Web 2.0 Wiki Technology: Enabling Technologies, Community Behaviors, and Successful Business Techniques and Models

by

Ilana Davidi

Submitted to the System Design and Management Program in Partial Fulfillment of the Requirements for the Degree of

Master of Science in Engineering and Management

at the

Massachusetts Institute of Technology February 2007

© 2006 Ilana Davidi All rights reserved

The author hereby grants to MIT permission to reproduce and to distribute publicly Paper and electronic copies of this thesis document in whole or in part

Author				
				Ilana Davidi
			System Design &	& Management Program
				February 2007
	. ^	. /	-	
Certified by			~	
	4			Michael Cusumano
Sloan	Management Re	view Distinguis	shed Professor, MIT Sloan	School of Management
(.11	$ \land \land \land$	(1)	
Certified by			·	
SACHUSETTS INSTITUTE				Patrick Hale
OF TEOHNOLOGY				Director
FEB 0 1 2008			System Design &	& Management Program
	ARCHIVES			

IBDADIEC

Table of Contents

Table of Figu	ires	4
Abstract		5
Acknowledg	ements	6
Chapter 1:	Thesis Motivation and Approach	7
1.1 Ba	ckground and motivation	7
1.1.1	Approach	7
1.1.2	Structure of thesis	8
1.2 Int	roduction to Key Concepts	9
1.2.1	Welcome to Web	9
1.2.2	Web 0.2: Flat Text and Blink Tags	10
1.2.3	Web .9: Brochures	11
1.2.4	Web 1.0: The DotComs	12
	.b 2.0	
	b 2.0: Wikis	
1.4.1	What is a Wiki?	14
Chapter 2:	Technology	17
2.1 Teo	chnology History	17
2.1.1	Early Content Storage	
2.2 Ena	abling Technologies	
2.2.1	Databases	
2.2.2	Front end	24
2.2.3	WikiText	25
2.2.4	WikiText Alternatives	26
2.2.5	Look and Feel	28
2.3 Sec	curity Models	29
2.3.1	Fighting Technology without Technology	30
2.3.2	Access control	30
2.3.3	Revision/Version Capture	32
2.3.4	Monitoring through Crawlers	34
Chapter 3:	Community	36
3.1 Int	oduction	36
	itude history	
3.2.1	Open Source Attitude outside of Open Source	
3.2.2	Web logs	
3.2.3	Wiki	
	o writes Wikis	46
3.3.1	Problem of people not understanding purpose	
3.3.2	The Reversal: Using the online community to perfect the real community	
3.4 Th	eats to Community	50
3.4.1	Threats: Bots	
3.4.2	Threats: Spam	

3.4.3	Threats: Malicious behavior	55
3.4.4	Does community policing strengthen or weaken the community?	57
Chapter 4:	Business	59
4.1 W	hy Wiki	59
	arting out: Types of sites that may succeed	
4.2.1	Build something useful	
4.2.2	Center on a subject which evokes passion	
4.2.3	Establish credibility within the community	
4.2.4	Make the site inviting	
4.2.5	Avoid barriers to entry as possible	
	couraging an active writing community	
4.3.1	Advertise the need for content	
4.3.2	Be robust and reliable	
4.3.3	Perceived reward: Work recognition	
4.3.4	Pay them	
4.3.5	Monitor the site	
4.3.6	Simple corrections	
4.3.7	Do not over-monitor the site	84
4.3.8	Simple questions	
4.3.9	Keep trying new tactics	
	eating a sustainable business	
4.4.1	Advertising	
4.4.2	Partnerships	
4.4.3	User fee/Subscription	
4.4.4	Acquisition	
4.4.5	Establishing a "volunteer fire department"	
4.4.6	How do you know when to stop?	98
Chapter 5:	Conclusion	
Chapter 6:	Appendices	
6.1 Ap	opendix A: Survey Questions	
6.2 Ap	ppendix B: Survey Data	
	ppendix C: List of Largest Wikis	
6.3 Ap	ppendix D: Bibliography	

