



## white paper

# Open Governance

October 2012

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# Open Governance

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## Introduction

In March 2011 the webinos consortium published deliverable 2.3 Industry landscape, governance, licensing and IPR frameworks. The purpose of this report was to assess the state of the art of technologies that will be used to realize the webinos platform, to understand related industry activities and to identify appropriate governance, licensing and IPR frameworks for webinos. Additionally in July 2011 VisionMobile published The Open Governance Index (OGI) Report which built upon this work and introduced the Open Governance Index as a means of measuring the openness of governance in open source projects. The industry response was overwhelming with more than 7,000+ downloads and cited in over 20+online journals including IT Writing, ZDNet, Wired News, BGR, MIT Technology Review, Slash Gear, Phandroid, ARS Technica, Linux Today, Mobile Trends, Computer Hyper, RPMfind, Fanatics Club Linux Life, Today-Google, Open Source This and PC Pro. It also sparked numerous tweets from industry participants including Chris DiBona, Head of Open Source Programmes at Google; Open Source Advocate Matt Asay and Mike Milinkovich, Director of Eclipse. Discussions centred around the importance of openness and the growing importance of governance in open source projects as open source becomes more main-stream. The OGI Report identified that the ‘open’ governance of projects such as webinos is a strength relative to the ‘closed’ governance of other projects.

Since March 2011 there has been much change within the mobile open source technology sphere and the purpose of this WP2 deliverable is to review the changes in this area since that time to determine new findings and learnings for webinos.

Our original research set out to understand how governance is managed in open source projects in terms of transparency, decision-making, reuse of code and community structure. We analysed a number of open source projects including Android, Eclipse, Linux, MeeGo, Mozilla, Qt, Symbian and WebKit. The Open Governance Index compared thirteen metrics across four areas of governance comprising Access, Development, Derivatives and Community to determine the ‘openness’ of these projects. The exact metrics are detailed in Appendix 1 of this Report. Additionally the Report identified common ‘Best Practices’ with regard to open source project management and highlighted the importance of meritocracy and commercial organisational sponsorship in the long term success of any open source project.

Governance in open source projects is strategic – it controls the right to influence and direct the future of a project. The right governance is crucial in determining the content and roadmap of the project as well as initiating and maintaining long term interest and support from contributors and developers of the open source project.

Notably Google Android is an exception to the rule. Android ranks as the most closed project we examined whilst at the same time it is one of the most successful projects in the history of open source. We found that Android’s success has little to do with the open source licensing of the public codebase, rather Android platform development has occurred without the need for external developer or commercial community involvement due to the financial and development effort resources put into the platform by Google. Google has provided Android at “less than zero” cost, since its core business is not software or search, but driving eyeballs to ads. As is now well understood, Google’s strategy has been to subsidise Android such that it can deliver cheap handsets and low-cost wireless Internet access in order to drive more eyeballs to Google’s ad inventory.

There are however some very good lessons for us to learn from how Google has managed the Android open source project. First, Android was released as an open source project at a point in time where it was already a very advanced, complete project. OEMs, operators and software developers could more or less immediately use it to create derivative handsets and applications. Second, Google kickstarted a developer buzz around the project with the \$10 million Android Developers Challenge. Alongside financial incentives, Google provided a very strong emotional message: that of opening application development within a previously inaccessible mobile industry. Finally, Google's speed of innovation (five platform versions across 2010) outpaces any external innovation, and makes the ecosystem entirely reliant on Google.

Ultimately open governance is the norm and a requisite for successful open source projects. We should also note the trend towards 'moving' projects under the helm of established initiatives, such as Linux Foundation (which hosts Tizen) or Apache (which hosts the PhoneGap project) in order to ensure that independence and transparency of the project are maintained. Moreover, the commercial sponsors behind open source projects are often using such initiatives with established governance infrastructure to outsource the core project maintenance. The sponsors can then focus on revenue-generating value added services or complimentary products such as PhoneGap Build in the case of Adobe.

## Open Governance Index - 2012 update

In this update, we have included three new Projects – Tizen, Open WebOS and Apache Cordova (PhoneGap).

Additionally we have amended the OGI Table to show that the requirement for copyright assignment is unnecessary provided that the license provisions are sufficiently broad and contain both copyright and patent provisions. Rather a copyright license and patent license are more than sufficient with regard to providing license assurances in any open source project. To this extent our OGI Table percentages have changed slightly. Note that OGI is still the only measure of open governance that exists today.

### Revised Openness scores as at September 2012

Open Source Project	OGI July 2011	OGI September 2012
Android	23%	26% (no change)
Eclipse	84%	87% (no change)
Linux	71%	74% (no change)
MeeGo	61%	65% (no change)
Mozilla	65%	68% (no change)
Qt	58%	81% - nearly 20% more open
Symbian	58%	61 (no change)
WebKit	68%	71 (no change)
Open WebOS	n/a	74% (added in 2012)
Apache Cordova	n/a	74% (added in 2012)
Tizen	n/a	45% (added in 2012)

Notes all projects appear increased due to the rebasing of the OGI to accommodate that the lowest score is 13 (not 14, an error in the original calculations) and that the highest score possible is 44 (not 45).

Both Open WebOS and Apache Cordova achieve an OGI score of 74% indicating that they are quite open with regard to governance. Tizen is the least open and this is most likely because Tizen has inherited many of the same control points that LiMo (Tizen's predecessor) exhibited.

The learning for webinos are that webinos must aim for a minimum open governance index score of at least 70% to be in the top range of open source projects. We would recommend that the future research/reports in this area consider the current level of webinos openness relative to the above and make recommendations for how webinos can achieve this level of openness.

## Developments and trends in open source projects

Open source projects in the mobile software domain are in a state of flux. Since we published our original findings in March 2011 for webinos there has been much change in the industry. The timeline below indicates newcomers and departures within the mobile open source industry.

