Management, Product Marketing, Legal, Export Control, Security, Branding, Upper Management, Inbound OSS, ...
 - Example: *"Who needs to approve what?"*
 - Example: *"You can do *that* in Open Source?"*

Eduardo, a re-introduction

Previously...

- Distinguished Engineer at Sun
 - IDEs, XEmacs, Spring OS, Java
 - JSP, WebTier, JAX*, WSDK, GlassFish, Hudson (now Jenkins)
 - Middleware OSS/Community, TheAquarium, Grass-Roots Adoption...
- Oracle, Architect, Open Source

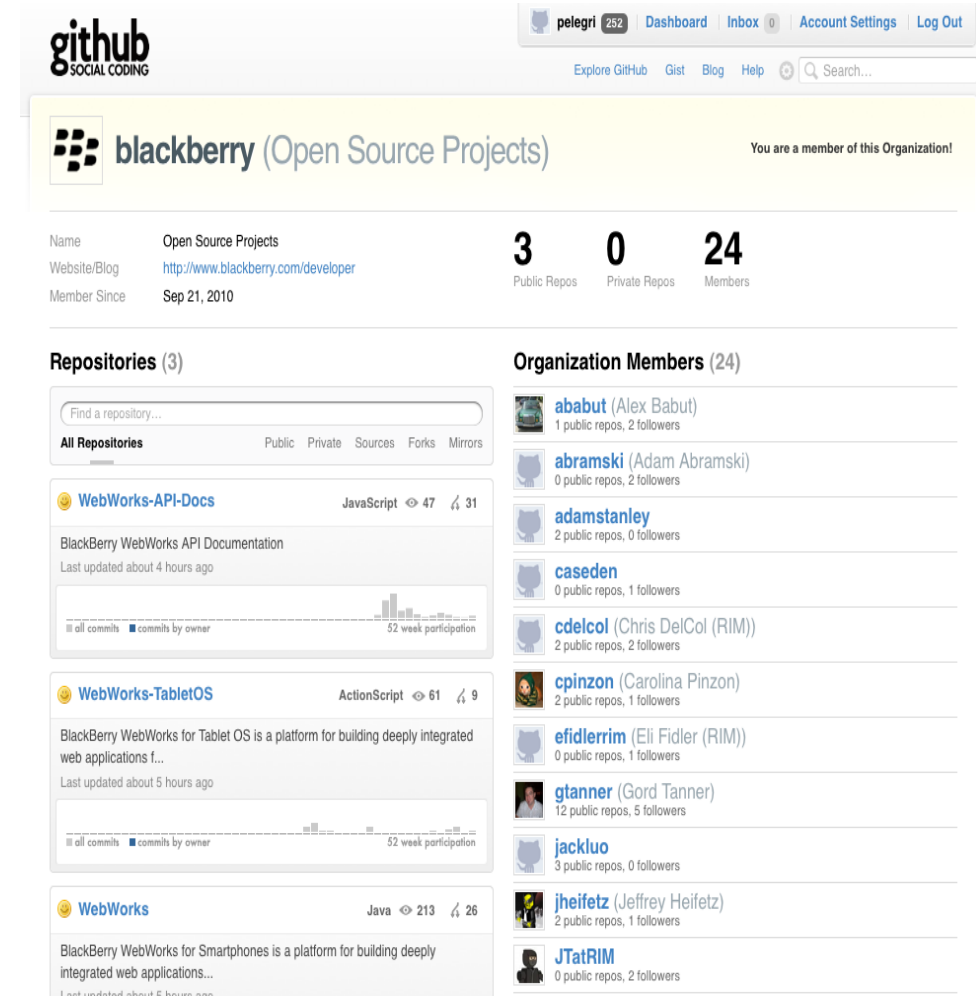
Sr Director, Open Source – Redwood City office



Baby Steps!

