



# Bringing Wikipedia to Work: Open Collaboration within Corporations

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**Wikimania 2007**

### The three principles of open collaboration

- **Egalitarian:** everyone can contribute
- **Meritocratic:** contributions are valued based on quality
- **Self-organizing:** collaborators develop their own processes

### Open collaboration drives wikis, open source, etc.

- Open collaboration motivates and empowers collaborators
- Open collaboration utilizes resources you never knew you had
- Open collaboration can lead to superior results

### Wikipedia is based on these open collaboration principles

### How to bring open collaboration (and its benefits) to work?

# PART I

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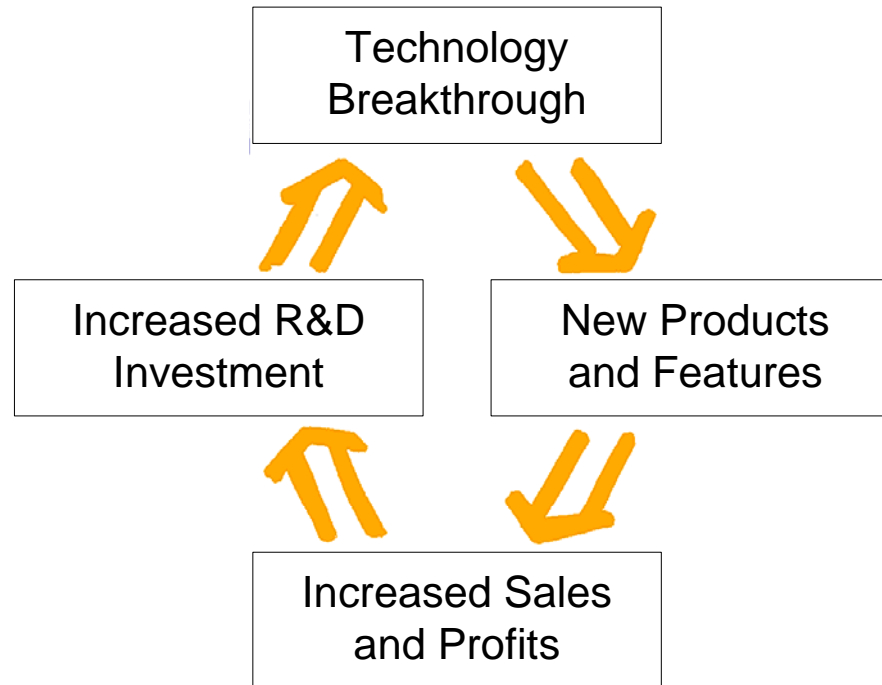
**Open innovation...**