Date	OS	Event
July 2011	Mozilla	Announced Boot to Gecko (B2G) open source project
September 2011	MeeGo	Intel announce they will no longer support MeeGo
September 2011	Tizen	Intel and Samsung announce Tizen, a new open source project comprising Samsung Linux Platform (from LiMo Foundation) and some components from MeeGo.
October 2011	Apache Cordova (PhoneGap)	Adobe announce that they will buy Nitobi while PhoneGap source code will be contributed to Apache Foundation, the new OS project titled Apache Cordova
November 2011	Symbian	Nokia to take Symbian in-house for future development, discontinuing Symbian OS open source project
December 2011	Open WebOS	HP announce new open source project based on proprietary HP WebOS source code
April 2012	Qt	Nokia announced that they are selling the Qt software licensing business to Finnish IT services company Digia
September 2012	Qt	Digia announce that they have signed an agreement to buy the complete Qt business from Nokia
August 2012	? (Jolla)	Finnish start-up Jolla announced in August 2012 that they intend to create a new open source project derived from MeeGo.

In summary we can see that there has been the demise of two open source projects (Symbian and MeeGo) and the announcement of four new open source projects (Boot to Gecko; Tizen; Apache Cordova and Open WebOS). Therefore there is much competition for open source developer mindshare and attention so webinos must be structured to facilitate developer support in every way possible.

## Governance analysis



### Android

Android is now nearly 5 years old and is estimated to comprise 4675 man years of development effort at approximately \$257m<sup>1</sup>. Android also continues to be by far the most “closed” open source project in terms of governance. Since our last report, very little in the way that Android is structured with regard to access to source code, development of source code, derivatives management or community has changed. If anything Google now acknowledges that their use of open source project methodology is “...pragmatic, first and foremost. The objective is a shared product that each contributor can tailor and customize.”<sup>2</sup>. Indeed Android explicitly highlights the importance of the Android Compatibility Programme when discussing Governance and the requirement to be “Android compatible” in order to take part in the Android Ecosystem.

The latest version of Android OS is named Jelly Bean (v4.1). There are no major new technology initiatives; instead Google has focussed on improving performance and making Android more responsive. Google’s acquisition of Motorola Mobility for \$12.5 billion was completed in May 2012. The acquisition is most definitely a defensive strategy in terms of beefing up Google’s patent portfolio with the acquirement of over 17,000 patents. In August it was announced that Motorola Mobility would lose 20 percent of its work force and close a third of its 94 offices worldwide<sup>3</sup>.

As of the end Of June 2012 there were over 600 thousand applications available in Google Play, Android’s native app store. The number of cumulative downloads up to the end of Q2 was over 20 billion. Android is the top-selling smartphone platform; with over 100 million shipments during the second quarter of 2012 alone. Overall, Android has been shipped in over half a billion devices, with more devices being activated every day. In September 2012 Google Executive Chairman Eric Schmidt announced that there are now 1.3 million Android device activations per day, with about 70,000 of those for tablets. As stated by Schmidt, the total installed base for Android is 480 million devices, making Android the most widely distributed smartphone platform in the market right now<sup>4</sup>.

Android project	
Access	9/19
Development	8/17
Derivatives	3/6
Community	1/2
Open Governance Index	23%

<sup>1</sup> [http://www.ohloh.net/p/android/estimated\\_cost](http://www.ohloh.net/p/android/estimated_cost)

<sup>2</sup> Android Open Source Project, Philosophy and Goals <http://source.android.com/about/philosophy.html>

<sup>3</sup> [http://www.nytimes.com/2012/08/13/technology/motorola-to-cut-20-of-work-force-part-of-sweeping-change.html?\\_r=1&pagewanted=all](http://www.nytimes.com/2012/08/13/technology/motorola-to-cut-20-of-work-force-part-of-sweeping-change.html?_r=1&pagewanted=all)

<sup>4</sup> <http://www.forbes.com/sites/connieguglielmo/2012/09/05/google-welcomes-new-motorola-mobility-with-three-droid-razr-phones-it-says-outshine-iphone/>

In May 2012, Google filed an antitrust complaint with the European Commission against Microsoft and Nokia, accusing them of creating ‘patent trolls’ (3<sup>rd</sup> parties who make their money by suing others supposedly infringe their patent portfolios) and thus conspiring to raise the cost of Android devices<sup>5</sup>. Google argued that the complaint is an early defensive measure.

#### **Access**

There is no change to the Access rights provided by Google in that the source code continues to be provided using the Apache v2.0 license and Google continues to operate two source trees – an in-house development branch and a publicly available branch.

#### **Development**

Contributions to the Android codebase are encouraged by Google and Google provide all the necessary tools and development environment to facilitate this – but we understand that very few external contributions are actually “committed” to the Android codebase. Source code contributions are verified and approved by “Approvers” and “Project Leads”, all of whom continue to be exclusively Google employees.

#### **Derivatives**

Google continues to tightly controls the Android platform and its derivatives, i.e., the make-up of the Android platform on commercial handsets by making Device manufacturers pass the Compatibility Definition Document (CDD) and Compatibility Test Suite (CTS) tests in order to be allowed use of the Android trademark and avail of Google Play.

#### **Community structure**

The Open Handset Alliance (OHA) was set up to represent those organisations interested in supporting Android but there has been little change in its role such that the OHA continues to provide minimal input in that there is no formal legal entity, no communication processes for members nor frequent member meetings.

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<sup>5</sup> <http://www.theaustralian.com.au/australian-it/google-claims-microsoft-and-nokia-are-colluding-to-make-android-more-expensive/story-e6frgakx-1226378770616>



## Eclipse

Established in November 2001, the Eclipse Foundation currently hosts over 200 open source projects and is supported by a consortium of over 80 software vendors.

The Foundation provides IT infrastructure and marketing support, manages projects governance and also carries out intellectual property due diligence. Eclipse employs around 15 staff, and is funded through annual membership contributions, with reported venues of USD 4.1 million . Eclipse continues to be the most openly governed open source project relative to its peers in this Report.

Eclipse project	
Access	17/19
Development	15/17
Derivatives	6/6
Community	2/2
Open Governance Index	87%

### Access

Projects hosted by the Eclipse Foundation are licensed under the EPL license. All 200+ projects use a consistent management structure. Every project comes with an extremely comprehensive information page detailing mailing lists, project leadership, committers (active, participating and inactive), bugs, releases and the project plan, among other information. This makes the Eclipse Foundation the most “open” in terms of accessibility of information.