Table of Figures

Figure 1 An early web site. Gratuitous, disorganized graphics.	. 11
Figure 2 A Brochure Site: shows information, takes none in.	. 12
Figure 3 Yahoo Bill Pay; example of DotCom era site	
Figure 4 Microsoft Word document showing tracked changes and comments.	
Figure 5 The FactoryMethodPattern page from WardsWiki. Note the "EditText" last edited date of June 8,2006.	
Figure 6 FactoryMethodPattern last edit page shows result of last revision.	
Figure 7 WikiText explanation on a site without a WYSIWYG component.	
Figure 8 Example of a WYSIWIG (buttons up top) editor with WikiText in text box	
Figure 9 Resulting entry from above.	
Figure 10 A CAPTCHA which uses math to avoid robots	. 30
Figure 11 A CAPTCHA which uses visual tricks.	. 31
Figure 12 This history page for CNN.	. 33
Figure 13 Screen shot of a diff page, showing the differences between two consecutive versions of the page	. 34
Figure 14 Wikimedia's page requesting donations.	. 37
Figure 15 GNU's mascot	
Figure 16 SourceForge.net is an online space for developers to work jointly on software projects	. 39
Figure 17 User opinions on ePinions.com	
Figure 18 Listing of user reviews on TripAdvisor.	.45
Figure 19 Screen shot of more perfect	.49
Figure 20 Screenshot of the more perfect page, showing an untouched Wiki stub.	50
Figure 21 Articles from Wikis focusing on dealing with spamming within Wikis	53
Figure 22 Screenshot of the "talk" section of the Wikipedia article on Bill Gates.	
Figure 23 A variety of Wiki sites listed at wikiindex.com	61
Figure 24 Creating a "business trip" for the Wikitravel community	
Figure 25 Even for a term as popular as "ice cream," Wikipedia is still listed in the top five entries	. 66
Figure 26 The Technology and Social Action Wiki	
Figure 27 This Wiki site provides a place for those who want to build an ecovillage to discuss their plans	.70
Figure 28 Cleanup page for HomestarRunner Wiki.	
Figure 29 A call to action. Note text which says, "This is your Wiki - feel free to build it."	.75
Figure 30 This Wiki page focuses in on user-chosen Wiki sites which have "Great Features."	.77
Figure 31 Wikipedia's featured articles	
Figure 32 Recent changes pages on the Sons of Sam Horn Wiki	83
Figure 33 Wikipedia's fundraising page, featuring the donation box	87
Figure 34 Wikia page showing subtler Google ads in right margin	89
Figure 35 Example of IntelliTXT on IntelliTXT own page.	91
Figure 36 Google ads on moreperfect.org. o	92
Figure 37 Partner sites listed at Hotels.com (a non-Wiki, Internet commerce site)	93
Figure 38 Sons of Sam Horn forums.	97

Web 2.0 Wiki Technology: Enabling Technologies, Community Behaviors, and Successful Business Techniques and Models

By

Ilana Davidi

Submitted to the System Design and Management Program in partial fulfillment of the requirements for the degree of Master of Science in Engineering and Management

Abstract

Many technologies fall under the umbrella of what is commonly known as "Web 2.0," including the Wiki, a software product which allows multiple users to review and edit documents online. Like all Web 2.0 technologies, Wikis are characterized by collaboration; without an active community, they can rapidly become stale and of little use.

Businesses based on collaborative web sites must effectively manage a large circle of what are essentially non-employees with perhaps no or little interest in the company other than the benefit they derive from the information offered through the site. The company must provide this benefit to them and give them a desire to keep the site running in order to do its best to ensure itself with a sustainable revenue model.

This thesis seeks to discover how a business can create visibility, maintain an eager-to-contribute user base, and generate revenue from users' effort. It will examine the evolution of technology which has created the collaborative Web 2.0 tools, specifically the Wiki. It will then move into looking at the social networks that must be created to sustain the Wiki. Lastly, it will examine the business models and techniques that can enable a savvy company to earn a profit from the use of these technologies.

Thesis Advisor: Michael Cusumano Title: Sloan Management Review Distinguished Professor of Management

Acknowledgements

First and foremost, I would like to acknowledge and thank Professor Michael Cusumano, my advisor on this thesis. He was an inspiration to me as the professor of the "Business of Software" class at Sloan and has been very supportive throughout the course of this thesis. His advice both in class and on this thesis has helped me see the software business in many different ways.