**Open space...**

**Open source...**

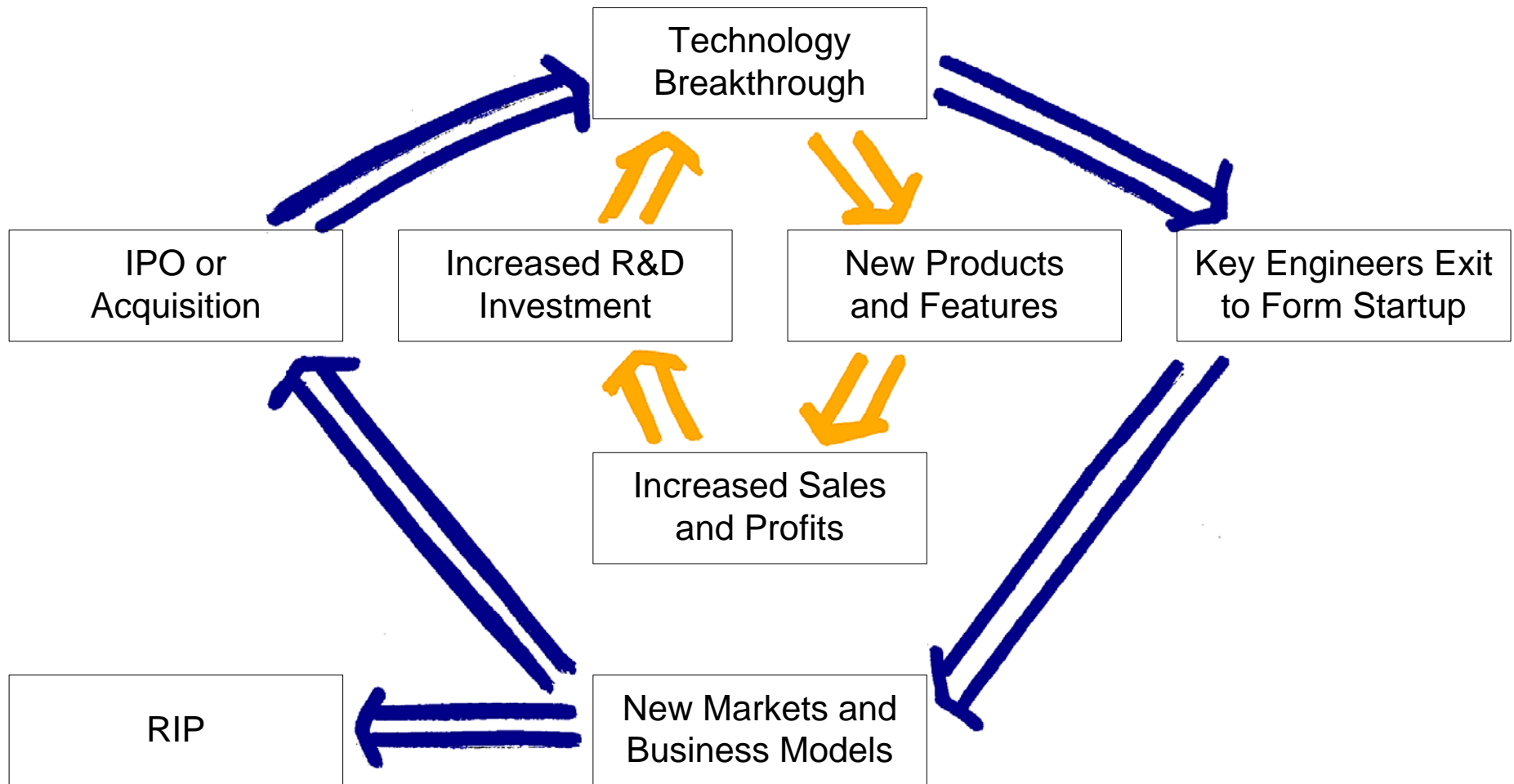
**Open collaboration...**

# Traditional "Closed" Innovation



From: Henry Chesbrough, Open Innovation, HBS Press, 2003

# The Open Innovation Life-Cycle



# Principles of Closed vs. Open Innovation

## Closed Innovation

- The smart people in our field work for us
- To profit from R&D, we must discover it, develop it, and ship it
- If we discover it ourselves, we will get it to market first
- The company that gets an innovation to market first will win
- If we create the most and best ideas of the industry, we will win
- We should control our IP so that our competitors don't profit from us

## Open Innovation

- Not all the smart people work for us; we need to work with outside people
- External R&D can create significant value
- We don't have to originate the research to profit from it
- Building a better business model is better than getting to market first
- If we make the best use of internal and external ideas, we will win
- We should profit from other's use of our IP and we should buy others' IP if it advances our business model

## **A meeting technology**

- **Invented about 20 years ago by Harrison Owen**
- **Surprisingly effective, thrives in complex situations**
- **Acknowledges and explicitly works with self-organization**

## **Based on four principles and one law**

- **Whoever comes is the right people**
- **Whatever happens is the only thing that could have**
- **Whenever it starts is the right time**
- **When it's over it's over**
- **The law of two feet**