### Development

Eclipse projects are managed in accordance with the Foundation’s development processes, which state how bugs, releases and roadmaps are managed, as well as detailing processes for dealing with conflicts and disagreements. Eclipse provides comprehensive statistics on distribution of committers by organisation. In addition, the Eclipse Foundation provides “Project Dash” at [www.eclipse.org/dash](http://www.eclipse.org/dash). Dash aims to provide complete transparency as to the contributions of all companies and developers participating at Eclipse.

### Derivatives

Each Eclipse project is free to determine its own implementation compliance and quality requirements. Note that compliance and quality requirements are not a pre-requisite to use of the Eclipse trademarks and logos; rather, members are entitled to use the Eclipse trademarks and logos provided they agree to the proper usage of Foundation-wide policies and guidelines.

### Community structure

The Eclipse Foundation has developed an elaborate, comprehensive community structure. Each project team has a project leader, committers and contributors. Top-level projects are managed by project management committees (PMCs) which are overseen by the Eclipse Management Organisation. Eclipse has a tiered membership structure where members can choose their level of voting rights, and monitoring/management tools, based on their interest in Eclipse Foundation projects.



## Linux Kernel

The Linux kernel comprises some 15 million lines of code developed by contributors worldwide and is at the core of 100+ software distributions including Android and Tizen. The Linux kernel is supported by the Linux Foundation (LF), a non-profit foundation that sponsors kernel.org (the primary repository for the Linux kernel source code) and the work of primary Linux creator Linus Torvalds. The LF hosts workgroups that include Tizen, FOSSBazaar, Desktop Linux and Carrier Grade Linux.

Linux Kernel	
Access	14/19
Development	14/17
Derivatives	6/6
Community	2/2
Open Governance Index	74%

### Access

Currently at version 3.2, the kernel gains a new release every 2-3 months. Some meeting minutes and roadmaps are publicly available, but not all. It is important to note that LF is quite hands-off in terms of how the kernel.org project is managed; rather the LF provides support with regard to adoption, use and marketing of the kernel, as described above. The Linux kernel mailing list (LKML) is the main forum for Linux kernel development, where the majority of announcements and discussions take place. It is a very high volume list, usually receiving between 200 and 300 messages each day.

### Development

Code is contributed to the Linux kernel under a number of licenses, provided such licenses are compatible with the GNU GPLv2. Code contributions are reviewed and approved by the 900+ maintainers of kernel subsystems before being merged into the mainline tree. According to the LF, over 75% of contributions to the kernel come from developers with corporate affiliations, an increase of 15% since 2010<sup>6</sup>. The report acknowledges an increased level of support and contributions from organisations in the mobile and embedded space, such as Texas Instruments and Samsung and a new addition to the list of top contributors this year was Microsoft who ranked 17th most prolific corporate contributor.

### Derivatives

Creation of derivatives is fundamentally impacted by the GPLv2 license, which states that all changes to the Linux kernel that are distributed must also be made publicly available. Linus Torvalds owns the "Linux" trademark and manages this via the Linux Mark Institute and the Linux sublicense. Distributions based on the Linux kernel and sold as products may have further trademark obligations.

### Community structure

The Linux Foundation is the main organisation sponsoring and supporting kernel.org developments and has three decision-making bodies: the Technical Advisory Board (helping the Foundation interact with the Linux community), the End User Council (for corporate end users) and the Vendor Advisory Council (for Foundation members). LF lists Fujitsu, Hitachi, Intel, IBM, NEC, Oracle, Qualcomm and Samsung as Platinum members with AMD, China

<sup>6</sup> <http://go.linuxfoundation.org/who-writes-linux-2012>

Mobile, Cisco, Google, HP, Motorola, Nokia and Novell amongst others listed as Gold Members.



### Mozilla – Firefox OS Open Web Devices (formerly Boot to Gecko)

In the first Open Governance Report we reviewed the Mozilla Foundation and how open source projects are managed generally. For the purposes of this update we analyse specifically the Firefox OS project which is an open source operating system for smartphones.

In February 2012 at MWC, Mozilla announced a partnership with Telefonica and Qualcomm to create the first mobile Web handset as part of an Open Web Devices initiative. Devices will run on Mozilla's Firefox OS (formerly known as Boot2Gecko), bringing core device APIs to the HTML5-based devices. Mozilla intend that Firefox OS will be submitted to the W3C for standardization. In July 2012 Mozilla announced that device manufacturers TCL Communication Technology (under the Alcatel One Touch brand) and ZTE are to manufacture the first devices that are expected to launch commercially in Brazil in early 2013 through Telefónica's commercial brand, Vivo. Other operators supporting the Open Web project are Deutsche Telekom, Etisalat, Smart, Sprint, Telecom Italia, Telefónica and Telenor. Mozilla is aiming its operating system at emerging markets. It intends to bring smartphone level capabilities to the world in feature phone price ranges. This will bring Open Web Devices in direct competition with low-end Android devices, Samsung feature phones and Bada-driven handsets and Nokia's Symbian series.

The licensing and governance policies of Mozilla have not changed since we reviewed them for the original Landscape and IPR analysis. One major change that has occurred is that the Mozilla Public License (MPL) has moved from v1.1 to v2.0. The main changes to the license are that source code must be made available when the executable is made available, license headers have been made shorter and notification requirements have been simplified. The license is now compatible with the Apache license - anyone who complies with the terms of the MPL should also be compliant with the Apache license's terms. Similarly, by default, the license allows the code to be distributed alongside code licensed under the GPL or LGPL. In addition, patent protections have been brought more in line with what other licenses (such as Apache) use, while also allowing any member of a community to defend a contributor who has been sued for infringement. As a reminder, Mozilla foundation provides project code under the "Mozilla tri-license," i.e., the MPL/GPL/LGPL triple license. Thus, the code can be licensed under the Mozilla Public License, version 1.1 or later (MPL); the GNU GPL, v2.0 or later (GPL) or the GNU LGPL, version 2.1 or later (LGPL). The reason that Mozilla provides the code under three different licenses is to ensure that the code is compatible with as many common open source licenses as possible.