I have a number of other professors to thank, including Nancy Leveson, who caused me to take a second look at the software I had been doing for ten years and think about what goes into its design and implementation, as well as the human factors which surround it. I also want to thank professors Tom Allen and Pat Hale for admitting me into the SDM program at MIT and for being supportive throughout my journey. Lastly, thank you to Mr. Pane, Ms. Conley, and Mrs. Engdahl, all English teachers in high school and junior high school who had a large effect on my love of writing and (what I like to call) my superior grammatical awareness.

I could never be where I am today without the love and support of my family. A huge thank you to my parents, Margaret and Ahron (aka DavidiMom and DavidiDad) for their never-wavering belief in me and my ability to be accepted to, attend, and graduate from MIT (IALAC). I am so lucky to have such loving and supportive parents and appreciate them more than they will probably ever know. Thanks to my sister Eve and her wonderful family, Jeff, and Hannah Feuerstein for a never-ending string of encouraging words and laughter, and for a phone line I know is always open. Thanks also to my Aunt Helen and cousin Lewis Gordon for their constant encouragement.

Thanks to the love of my life, Daniel Reeves, for his constant support and for always being able to make me smile (and for his living in Florida, the three-hour trip to and from which provided me with ample time to edit this thesis). Thanks to all my friends around the country for enduring the constant, "Can't talk...working on my thesis," and to Elizabeth Kadlub, Suzanne Merrall, Katie Minardo, John Robidoux, Kellie Sheffield, and the Damn Drunks in Atlanta for their unending support and encouragement. Lastly, thanks to Yoav Shapira not only for his friendship, but for his excellent proofreading and advice.

Thanks to all for their love and support and for those who took the time to contribute to my survey. Thanks also to my coworkers at CarGurus for providing inspiration. To all those in the blogosphere who helped me pass my survey links on and who somehow always found time to comment on my postings – thanks!!!

Chapter 1: Thesis Motivation and Approach

1.1 Background and motivation

This thesis is going to explore the intricacies of hosting and managing a community site online, specifically as it pertains to Wiki sites. The motivation for this thesis grew from a Web 2.0 paper that I co-wrote with three of my classmates for a class on the software business. While researching that paper, I began to wonder about how two of the major components of what is commonly called "Web 2.0" were linked: technology and community.

I then joined a startup firm based on Web 2.0 technologies, and became interested in how such companies generated revenue. It occurred to me that for such a company to be successful, we needed to have a strong intersection of technology, community, and business savvy.

1.1.1 Approach

I took a multi-pronged approach to collecting data and researching material for this thesis, most of them using the actual technologies I will discuss.

First, I started with a background in the topic. I have been in the Internet industry for 10 years, and have focused on software and the software business. Through connections I have made within this industry, I have stayed up-to-date on the latest technologies. This basis of knowledge helped to provide a solid foundation from which I could expand my data set. Second, I conducted an extensive literature review, primarily based on papers and articles

available on line. I used a variety of sources including personal blogs, professional blogs,

journal and magazine articles, and books.

Third, I set up a survey on SurveyMonkey.com. These questions were as follows:

- 1. Do you consider yourself technically savvy?
- 2. How many hours a day are you on a computer?
- 3. Do you blog? If so how many do you maintain?
- 4. Have you ever visited a Wiki site such as Wikipedia?
- 5. Have you ever contributed to an online forum or Wiki?
- 6. If you answered "Yes" to #5 what made you contribute to a Wiki?
- 7. What other factors could make you contribute?
- 8. Have you ever used the "track changes" feature in Microsoft Word or other word processor?
- 9. How many times a week do you go visit with friends?
- 10. How did you find out about this survey? If I can contact you further about your answer please leave me your email address

Fourth, I set up a Wiki site at http://www.writemythesis.com to see if people would continue to

update my thesis.

Finally, I tried to apply my incremental findings to my full-time employment as I discovered new

data, techniques, or information through work conducted on this thesis.

1.1.2 Structure of thesis

Wikis are enabled by good technology strategy and by a strong community. Both of these

features contribute to a robust business model. These three factors define the lines by which I

have divided the content of this thesis into chapters: technology, community and business.

It has been difficult to separate Web 2.0 technology from its community; each is equally important to the Web 2.0 movement. This thesis will first address the technological component of Web 2.0 and Wiki technologies before moving on to look at the social requirements, and finally onto the business models that can allow companies to profit from the use of these collaborative technologies.