WebWorks Open Source

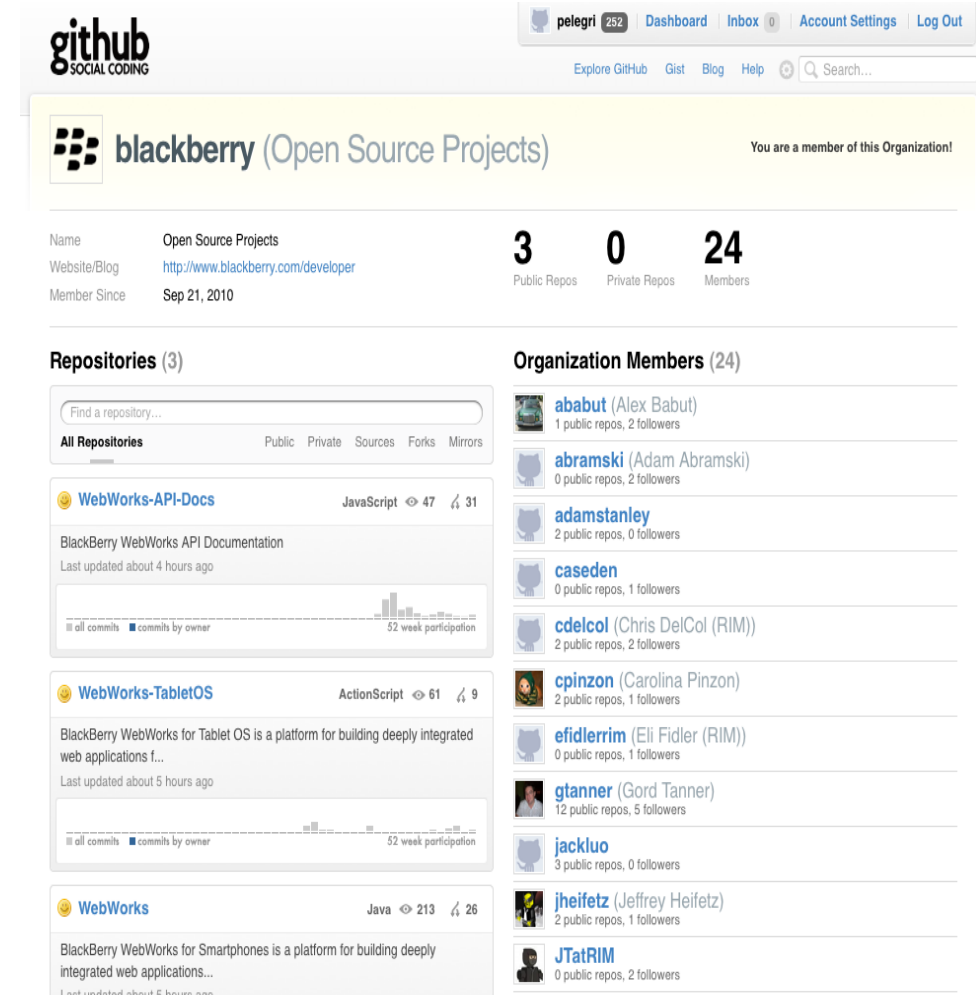
- Open Sourced @ DevCon SF '10
- Initially 3 Repos at GitHub/BlackBerry:
 - *WebWorks* - Runtime
 - *WebWorks-TabletOS* - Runtime
 - *WebWorks-API-Docs* – Documentation
- License: ASL 2
- Contribs under ICLA and CCLA (99% Apache)
- Wikis. Transparent Roadmaps.
- Informal Governance at this point



The screenshot shows the GitHub profile for the 'blackberry' organization. At the top, the GitHub logo and navigation links are visible. The organization's name 'blackberry (Open Source Projects)' is prominently displayed, along with a note that the user is a member. Below this, statistics show 3 Public Repos, 0 Private Repos, and 24 Members. The 'Repositories (3)' section lists three repositories: 'WebWorks-API-Docs' (JavaScript, 47 stars, 31 forks), 'WebWorks-TabletOS' (ActionScript, 61 stars, 9 forks), and 'WebWorks' (Java, 213 stars, 26 forks). The 'Organization Members (24)' section lists 10 members, including ababut, abramski, adamstanley, caseden, cdelcol, cpinzon, efidlerrim, gtanner, jackluo, jheifetz, and JTatRIM.

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WebWorks Open Source

Today: *Runtimes Developed behind Firewall*

- Lag between Public and Developer Repos
- Feedback from Users is “old”
- Hard to work with Partners
- Duplication of work (internal/external)

Today: Documentation *at GitHub*

- Some initial “Nerves” but,
- Very positive experience



Very Soon!