## **Only two failure modes**

- **No passion of people**
- **Attempted process control**

### **No single corporate entity owns the source code**

- Sometimes non-profit regulates affairs based on broad consensus

### **Interactions, copyright, patents are regulated by license**

- Usually copyright remains with programmer/company

### **Rank and position are determined by peer evaluation**

- But beware of initial conditions, commercial interests, status greed

### **Commercial open source follows related principles**

**From: Dirk Riehle, The Economic Motivation of Open Source: Stakeholder Perspectives, IEEE Computer, April 2007**



# Benefits of Community Open Source

## **For the software development process**

- **Fast and free feedback loops by engaged users**
- **Broad skill set of interested developers**

## **For the businesses behind the people**

- **Faster, leaner, easier marketing**
- **Sharing of development cost, free contributions**

**Much of this because of the law of the two feet**

## **Community open source process...**

- **Recognizes smart people are spread around**

## **Community open source businesses...**

- **Recognize significant value can come from outside work**
- **Recognize competition is with business models, not technology**
- **Recognize to win you need to combine the internal with external**

## **Community open source...**

- **Also leads open innovation in important aspects**

# Open Source Forges and Collective Intelligence

The image shows two overlapping browser windows. The background window is SourceForge.net, displaying a navigation menu with 'SF.net', 'Projects', 'My Page', and 'Help'. The foreground window is freshmeat.net, showing a search bar, a navigation menu, and a list of project news. The news items include 'Asymptote 1.25 released', 'Gallery 1.5.6 Released', 'KeePass 2.02 Alpha released', and 'Pantheios 1.0.1 (beta 24) Released'. The main content area features a search bar and a list of projects, including 'znc 0.047' and 'curl and libcurl 7.16.2'. The right sidebar contains a login form and a 'LATEST ARTICLES' section.

**SourceForge.net**  
 Create, Participate, Evaluate  
 SF.net | Projects | My Page | Help

**freshmeat.net**  
 home | browse | articles | contact | chat | submit | faq | newsletter | about | stats | scoop  
 Search for [ ] in projects [ ] Go Section Main [ ] Go  
 login << register << recover\_password <<

**Project News RSS**

- Asymptote 1.25 released** 2007-04-11 14:15 - Asymptote  
 Asymptote (<http://asymptote.sourceforge.net>) is inspired by MetaPost but with an improved C typesetting that LaTeX does for scientific text. [Read More »](#)
- Gallery 1.5.6 Released** 2007-04-11 14:12
- KeePass 2.02 Alpha released** 2007-04-11
- Pantheios 1.0.1 (beta 24) Released** 2007-04-11

[Project news archive »](#)

**Software Categories**

- Clustering
- Database
- Desktop
- Enterprise
- Financial
- Games

**znc 0.047**  
 by [prozax](#) - Wed, Apr 11th 2007 15:14 PDT  
**About:** ZNC is an IRC bounce/proxy with many advanced features like detaching, multiple users, multiple clients per user, channel/query playback buffers, SSL, IPv6, transparent DCC bouncing, C++/Perl module support, party line, and Web administration.

Categories	Focus	License	URLs
Communications :: Chat :: Internet Relay Chat	N/A	GNU General Public License (GPL)	<a href="#">Home</a> <a href="#">Icons</a> <a href="#">RSS</a> <a href="#">Print</a> <a href="#">Search</a>
Internet :: Proxy Servers			

**curl and libcurl 7.16.2**  
 by [Daniel Stenberg](#) - Wed, Apr 11th 2007 15:14 PDT  
**About:** curl and libcurl is a tool for transferring files using URL syntax. It supports HTTP, HTTPS, FTP, FTPS, SCP, SFTP, TFTP, DICT, TELNET, LDAP, and FILE, as well as HTTP-post, HTTP-put, cookies, FTP upload, resumed transfers, passwords, port numbers, SSL certificates, Kerberos, and proxies. It is powered by libcurl, the client-side URL transfer library. There are bindings to libcurl for over 30 languages and environments.

**XML**  
 Take me to a [random project](#).  
 Apr 11 2007  
 prev go next

**Username**  
  
**Password**  
  
 Remember me

Please note that you must have **cookies** enabled in your browser to be able to log in.