1.2 Introduction to Key Concepts

Before diving into the main points of this paper, some background on the history of the web and its related technologies must be explored.

1.2.1 Welcome to Web

A high-level view of the history of the Internet would reveal that it grew from ARPANET, a military tool. As time has progressed, so has the Internet and its capabilities. Those such as Tim Berners-Lee, the inventor of the hypertext-based Internet, have taken the server-to-server capabilities provided by these military products and created client layers so that information could be shared among many people.

The original incarnation of the Internet was far from what Tim Berners-Lee had predicted:

In 1999, the World Wide Web inventor Sir Time Berners-Lee looked back on the previous decade and lamented: "I wanted the Web to be what I call an interactive space where everybody can edit. And I started saying, 'interactive,' and then I read in the media that the Web was great because it was 'interactive,' meaning you could click. This was not what I meant by interactivity.'

¹ Lamb, Brian. "Wide Open Spaces: Wikis, Ready or Not," EDUCAUSE Review, vol. 39, no. 5, September/October 2004 p 37.

Instead of a global community, the web began with flat brochure-type and text-heavy information sites. Originally intended as a military tool and then as an educational enabler, the Internet quickly grew and evolved, progressing far beyond its original purpose.

1.2.2 Web 0.2: Flat Text and Blink Tags

The first iteration of the Internet was a land of flat text sites. I refer to it as Web 0.2, as ironically the blandness of the look and feel of the first iteration of the Internet has much in common with the more technologically advanced—but still aesthetically non-innovative—flavor of Wikis.

In Web 0.2, text was pushed at consumers. Mostly informative in nature, companies and individuals were beginning to explore the idea of sharing content. Little thought was paid to actual user experience; the fact that information could be had online for free was enough.

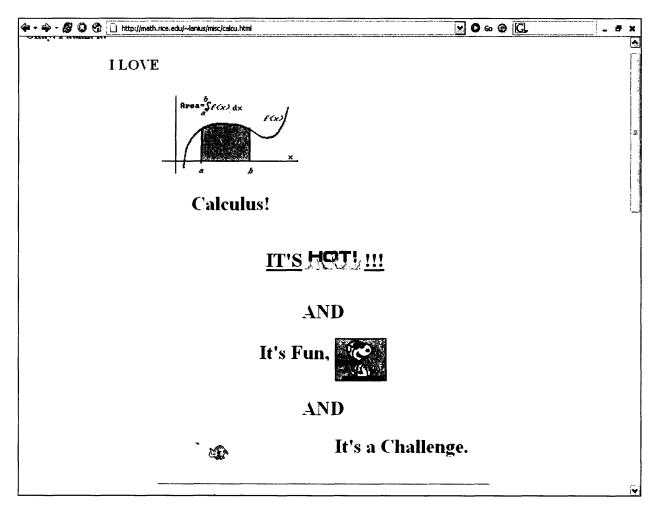


Figure 1 An early web site. Gratuitous, disorganized graphics.²

1.2.3 Web 0.9: Brochures

The next iteration of the Internet was one of introduction to commerce, including the DotCom bubble. Companies scrambled to get online. Many had what were even then known as "brochure sites;" they pushed content at users, expected nothing in return, and had no dynamic content.³

² Lanius, Cynthia. "I Love Calculus." http://math.rice.edu/~lanius/misc/calcu.html. Created in 1998. Last updated 2004.

³ Manila Newbies. "Types of Manila Sites: The Brochure Site."

http://manilanewbies.userland.com/usersguide/typesofmanilasites/brochuresite (19 September 2006).

Many software firms began to grow during this time, creating these sites for various clients. Many sites were still very text-heavy or with random graphics. Information was available on the site, but it was "pushed" information only.