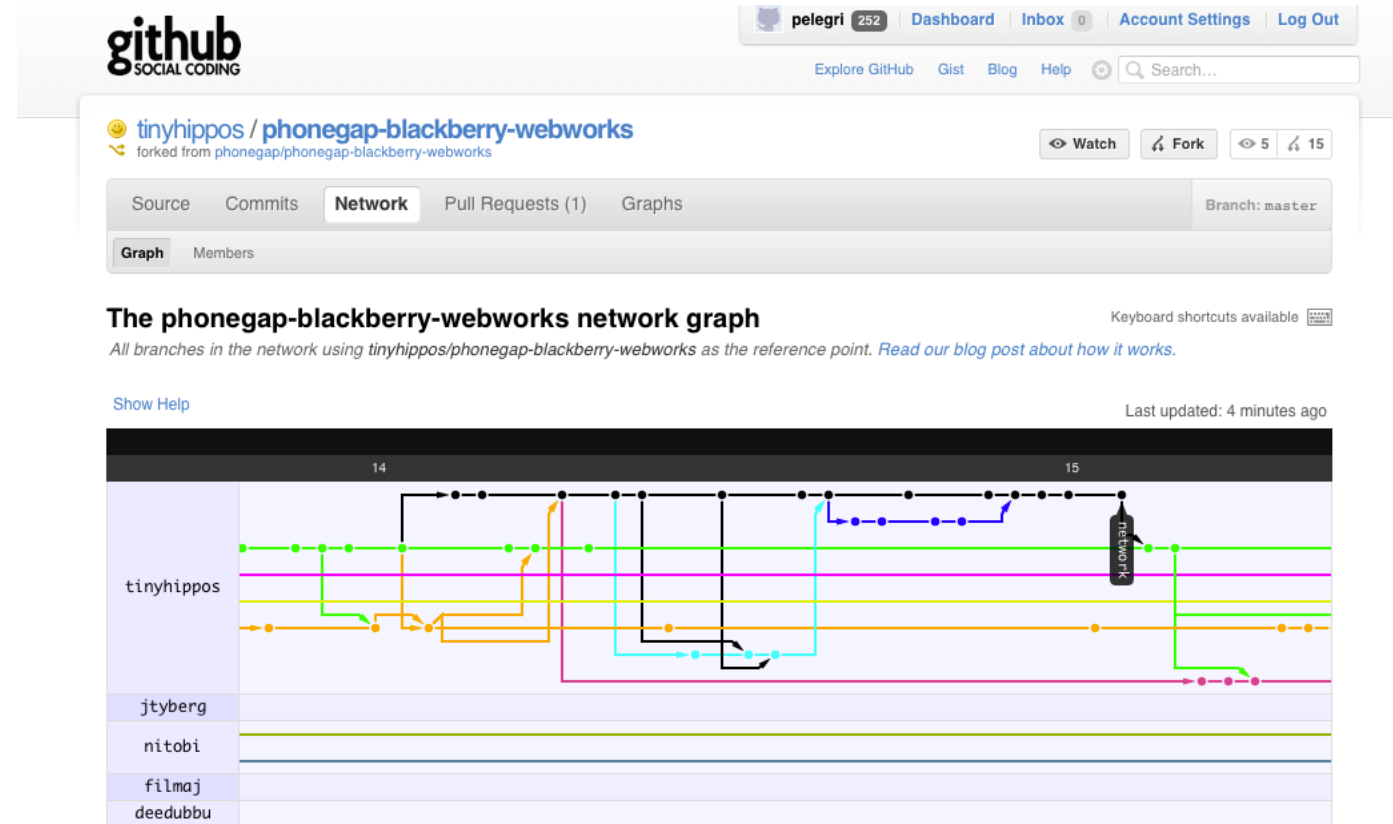
- Runtime Development moving to GitHub



WebWorks and OSS

Benefits of WebWorks as Open Source already visible

- To add WebWorks-Tablet support to PhoneGap:
- Just go to Seattle and work!
 - Much simpler legal arrangement
 - Shared tools
 - Simple Follow-up
 - Immediate Feedback
- Soon integrated into PhoneGap