**LATEST ARTICLES**

**Editorials**  
 - [Java Web Services Tools \(Feb 24th\)](#)

**freshmeat**  
 - [freshmeat fone \(Apr 1st\)](#)



## Bringing Open Source In-House

### **Hewlett-Packard's "progressive open source"**

- Inner source (within firewall)
- Controlled source (in DMZ with partner access)
- Open source (on the "open" Internet)

### **Progressive open source to address the following problems:**

- Left hand does not know what right hand is doing
- Large firms get frequently reorganized, lose institutional memory

**Does open source provide the same benefits in-house as outside?**

**From: Dinkelacker et al, Progressive Open Source, ICSE '02, IEEE Press**

# SAP's Internal Software Forge

The screenshot shows a Mozilla Firefox browser window displaying the SAP Forge website. The browser's address bar shows the URL <https://forge.sap.corp/>. The website's header features the SAP FORGE logo on the left, a search bar with a dropdown menu set to "Software/Group" and a "Search" button in the center, and "Logout" and "My Account" links on the right. Below the header is a navigation bar with three tabs: "Home" (highlighted in yellow), "My Stuff", and "Wanted".

The main content area is titled "Welcome to SAP Forge!" and contains the following text:

SAP Forge is a collaboration system that was set up in order to encourage cooperative work within SAP. Why? Because the success of most projects nowadays depends on the quality of collaboration between people. This includes internal collaboration among project members and external collaboration with other groups.

SAP Forge provides tools for increased transparency and improved collaboration. It makes it easier for people to collaborate and accumulate shared knowledge, even when they are spread across multiple sites, countries, and time zones.

Specifically, SAP Forge provides:

- A single point of entry for all project-related information
- Message boards / discussion forums
- Issue trackers for: bugs, feature requests, patches, etc.
- Task management
- Mailing lists
- Website hosting
- Permanent archival for file releases
- Document management
- News & announcements
- Surveys
- Source Code Management (SCM) repositories like CVS and Subversion (Perforce integration is being planned)
- Full backup
- Total web-based administration

**Participation**

To get the most out of SAP Forge, you'll need to [register as a site user](#). This will allow you to participate fully in everything SAP Forge has to offer. You may of course browse the site without registering, but will *not* have access to all of its features. If you have questions or you need help, use the [help forum](#).

**Set Up Your Own Project**

[Register as a site user](#), then [login](#) and finally, [register your project](#).

**Help Improve SAP Forge**

You can help make SAP Forge better by [reporting bugs](#), [suggesting features](#), [helping other users](#), or [writing code](#).

Wishing you pleasant collaboration,  
The SAP Forge team

The right sidebar contains several statistics and lists:

- SAP Forge Statistics**
- Top Project Downloads**
- Highest Ranked Users**
- Most Active This Week**

Each of these sections includes a list of items and a "[ More ]" link. The browser's status bar at the bottom shows "forge.sap.corp" and a small icon.

**Egalitarian:** whoever shows up is the right people

- On the Internet: whoever cares
- Within a corporation: whoever cares

**Meritocratic:** contributions are evaluated based on their merits

- Status and seniority do not grant extra rights
- Egalitarian and meritocratic view of peers

**Self-organizing:** follows its own processes

- Meta-contributions (processes) are contributions too
- Contributors ensure context fit but allow for idiosyncratic variation

Has found a straightforward expression in wikis

# PART II

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**Wikis and open collaboration**