#### Access

The Mozilla Foundation currently hosts 14 open source projects, including Firefox OS. The Mozilla Developer Network (MDN) provides free developer information, forums, FAQs and

Mozilla project	
Access	16/19
Development	11/17
Derivatives	6/6
Community	1/2
Open Governance Index	68%

build tools for all Mozilla technologies, including Boot 2 Gecko. We understand from the Firefox OS blog that there are around 20 dedicated engineers working on specific parts of B2G system (telephony, messaging, system-level phone integration) with additional resources provided by engineers from operators partners are working jointly with us on the project. However it is worth noting that the project is leaning heavily on the existing Gecko and Firefox mobile work and the team of hundreds (200+) of engineers building those products, with 95% of the code in the Boot to Gecko project shared with Firefox. Access to the source code is available via Bugzilla with GitHub used for tracking code changes. Project coordination meetings are held weekly and the minutes of these meetings are publicly available on the wiki. Additionally, there are project-specific build toolkits available to developers, along with various message boards, IRC channels, mailing lists, Google groups and forums.

### **Development**

As per our original OGI Report, there has been no change to the development or contribution process. All code contributed to the Firefox OS project is governed by the Mozilla Foundation Committer's Agreement v2.0, which states that all code contributed must be licensed to the project under the Mozilla tri-license.

### **Derivatives**

Creation of derivatives is permitted by the Mozilla tri-license. However, use of the Mozilla trademarks (such as the "Firefox" name and graphics) is permitted only if you are distributing unchanged binaries. If you change any of the source code at all, then you are not permitted to use the Mozilla trademarks. Firefox OS Marketplace (formerly the Mozilla Apps Marketplace) is currently under development. Developers can start submitting apps immediately and the Marketplace will be available to consumers later in 2012. We understand that Developers will need to agree to the Marketplace Developer Agreement in order to use the Marketplace. Developers who sell Apps via the Marketplace pay a 30% transaction fee to Mozilla (a common revenue-share point of reference). The Marketplace is intended to be a platform-agnostic app market. It will offer web apps that users can access from any HTML5-capable browser. It is unclear at this stage if there will be any mandatory conditions around accessing the Marketplace or indeed if there will be compliance requirements in order to use the Firefox OS trademark.

### **Community structure**

Membership to the Mozilla Project is free, subject to signing the Committers Agreement. Mozilla states that it is an "open source project governed as a meritocracy, a virtual organization where authority is distributed to both volunteer and employed community members as they show their abilities through contributions to the project."<sup>7</sup> Governance of the project is managed by module owners who are assigned to technical or administrative management tasks. Module owners are responsible for code maintenance, managing conflicts relating to code contributions and determining policy with regard to licensing and trademarks.

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<sup>7</sup> Mozilla.org <https://wiki.mozilla.org/Mozilla.org/About> accessed November 2010

## MeeGo™

### MeeGo

MeeGo was launched by Nokia and Intel in February, 2010, to much fanfare. At the outset, MeeGo was intended as an open source platform for powering Nokia’s high-end devices and driving Intel’s x86 chipset sales. By mid 2011, MeeGo became a distant “plan B” for Nokia – following the Finnish OEM’s refocus onto Windows Phone 7 – with MeeGo’s main supporters now being Intel and LG. A new release of MeeGo, version 1.3 had been announced for October 2011, but was never released. In September 2011 Intel announced via the MeeGo blog that development on MeeGo had stopped and that MeeGo would be replaced by Tizen. Tizen is based on the LiMo platform and while incorporating various MeeGo functions, is not a direct successor of MeeGo. The reason for this change is because Intel believe that the focus needs to be much more on HTML5-based applications and the best way to enable this was to start a new project which incorporates parts of MeeGo but primarily focuses on HTML5.

MeeGo project	
Access	14/19
Development	12/17
Derivatives	5/6
Community	2/2
Open Governance Index	65%

#### Why did MeeGo not succeed?

Ultimately and as per our OGI v1 Report findings, most if not all open source projects require at least one if not more commercial sponsors in order to support the project and without such support it can be very difficult to sustain growth and development of any open source platform. The demise of MeeGo illustrates the importance of this requirement. At the outset both Nokia and Intel supported MeeGo; however with Nokia’s decision to turn to Windows Phone Intel needed a consumer device partner to keep the project alive. Rumours that LG would be joining MeeGo project failed to materialise and ultimately Intel partnered with Samsung on a new platform, Tizen.

#### A new beginning for MeeGo – Jolla?

In July 2012 it was announced that a new Finnish start-up Jolla, made up of 50 or so ex-Nokia employees would continue to develop the MeeGo platform and Jolla indicated that it will produce devices by the end of 2012 and it has already signed-up a Chinese retailer D.Phone to distribute the devices. Despite the enthusiasm behind Jolla we believe that it will struggle to create a competitive ecosystem to Apple, Google and Microsoft incumbents, given the multi-billion investments it takes to acquire users and developers to a new platform.



## Qt

Qt is a cross-platform application framework for developing applications across desktop, embedded and mobile devices. Qt (pronounced “cute”) was created in 1991 by Trolltech ASA, and acquired by Nokia in June, 2008. The Microsoft-Nokia strategic deal announced in February, 2011 dislodged MeeGo and Symbian – and with it Qt – out of Nokia’s smartphone roadmap. In March 2011 Nokia sold the commercial licensing arm of Qt to Digia and in August 2012 Digia announced their intention to acquire the complete Qt business from Nokia. The transaction has not yet been completed nor full details made public so we do not know what the implications will be for Qt from an open source project governance perspective.

Qt project	
Access	16/19
Development	14/17
Derivatives	6/6
Community	2/2
Open Governance Index	81%

Ironically Qt has increased substantially in governance openness and transparency since we carried out our original research in early 2011. However increased openness in itself is not sufficient to create a successful open source project. Perhaps the most important factor in any open source project is a fully committed commercial sponsor(s). The following sections review the changes to the governance model introduced by Nokia/Qt in late 2011.