WebWorks Tooling Open Source - Expansion

BlackBerry Ripple Emulator

- RIM today released the tinyHippos Ripple Emulator as OSS
 - Lightweight, High Fidelity, Browser-Based WebWorks Emulator
- Same Arrangements:
 - GitHub/BlackBerry
 - ASL2 License
 - ICLA, CCLA
- Participation is welcome and encouraged
- We want to make Ripple the preferred Emulator for Web Apps

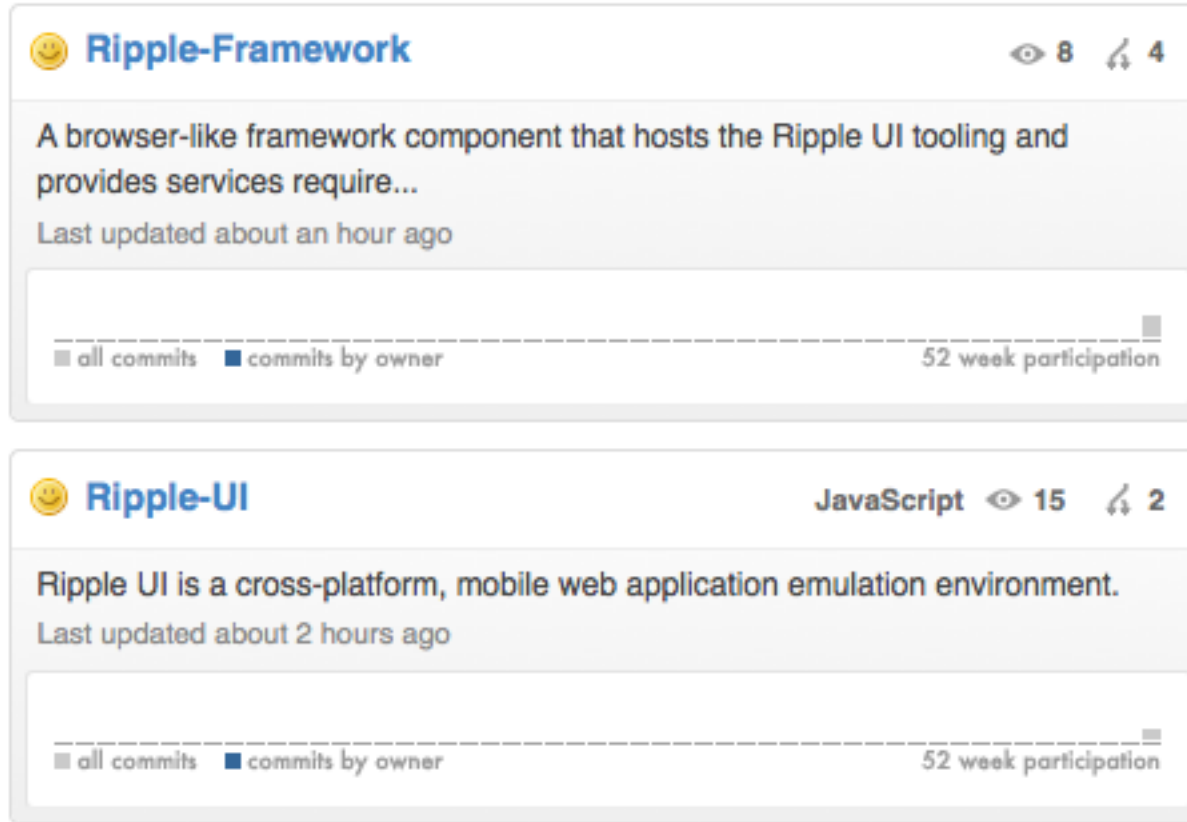


Very Soon

WebWorks Tooling Open Source - Expansion

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• Lightweight
- Same Arrangement
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- Participating
- We want to