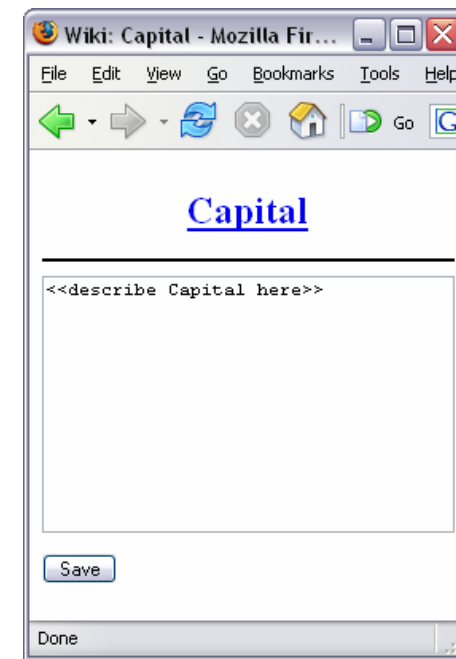
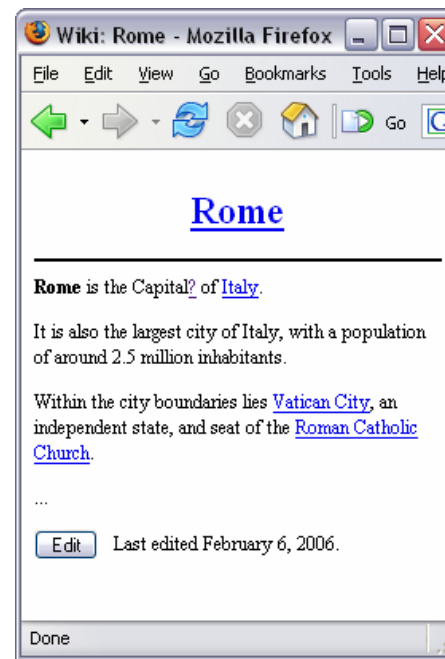
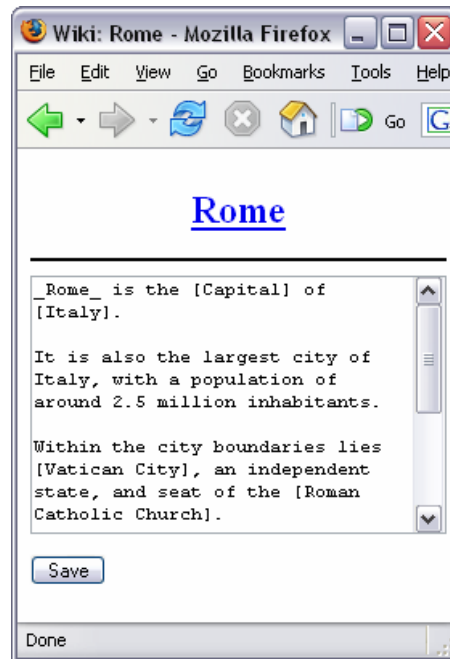
**Wikis and software projects**

**Seeding and gardening a wiki**

**More wiki best practices**

## What's a wiki?

- The simplest collaboration tool that could possibly work
- (Paraphrasing the inventor, Ward Cunningham, 1995)
- Most well-known example: Wikipedia