### Access

Nokia licensed Qt under a commercial proprietary license (providing patent and copyright indemnities and guarantees) and also under the open source LGPLv2 license and GPL v2 license. It is not known what, if any, changes Digia will make to this tri-licensing strategy. Source code contributed to the Qt project vested in Nokia so it is likely that ownership of this source code was part of the sale of Qt. In May 2012 the governance model of Qt was updated and now based on the OSS Watch Meritocratic Governance Model<sup>8</sup>. This revised governance model had two aims, to “put decision power in the hands of the community, i.e. the people who contribute to the Project’s success” and to “Make it easy to understand how to get involved and make a difference”.<sup>9</sup> Qt source code is still available via Gitorious, a community-oriented source code repository. Qt provides a comprehensive developer forum, mailing list and suite of developer tools at no cost to developers.

### Development

Contributors to Qt need to sign an agreement granting copyright and patent licenses to Nokia. The revised governance model outlines in detail the process to become a contributor, maintainer and approver. For example, to become an approver, a contributor can be nominated by an existing approver and seconded by one other approver or maintainer. Once nominated and seconded, the approver is appointed unless a community member objects to the Chief Maintainer within 15 work days. If an objection is raised, the Chief Maintainer decides, usually within 15 work days. This revised process is much more open and transparent than what went before. Additionally the contributions process itself is now much more clearly documented than previously.

<sup>8</sup> <http://www.oss-watch.ac.uk/resources/meritocraticGovernanceModel.xml>

<sup>9</sup> [http://qt-project.org/wiki/The\\_Qt\\_Governance\\_Model](http://qt-project.org/wiki/The_Qt_Governance_Model)

**Derivatives**

Rights to create derivative products from Qt stem from the license agreement under which the developer uses Qt: i.e., GPLv3, LGPLv2 or the Qt Commercial License. Therefore, branching rights are provided, but as per the GPL and LGPL, any changes made to the code must be published.

**Community**

The Qt community is loosely structured. There are neither formal membership agreements nor a tiered structure. Even though all decision-making regarding the Qt project is currently managed by Nokia personnel, we note that this is intended to change in 2011.



**WebKit**

WebKit, the *de facto* engine for smartphone browsers, has been shipped in an estimated 1 billion devices to date, by all major smartphone vendors. WebKit is a mature open source project. The project acknowledges contributions from a number of major commercial organisations, in particular Apple, Google, Nokia, TorchMobile (now part of RIM) and Collabora (responsible for the GTK port).

WebKit	
Access	15/19
Development	12/17
Derivatives	6/6
Community	2/2
Open Governance Index	71%

**Access**

The WebKit JavaScriptCore and WebCore components are available under the GNU LGPL v2.1, while the remainder of the browser engine is available under a BSD-style license. A mature open source project, WebKit has a straightforward governance structure. Source code is freely available via a public Subversion repository, with the code being refreshed nightly. Bugzilla is used for issue reporting and logging bugs. Mailing lists and forums are freely accessible, along with developer build tools. The WebKit roadmap is a loose, unordered collection of future development requests. There is no formal process for prioritising features; rather, contributors will focus on their own priorities for development. Structural changes to WebKit are guided by the “Project Goals”, a public statement of what WebKit is and is not. There are no formal releases of WebKit, either; rather, there are numerous branches that contain product-specific implementations of WebKit that are maintained by the sponsoring organisation.

**Development**

Code contributions do not require signing of a formal contributions license however contributions are required to include a copyright ownership notice with suggested licensing text on copyright ownership and redistribution. Contributions to WebKit are reviewed by project committers, who may grant or deny approval. There is also a public list detailing over 200 Committers including Apple, Nokia, Google, RIM and Samsung. The process to become a WebKit reviewer and committer is clearly and openly documented, and operates through meritocracy. It is based on a nomination system and the developer’s contributions history and collaboration history. WebKit reviewers are appointed regularly, and come from diverse backgrounds, projects and organisations.

**Derivatives**

There are no official compliance requirements for WebKit-based browsers; the WebKit community employs a huge testing infrastructure called "Layout Tests", which all implementers use to self-check their derivative implementation.

**Community structure**

WebKit does not have any formal councils, community organisations or steering groups. Rather, there are several developers who are acknowledged as experts, and who influence the

direction of WebKit. In their main, these developers work for Apple and Google, so naturally these organisations have much influence over the direction and roadmap of WebKit.

## Review of new open source projects



Apache Cordova	
Access	17/19
Development	11/17
Derivatives	6/6
Community	2/2
Open Governance Index	74%

### Apache Cordova (aka PhoneGap)

Apache Cordova is an open source project for building native mobile applications using HTML, CSS and JavaScript. Apache Cordova was originally an open source project called PhoneGap created by Nitobi. Nitobi was bought by Adobe in October 2011 and at the same time it was announced that the PhoneGap source code would be donated to the Apache Software Foundation for incubation. The intent here seems to be that the Apache Software Foundation could provide an independent home for the source code such that 3<sup>rd</sup> parties wishing to use the code would not feel compromised by the code being owned by Adobe or any other third party. As part of this process the PhoneGap source code donation was renamed Apache Cordova. The simplest way to understand this relationship is that Apache Cordova is the open source project and PhoneGap, now managed and owned by Adobe, is a distribution of Apache Cordova. As stated at the PhoneGap website “Over time, the PhoneGap distribution may contain additional tools that tie into other Adobe services, which would not be appropriate for an Apache project.”<sup>10</sup>

PhoneGap Build allows developers to upload their apps via a ZIP file of HTML, CSS and JavaScript, or a single index.html file, the app is compiled and packaged for the developer and then the developer receives the download URLs for all mobile platforms. PhoneGap Build, now an Adobe product, is currently in beta and is free and it is indicated that the service will remain free for open source projects.

#### Access

The Apache Cordova source code is currently hosted by the Apache Incubator Project Cordova on GitHub until the migration to the Apache Software Foundation is complete. The source code is licensed under the Apache License v2.0 which is an Open Source Initiative approved permissive license that includes both a copyright and patent license. Source code is freely available from GitHub. The current stable version is Apache Cordova v2.0 with the next major version 3.0 expected to be released in July 2013. Apache Cordova uses JIRA issue and project tracking software. Mailing lists and forums are freely accessible. The Apache Cordova roadmap is a loose, unordered collection of future development requests. There is no formal process for prioritising features; rather, contributors will focus on their own priorities for development. Roadmap information is provided via the Apache Cordova wiki<sup>11</sup>.