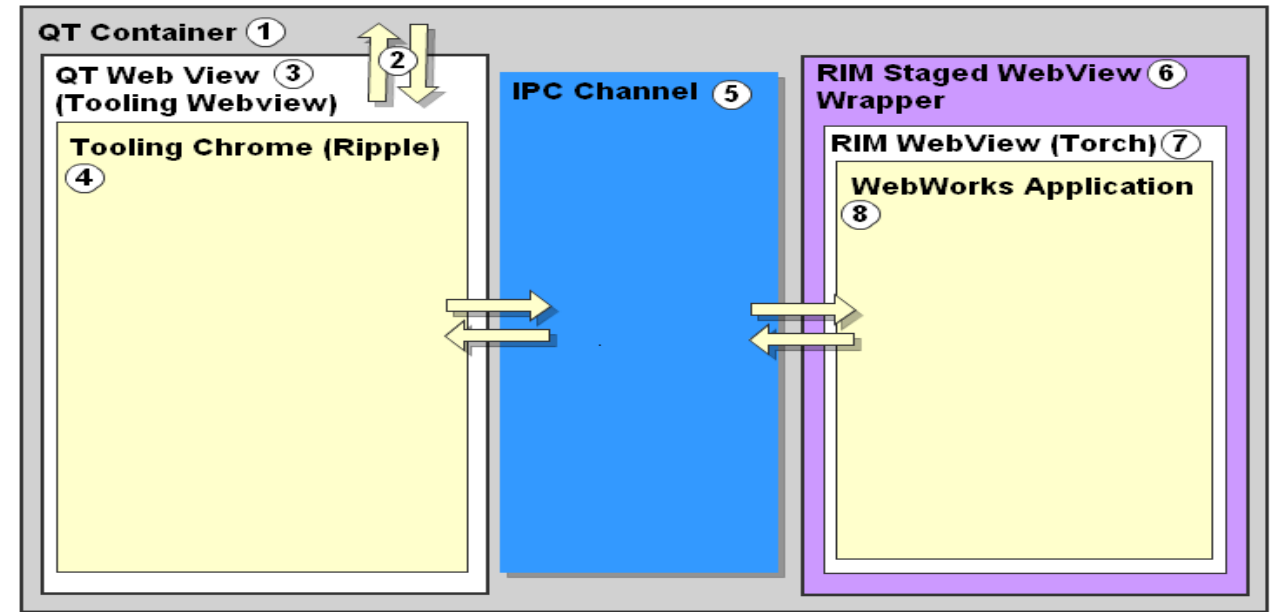
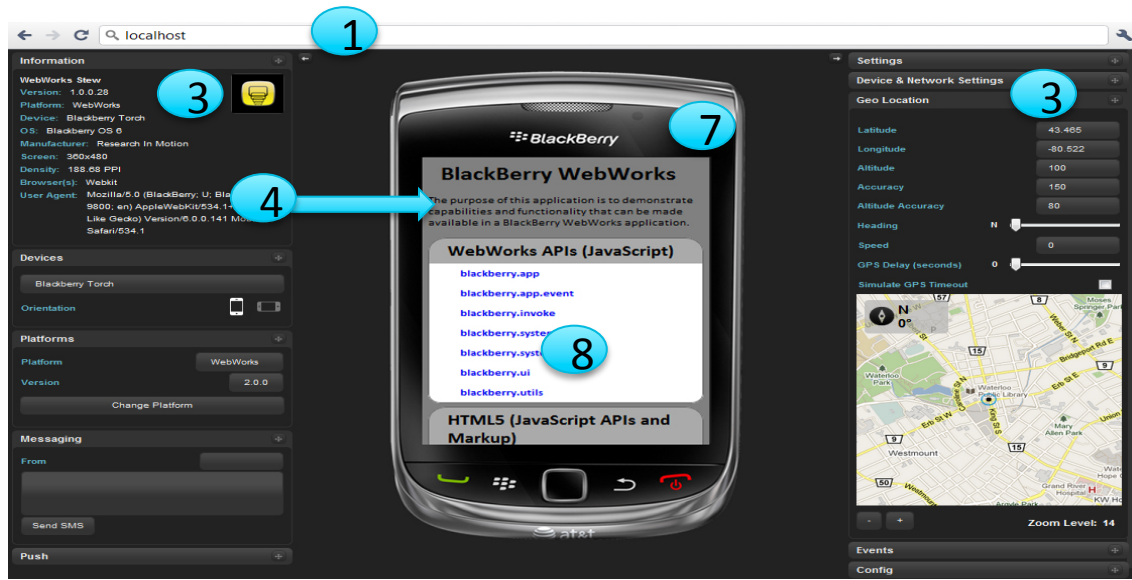


or

Web Apps

TODAY!