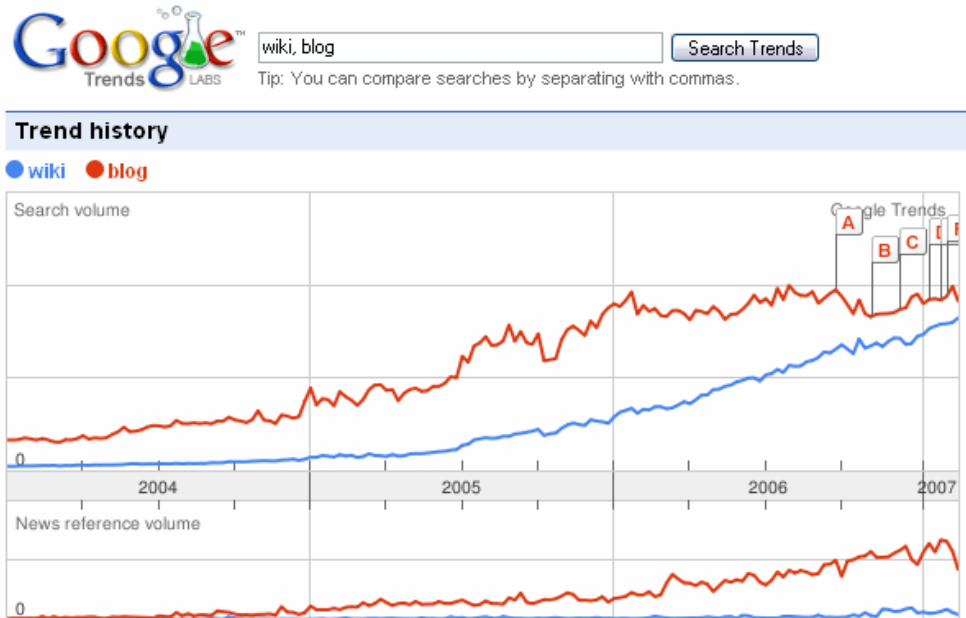




# Public and Corporate Uses of Wikis

	<b>Public Internet</b>	<b>Institutional</b>	<b>Single-Person</b>
<b>Content Management and Portals</b>	<ul style="list-style-type: none"> <li>University dept portals</li> <li>Event portals</li> <li>News portals, blogs</li> </ul>	<ul style="list-style-type: none"> <li>In-house portals</li> <li>Blackboard systems</li> <li>Simple filing system</li> <li>Meeting org and notes</li> </ul>	
<b>Collaboration</b>	<ul style="list-style-type: none"> <li>Event organization</li> <li>Non-profit sites</li> <li>Collaborative authoring</li> </ul>	<ul style="list-style-type: none"> <li>Educational uses</li> <li>Lightweight WfM</li> <li>Lightweight DS</li> </ul>	
<b>Knowledge Management</b>	<ul style="list-style-type: none"> <li>FAQ, self-help</li> <li>Ref. lists, bibliographies</li> <li>General encyclopedias</li> <li>Domain-specific KM</li> </ul>	<ul style="list-style-type: none"> <li>FAQ, self-help</li> <li>Ref. lists, bibliographies</li> <li>Glossaries, handbooks</li> <li>Organizational memory</li> <li>Community of practice</li> <li>Software dev processes</li> </ul>	<ul style="list-style-type: none"> <li>Personal Information Mgmt (PIM)</li> </ul>
<b>Communities</b>	<ul style="list-style-type: none"> <li>Campaign sites</li> <li>Newspapers</li> <li>Wasting time...</li> </ul>	<ul style="list-style-type: none"> <li>Cross-functional shared interest</li> </ul>	
<b>Application Platform</b>	<ul style="list-style-type: none"> <li>Integrator for mash-ups</li> </ul>	<ul style="list-style-type: none"> <li>Small custom apps</li> <li>Tool integration protocol</li> </ul>	

# Proof Points for the Importance of Wikis



**Cities** [Regions](#) [Languages](#)

Top cities (normalized)

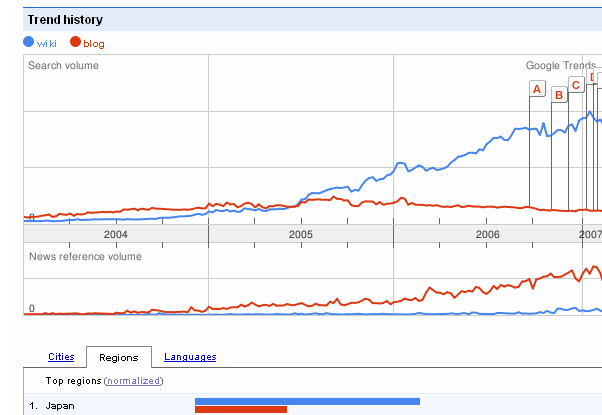
1. Tokyo, Japan	
2. Chiyoda, Japan	
3. Nagoya, Japan	
4. Osaka, Japan	
5. Singapore, Singapore	
6. Pleasanton, CA, USA	
7. Vienna, Austria	
8. Sydney, Australia	
9. Dublin, Ireland	
10. Austin, TX, USA	

## Socially and culturally

- Wikipedia
- Domain-specific wikis

## Commercially

- Software products
- Analyst coverage



Japan

<b>Open</b>	<b>Unified</b>
<b>Incremental</b>	<b>Precise</b>
<b>Organic</b>	<b>Tolerant</b>
<b>Mundane</b>	<b>Observable</b>
<b>Universal</b>	<b>Convergent</b>
<b>Overt</b>	