<sup>10</sup> <http://phonegap.com/2012/03/19/phonegap-cordova-and-what%E2%80%99s-in-a-name/>

<sup>11</sup> <http://wiki.apache.org/cordova/RoadmapProjects>

**Development**

Apache Cordova supports the development of portable application code that can run on Apple iOS iPhones, iPads, iPods, all Android devices, Windows Phone 7 devices, BlackBerry phones and PlayBooks, HP WebOS phones and TouchPad, as well as Symbian and Samsung Bada devices. As of September 2012, Adobe advise that PhoneGap has been downloaded over 1 million times and is being used by over 400,000 developers<sup>12</sup>. Users of Apache Cordova include Wikipedia, with the official Wikipedia mobile application is built using PhoneGap; Facebook and Salesforce who use a forked version of Apache Cordova in their mobile SDK; IBM/Worklight's mobile application development platform is built on top of PhoneGap; Microsoft is involved with core Apache Cordova development (specifically for Windows Phone platform); RIM and Adobe.

Code contributions must agree to the Apache Individual Contributors License Agreement (CLA), or if the contribution is from a formal organisation, then the Apache Corporate Contributor License Agreement (CCLA). The license includes a copyright and patent license as well as an original creation statement. Contributions to Apache Cordova are reviewed by project committers, who may grant or deny approval. Currently there are c.27 committers listed to the Project coming from organisations such as IBM, Microsoft and RIM. However the exact commit processes are not detailed, nor are the statistics of commits from differing sources.

The process to become a Contributor is described on the Apache Cordova wiki but is still quite a closed process. "The committers will start a private vote thread discussing and voting on your potential committership, based on these guidelines and any other concerns the committers have. If no -1 votes come up, you will be notified!"<sup>13</sup>

**Derivatives**

Given that Apache Cordova is licensed under the Apache License which is a permissive OSI approved license then it is possible for any person or group to create derivatives thereof. The most interesting aspect of the Apache Cordova project is the PhoneGap derivative (distribution) thereof. Unusually the derivative project was the original project but has now handed over control and management of the source code to the Apache Software Foundation as indicated above. Since that time the PhoneGap Team has concentrated on marketing and promoting their new service PhoneGap Build which allows developers to upload their apps in either a ZIP file of HTML, CSS and JavaScript, or a single index.html file - to PhoneGap Build (a cloud offering) which then compiles and packages the App and provides back to the developer download URLs for all mobile platforms.

**Community structure**

Apache Software Foundation is open to all developers who wish to participate.

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<sup>12</sup> <http://www.phonegap.com/about>

<sup>13</sup> <http://wiki.apache.org/cordova/BecomingACommitter>



### Open webOS (formerly HP webOS)

Open webOS	
Access	16/19
Development	12/17
Derivatives	6/6
Community	2/2
Open Governance Index	74%

### Introduction

In August 2011, HP announced that they would discontinue operations for webOS devices, specifically the TouchPad tablets and Smartphones. Following on from this, HP announced that they would ‘contribute the webOS software to the open source community’ and so Open webOS, as distinct from HP webOS (the closed version of the platform) was announced in December 2012. HP stated at the time that they would continue to support Open webOS from a development, engineering and resources perspective. The Beta release of Open WebOS was announced in August 2012 and comprises 54 webOS components and over 450,000 lines of code. Open webOS includes several projects: Enyo (a JavaScript framework), WebKit/Isis, the Linux Standard Kernel, and the webOS System Manager. HP advise that the open source project will be supported by HP with regard to development effort and resources and that their intention is to manage the project in an open and transparent way.

Open webOS is described as an ‘open, single integrated stack... designed from the ground up to be mobile, cloud-connected, and scalable’. In August 14<sup>th</sup> it was reported via webOS Nation, the developer blog for Open webOS, that the HP Global Business Unit was being spun out of HP as a separate legal entity called GRAM and is going to focus on ‘software, user experience, the cloud, engineering, and partnering’<sup>14</sup>. In September 2012 Meg Whitman, CEO of HP, advised that HP has no other option but to release a smartphone because in many developing markets, that is the primary computing device<sup>15</sup>.

### Access

The webOS governance mode is both open and transparent. The model is based on the Apache governance, a prominent open source initiative. Open webOS accepts contributions via a Developer Grant and Certificate of Origin. This requires contributors to confirm that they are the author of the code but also provides HP with an explicit copyright (but not patent) grant to the source code contributed to the Project. The source code for Open WebOS is licensed under the Apache license, version 2.0. The Open webOS project website includes a wiki, a source code repository, a mailing list, and a bug tracking system and uses GitHub as the code repository, as well as JIRA to track issues.

<sup>14</sup> <http://www.webosnation.com/webos-gbu-become-quasi-independent-company-focused-user-experience-and-cloud-meet-gram>

<sup>15</sup> <http://betanews.com/2012/09/14/hps-next-attempt-at-a-smartphone-could-target-the-developing-world/>

**Development**

Open webOS includes several projects: Enyo (a JavaScript framework), WebKit/Isis, the Linux Standard Kernel, and the webOS System Manager. Each project has a Project Management Committee (PMC), comprised of committers elected within the project's community to provide oversight for the project. The PMC also decides on the project's release strategy and is responsible for releasing distributions into the community. PMC members are expected to act individually, making decisions in the best interests of the project, when acting on PMC or development lists. Each PMC is responsible for ensuring their project follows certain core requirements set by the board or other corporate officers of Open webOS. Examples include following legal, branding, and infrastructure related requirements, and ensuring their community operates in a manner similar to that outlined by the Apache Way. PMC members nominate new contributors to the project as committers, and PMC members cast votes on electing new committers to the project. PMC members also have binding votes on any project matters.

Currently all committers (distinct from public users and contributors) come from HP. The PMCs will use a system of meritocracy as a guide for adding contributors as the project progresses. All committers report to the PMC of the component they represent. The PMC uses a consensus-based decision making process to determine whether or not to take a contribution from the community and commit it to the code tree.

**Derivatives**

Enyo is the framework deployed to enable Developers to write Apps for Open WebOS. Enyo is also licensed under the Apache license v 2.0 so there are no formal limitations with regard to obtaining the source code and creating derivatives thereof. As far as we can ascertain there are no compliance requirements required in order to create or distribute Apps for Open WebOS.