BlackBerry Ripple Software Architecture



QT = Cross-platform application and UI framework

1	Container	Ripple uses QT
3	Tooling Webview	Outer browser web rendering containing web-based tooling
4	Ripple	Web-based tooling – controls to emulate data for APIs
7	Inner Browser	Instances of QtWebWebView rendering engine
8	WebWorks	Running inside inner browser

WebWorks Open Source – More Expansion

Code Samples

- From SDKs, Knowledge Base, Community
- Same ASL2 license
- Benefits:
 - Clear, Well Understood, Well Liked License
 - Easy to discover (all at GitHub, all in BlackBerry Organization)
 - Easy to contribute changes (fork, send a pull request)
 - Easy to find the latest version (at GitHub!)
 - Simpler Release Cycle (late binding of Samples to SDK)
- Will Include SDK Samples, Aura (from TAT)



WebWorks and Open Source – Alice

Alice (A Lightweight Independent CSS Engine) – Micro-library of visual effects

- **HW acceleration with CSS3 in mobile Web browsers is underutilized**
 - Nothing much has changed in the past 4 years since slide/fade/zoom/flip.
 - Flash in comparison for instance has many libraries of very cool effects
- **Smartphones and tablets have the horse power to do better**
 - Some samples out there, but results in lots of CSS and JS to setup, requiring lots of skills
- **Alice is focused on packaging advanced hardware accelerated visual effects for Web apps**
 - Framework and application independent (can be plugged into Dojo, jQuery, Sencha Touch, etc)
 - Single-line-of-code setup
 - Physics and Organics
 - Rich visual effects like bounce, toss, flip, fold



WebKit and RIM – from Torch to PlayBook



- **Torch Mobile Team involved in KHTML/Konqueror**
 - KHTML Forked WebKit
 - Iris Browser used WebKit
- **RIM Acquires Torch Mobile (Aug 2009)**
 - Base for browser in new RIM devices starting with BB Torch (Aug 2010)
 - BPOS 6.0+ & BlackBerry TabletOS (QNX)
- <http://trac.webkit.org/wiki/WebKit%20Team> - Reviewers & Committers
- **RIM Continues to Participate and Contribute to WebKit**
 - Upstream Contribution, and
 - Use of GitHub.com/BlackBerry repos to record changes

Very Soon

Sample Code as Open Source

- **Sample Code is a natural for Open Source**
- **Benefits:**
 - Clear, Well Understood, Well Liked License
 - Easy to discover (all at GitHub, all in BlackBerry Organization)
 - Easy to contribute changes (fork, send a pull request)
 - Easy to find the latest version (at GitHub!)
 - Simpler Release Cycle (late binding of Samples to SDK)
- **RIM's SDKs, Support, and Developer Relations have many samples**