From: Ward Cunningham, Design Principles of Wiki, WikiSym 2006 Keynote

# Wikis and Open Collaboration

**Egalitarian:** Everyone is invited (within a given context)

**Meritocratic:** Contributions are evaluated based on their merits

**Self-organizing:** Wiki communities develop their own processes

For more details, please see:  
**Dirk Riehle, How and Why Wikipedia Works: An Interview With Angela Beesley, Elisabeth Bauer, and Kizu Naoko, WikiSym 2006, ACM Press**



## For internal collaboration

- **Hardly a tech company without an internal wiki these days**
- **Standalone or integrated with other tools, for example, a forge**
- **Chordiant uses wikis for project management and collaboration**
- **IBM used a wiki to develop its IP manifesto, base of its new IP policy**

## To engage with the ecosystem

- **Wikis are becoming a tool of open collaboration with the ecosystem**
- **Like internal collaboration, well integrated with ecosystem processes**
- **F5: DevCentral for technical users community for shared development**
- **SAP's SDN wikis for knowledge sharing in SAP's ecosystem**

**Addition to email, spreadsheets, file sharing, and instant messaging**

**Partly taken from: BusinessWeek.com, No Rest for the Wiki, March 2007**

## Uses in software projects

- Requirements definition
- Product and project management
- Project and system documentation
- Project reporting (by hand as well as automated)
- Describing and running functional tests (FIT)

## Dominant use is for KM (from RTFM to RTFW)

- How the source code is laid out
- The meaning of some core abstractions
- How to set up your local build environment
- Where to find the reports
- And so on...

**Have dedicated evangelist and seeder for wiki**

**Release only with content; don't release empty wiki**

**Choose a wiki engine with a beginner's option**

**Have well-working RSS feeds and reader culture**

**Offer templates for common tasks and common wiki pages**

**Reduce friction through help pages, provide training**

**Direct requests for information to wiki where applicable**

**Integrate wiki with your standard business processes**

**Add wiki collaboration to performance management**

**Be bold! (In editing and refactoring, from Wikipedia)**

**Develop and use clear conventions and categories**

**For contentious contents, use a talk page rather than a phone**

**Depending on the content, sign your contributions**

**Develop process along with regular contents**



**Allow for multiple wiki instances**

**Scope of a wiki should be topic-oriented, not task-oriented**

**Organize by products/components rather than projects**

**Err on the side of larger but few wikis to avoid balkanization**

**Don't forget but be light on access restrictions**

**Have senior management buy-in and participation**

**Create credibility by bringing in outside experts**

**Look to and learn from Wikipedia for working processes**

### **Egalitarian:** Everyone is invited (within a given context)

- Be light on access restrictions
- Don't erect artificial boundaries
- Encourage participation

### **Meritocratic:** Contributions are evaluated based on their merits

- Don't sign contributions where unnecessary
- Don't use status and seniority as arguments
- Have senior management accept critique like everyone else

### **Self-organizing:** Wiki communities develop their own processes

- Be bold in editing and refactoring (don't be afraid of change)
- Watch for and codify emerging (business) processes

**We are experiencing a major shift in the IT industry**

**Open collaboration provides new principles of engagement**

**Open source and wikis are great tools for such engagement**

**Companies can benefit internally from open collaboration**

## Internet

- **Wikipedia:** <http://www.wikipedia.org>
- **SDN wikis:** <https://www.sdn.sap.com/irj/sdn/wiki>
- **BusinessWeek.com, No Rest for the Wiki, March 2003**

## References

- **Henry Chesbrough, Open Innovation, HBS Press, 2003**
- **Dirk Riehle, The Economic Motivation [...], IEEE Computer, April 2007**
- **Dinkelacker et al., Progressive Open Source, in ICSE '02, IEEE Press**
- **Ward Cunningham, Design Principles of Wiki, WikiSym 2006 Keynote**
- **Dirk Riehle, How and Why Wikipedia Works, WikiSym 2006, ACM Press**