**Community**

The Open WebOS community is open to all developers and there is no formal membership structure or fee. However it is principally supported and managed by HP at this point although HP has indicated their desire that the community will grow over time.

# TIZEN

## Tizen

On 27th September 2011, Intel and Samsung announced the birth of a new mobile platform called Tizen. Tizen is a successor of the MeeGo and the Samsung Linux Platform (reference platform of the LiMo operator consortium). Like MeeGo, Tizen will support multiple device categories, such as smartphones, tablets, smart TVs, netbooks, and in-vehicle infotainment devices.

Tizen	
Access	14/19
Development	7/17
Derivatives	5/6
Community	1/2
Open Governance Index	45%

In January 2012 the Tizen Association was launched. The Tizen Association is led by a Board of Directors which directs the industry role of Tizen, including gathering of requirements, identification and facilitation of service models, and overall industry marketing and education. As of September 2012 the Tizen Association includes Intel, NTT DOCOMO, Orange, Panasonic, Samsung and Huawei as officers of the association and NEC Casio, SK Telecom, Sprint, Telefonica and Vodafone as association directors. The Tizen Association is a non-profit trade association comprising Bylaws, IPR Policy, Antitrust Guidelines and Terms of Membership. The membership fee to join the Association is \$220,000USD per annum. Additionally The Linux Foundation runs the Tizen open source project.

In May 2012 Samsung showed mobile devices running on Tizen Larkspur 1.0 but we understand that we won't see production models until early 2013 at this stage. Additionally it is reported that the second half of 2012 may see new Tizen-based netbook products from Acer and Asus.

## Access

Tizen source code is available the Apache License (a permissive Open Source License) and other open source licenses that are inherited from source code that originated from the MeeGo and Maemo open source projects. In April 2012, Tizen released Tizen 1.0 codenamed Larkspur including features for W3C/HTML specification, location and WiFi. The Tizen platform now comprises an Application Framework including implementations of graphics, UI, multimedia, messaging, security, connectivity, telephony and the Tizen Web API. Tizen also provide an emulator environment which runs on Ubuntu and Windows and this is available via a proprietary SDK license issued by Samsung Electronics. However there is very little publicly available information regarding future releases and roadmaps, nor is there any information regarding how decisions are made for the Tizen platform with regard to code contributions, technical decisions or feature content decisions.

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**Development**

Developer support mechanisms for Tizen are basic but continuing to improve. Developer support is provided by the Tizen community website which documents how patches can be submitted, how to file bug reports and how to develop feature request etc. Community discussions are facilitated via mailing lists; IRC and Twitter, Google Plus and Facebook. There is no public roadmap of Tizen. Project transparency is also minimal. There is a Technical Steering Group but TSG meetings and minutes are not publicly available at this point in time. Membership in most project teams i.e. Release Engineering, QA, Program Management, etc. is by invite-only and will mainly be open to people at companies who are building products based on Tizen. These companies are those that makeup the Tizen Association. However it is also advised that Community Office, Localization, and some Middleware development teams will be open to participation on a merit basis, but what this really means is not currently known. Therefore there is not an open contribution or acceptance process. The process to become a Contributor to the project is unclear, nor could we find a formal contributions process or contributions license. The ability to become a Committer is limited to those persons from organisations that are already members of the Tizen association. There are Tizen Community Metrics published monthly detailing usage for mailing lists, IRC, JIRA activity, wiki activity etc. which are useful but also quite limited and basic.

**Derivatives**

As Tizen is an open source project, there are no formal limitations with regard to obtaining the source code and creating derivatives thereof. We are not aware of any specific compatibility requirements in order to ship devices with the Tizen trademarks at this stage nor are we aware of any Apps requirements etc. However our research does indicate that those device manufacturers who wish to be "Tizen Certified Platform" will need to agree to the Tizen FLORA license which indicates that their use of the Tizen platform that complies with the standards in the Compatibility Definition Document and passes the Compatibility Test Suite as defined from time to time by the Tizen Technical Steering Group and certified by the Tizen Association or its designated agent<sup>16</sup>. Tizen have recently announced that there will be some hardware provided to specific developers on the basis of an application evaluation and selection criteria but the fact that there is no publicly available hardware limits the ability to carry out much development and testing by the users and developers in the community.

**Community**

As above, The Tizen Association has been formed to manage the commercial and market – facing aspects of Tizen while the Tizen open source project is hosted and managed by the Linux Foundation. However this separation is vague at best given that the Technical Steering Groups, who are the decision-makers with regard to the content and direction of the Tizen platform, are chaired by Intel and Samsung and the TSG comprise personnel exclusively from those organisations that are already members of the Association. Therefore we do not see that this is an ‘open’ governance model.

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<sup>16</sup> <http://www.tizenopensource.org/license/>

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## Identify learnings for Webinos

1. There are a large number of competing open source projects all vying for developer attention and contributions. It is a necessary but not a sufficient condition for success for webinos to ensure that webinos achieves a good share of this developer attention.
2. To achieve this developer attention,webinos must ensure that it has a level playing field relative to these other open source projects with regard to access, development, derivative and community policies and processes.
3. Therefore the developer experience should be a positive and easy one with good documentation, clear and transparent processes with meritocracy at the centre of the governance model.
4. Webinos must have some commercial sponsors who are both committed and aligned to the webinos project; without commercial sponsorship the liklihood of the webinos projects success will be lower.
5. Openness and Transparency are generally expected to be a minimum requirement with regard to the creation of any successful open source project.
6. What is the gap between where webinos is now and where it needs to be to acheive this? How can we plug this gap? We recommend a next step that there is a comparative analysis carried out on the current webinos open governance index to identify the baseline and what needs to happen to ensure that webinos acheives an OGI score of 70%+

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## Best Practice Recommendations

Our original report analysed best practices across Android OS, MeeGo, Qt, Symbian, WebKit, Eclipse, Mozilla and Linux. We have also identified the same best practices in Apache Cordova (PhoneGap); Open WebOS and Tizen. The purpose of this section is to reiterate the continued importance of these best practices.

### Access

1. Source code is available with no discrimination by either developer category, timeliness of access or accessibility to all of the source code

All OSS projects reviewed meet the above practice, with the exception of Android.