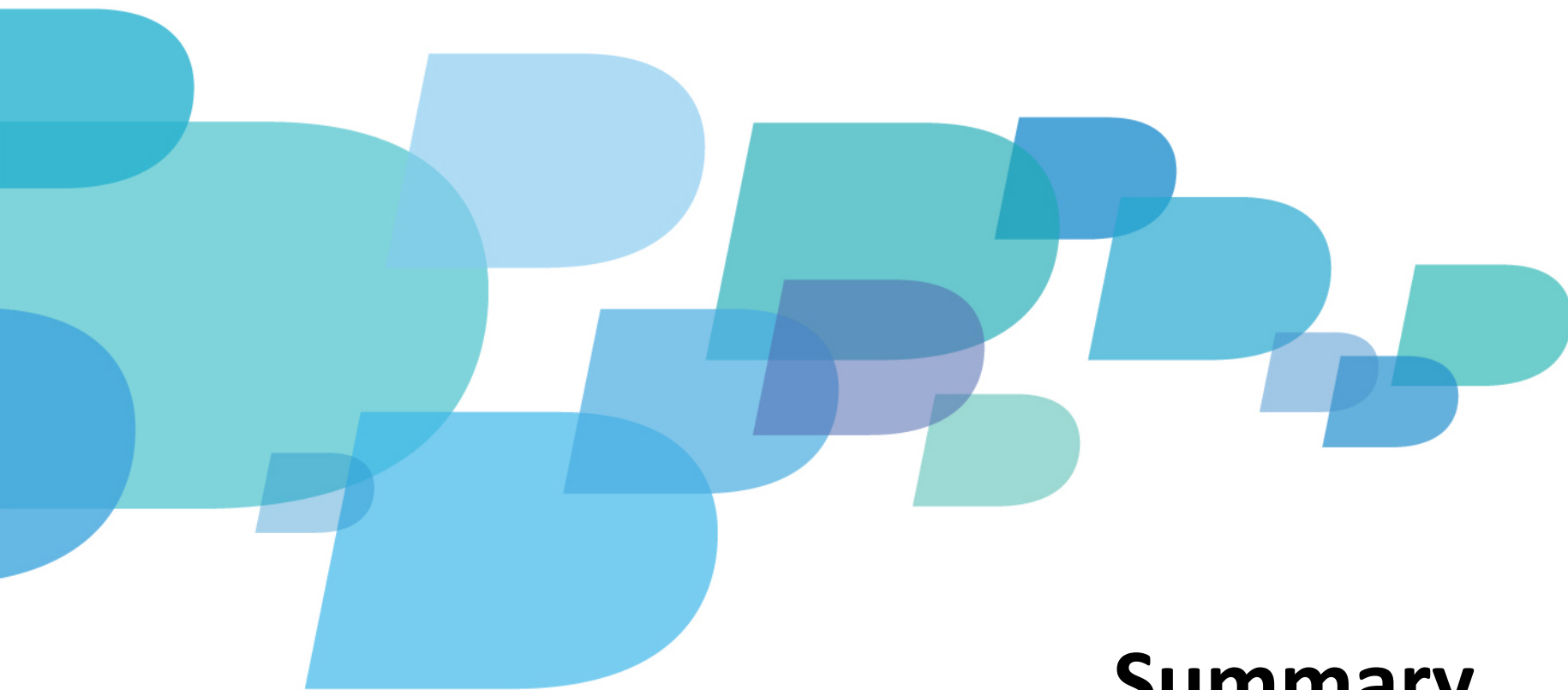
Looking Forward



- Simplified interaction with Up-Stream Communities (ala WebKit)
- Welcoming “Friends and Family” OSS Projects – ping me if interested
- Improved Communication with OSS Community
- Ongoing Participation at Eclipse on Tooling
- Others Projects... 😊

BlackBerry DevCon America (SF) 2011

- **San Francisco Marriott Marquis, October 18-20**
- **Usual Announcements:**
 - Software, Hardware, Enterprise, Consumer
 - Last Year Surprise Announcement was PlayBook (pre-release)
- **Prices for Student, Faculty, Early Bird, and Reg+Hotel**
- **No, I don't know if there will be any Show Device**



Summary

In Parting

- **RIM Recognizes the Value that OSS brings to RIM, its Partners and the Developers**
 - RIM's Engineering Culture is a good match for OSS
- **We have made a lot of progress in the last 9 months**
 - WebWorks, Ripple, Code Samples, Alice, SDKs, WebKit
- **Expect more as we close on DevCon SF**
- **Come join us!**

- **Series of Competitions and Recognition Awards**
 - Best Adobe Flash/AIR app: ***April 28 – Aug 12***
 - Most Innovative BlackBerry WebWorks app on the BlackBerry PlayBook and BlackBerry 6: ***May 9 – Aug 26***
 - Most Addictive social app using the BBM Social Platform: ***Submissions open later this summer, stay tuned!***
- **US\$3 Million Prize Pool – Submission Incentive Awards & Prize Packages**
 - BlackBerry App World feature carousel, media press package, BlackBerry smartphones and tablets, BlackBerry Alliance Program membership and more!
- **Winners will be recognized at the 2011 BlackBerry Developer Conference!**

For more information on the BlackBerry Developer Challenge 2011 visit:

www.blackberrypartnersfund.com/challenge

Submit your app today at: www.blackberrypartnersfund.com/submission



Q & A