2. Use of an Open Source Initiative (OSI) Approved Open Source License and ideally a License that is permissive such that Commercial entities can use the License with least concern regarding copyleft or other obligations/restrictions

All Projects under review here provide source code under OSI Approved Licenses.

3. All developer support mechanisms should be available to all developers

All projects provide comprehensive user and developer tools, forums, mailing lists, bug tracking databases etc. The easier it is for developers to learn the source code, development mechanisms etc. the faster developers will be able to contribute code to the project.

4. Complete availability of the project roadmap, ideally with an explicit ‘call for contributions’ to the Roadmap

Qt provided good roadmap detail with an explicit call for contributions alerting developers where to direct their efforts. Android provides no project roadmap, therefore it is difficult for developers to know where to direct new source code development efforts. This is frustrating for developers when they spend time and effort developing certain functionalities and then discover that this is either unwanted or has already been developed by another party.

5. There are transparent project decision-making processes and project meeting minutes/discussion databases are freely accessible to all

Contributors and developers want to understand why and how decisions are made. Opaque decision-making processes ultimately lead to developer frustration and possible withdrawal from the project. All projects, except Android and Tizen, provide this information.

### Development

1. Code contributions and acceptance process should be clear and ideally simple

All Projects provide code contributions processes and these vary from simple instructions to more complicated processes which mandate the contribution license that must be used and also carry out formal IPR reviews of the code (e.g. Eclipse)

2. It should be possible to identify from whom code contributions have been provided, both at a developer as well as at an organisational level

Linux and Eclipse provide excellent project statistics that reflect code contributions from developers and organisations. There is no reason why all projects cannot also provide this information which promotes transparency and openness within the project.

3. Selection/election of committers should be transparent and equitable i.e. it should be possible for all developers to become committers

Project Committers (also known as Reviewers/Maintainers) have a crucial role in the project as they determine the critical control-point of what code is accepted into the project.

Committer control can either be centralised via committers only from one organisation/part of the project e.g. Android, Tizen; or control can be decentralised and reflective of all parts of the community (MeeGo, WebKit, Eclipse, Mozilla or Linux). To provide a level playing field and maintain developer commitment to the project, the process by which committers are elected should be open, transparent and available to all developers in the community.

4. Transparency of Committers i.e. it is possible to identify who committers are in an open source project.

Committers have ultimate project control via their authority to commit code to the project and so it is important from a transparency and openness perspective that committers are publicly known. Our research indicates that this information can be found via trawling through mailing lists and exchanges between developers but we believe best practice should be to openly and publicly identify committers to the project.

5. Contribution license should provide a copyright & patent license to the open source project Provided that the appropriate open source project license is chosen from the outset then a copyright license and patent license should be sufficient with regard to IPR management.

#### **Derivatives**

1. Where Compliance Frameworks are required for the Open Source Project, then Trademarks can be used to establish and mandate this process.

Only Android mandates that compliance requirements must be met before using the project trademark. Generally compliance frameworks are required to ensure implementations of the project or applications/derivatives created for the project run seamlessly across various implementations. If a compliance framework is necessary to the integrity of the open source project deliverables, then the management of such compliance should be handled sensitively as such controls can be perceived negatively, depending on how invasive and deep the compliance requirements are.

2. There should be minimal constraints on go-to-market channels for applications created by/for the project.

In order to promote use and proliferation of the open source project, applications availability should be as unhindered as possible in terms of approval, distribution and discovery. Whilst there may be security and/or marketing imperatives that must be met, these should not detract from the ability to create applications for the open source project. A successful ecosystem makes for a successful open source project.

#### **Community**

1. The community structure should be as equitable as possible, without tiered rights. Symbian, Eclipse and Tizen have tiered membership structures to the extent that there is a 'Board' which makes decisions that non-members cannot influence or be involved in. In fact, in the Tizen open source project only Tizen members can be committers and only members

can be part of the Technical Steering Group. This is in contrast with the other eight open source projects which do not operate a tiered rights policy.

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## **webinos – current level of open governance and next steps to ensure open governance**

Webinos should implement Best Practices as identified above. These are:-

Access:-

1. Provide source code to all users with no discrimination (?)
2. Use an open source license (Apache)
3. Developer Support Mechanisms (?)
4. Is webinos Project Roadmap available (?)
5. Ensure that Project Meeting Minutes and discussion databases are freely accessible to all (?)

Development:-

1. Transparency of code contributions process (?)
2. Transparency of code contributions by contributor (?)
3. Accessibility to become a comitter (?)
4. Transparency of committers by organisation (?)
5. Copyright and Patent license (Apache)

Derivatives:-

1. Trademark use to control platform (?)
2. Go-to-market constraints for applications (?)

Community

1. Is the community structure flat or tall i.e. tiered rights (?)

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## Appendix I – Open Governance Criteria

### Access

1. Is source code freely available to all developers, at the same time?
2. Is source code available under a permissive OSI-approved license?
3. Developer support mechanisms – are project mailing lists, forums, bug-tracking databases, source code repositories, developer documentation and developer tools available to all developers?
4. Is the project roadmap available publicly?
5. Transparency of decision mechanisms – are project meeting minutes/discussions publicly available such that it is possible to understand why and how decisions are made relating to the project?

### Development

6. Transparency of contributions and acceptance process – is the code contribution and acceptance process clear, with progress updates of the contribution provided (via Bugzilla or similar)?
7. Transparency of contributions to the project – can you identify from whom source code contributions originated?
8. Accessibility to become a committer – are the requirements and process to become a committer documented, and is this an equitable process (i.e., can all developers potentially become committers?). Note that a “committer” is a developer who can ‘commit’ code to the open source project. The terms ‘maintainer’ and ‘reviewer’ are also used as alternatives by some projects.
9. Transparency of committers – can you identify who committers to the project are?
10. Does the contribution license require a copyright license and patent grant?

### Derivatives

11. Are trademarks used to control how and where the platform is used via enforcing a compliance process prior to distribution?
12. Are go-to-market channels for applications derivatives constrained by the project in terms of approval, distribution or discovery?

### Community Structure

13. Is the community structure flat or hierarchical (i.e., are there tiered rights depending on membership status?)