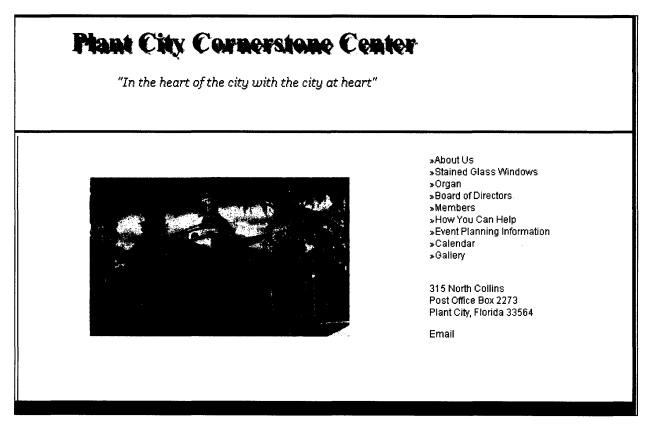


Figure 2 A Brochure Site: shows information, takes none in.⁴

1.2.4 Web 1.0: The DotComs

Finally, we arrive at the DotCom Era. Companies had realized the value of the Internet and were no longer content to push flat brochures at their customers. People were now able to conduct actual business online. Packages began to be available to support this, including software packages that will be explored in the Technology chapter.

⁴ "Plant City Cornerstone Center." http://www.plantcitycornerstonecenter.org/. Last updated 2005.

Individuals began to see the web as a personalized place. Cookies could keep track of bank account numbers or favorite types of shoes. The audience of the Internet continued to grow as such features as bill pay attracted non-technology people with the promise of convenience. Yahoo first implemented its Bill Pay system in 1999 as a free service.⁵ One article attributed the success of the program and security to "secure by the Yahoo! Security Key password system and the Secure Sockets Layer (SSL) security standard."⁶

coming Payments	MOCX Renad	and United E-Silk		As of 36-Jan-05 1.95an - <u>Refres</u>
ke Perment	Due Date	Payee	Amount Status	Action
woord History	16 Nov.04	Spans PCS - Cell phone@	\$80.91 Past Due	Eng - View Bill - Delete
wee List	14-Feb-45	Sprint PCS - Cell phone@	\$8" 45 Due	Par - View Bill Delete
ntomer Care (4 New)	Den't forget Crea	in a reminder to remember payments.		
<mark>il a friend</mark> about Bill ly ^t	Outbox - Sche Pay Date	edel Parata	Anount	Stellue Action
	27- Jan-0 5	Pacific Gas and Electric Company	\$1752	9 In Process
			Nee	d heig with your payments and remoders

Figure 3 Yahoo Bill Pay; example of DotCom era site.

1.3 Web 2.0

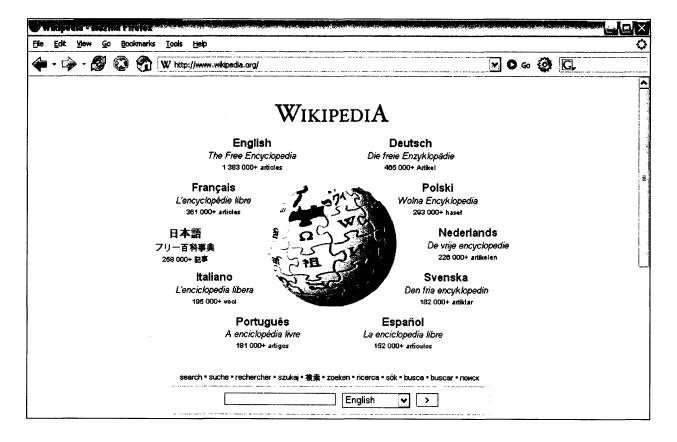
Web 2.0 is the most common term for the movement of the Internet from "push" technology to interactive technology. It is nearly impossible to quickly and efficiently define Web 2.0. The best embodiment of the definition is that it is a renaissance of the Internet, a movement from sites whose main goal was to provide information to sites whose main goal is to provide a place for users to share information. No longer is the source of information one-sided; it is now a

⁵ Ginty, Maura. Yahoo! Debuts Bill Pay Service. InternetNews.com. 13 December 1999. http://www.internetnews.com/ec-news/article.php/258541 (19 September 2006).

⁶ Ginty, Maura. Yahoo! Debuts Bill Pay Service. InternetNews.com. 13 December 1999. http://www.internetnews.com/ec-news/article.php/258541 (19 September 2006).

communal effort among different people who may never meet but may grow to know each other through Internet identities.

1.4 Web 2.0: Wikis



1.4.1 What is a Wiki?

In its simplest definition, a Wiki is a text-based tool which allows edits to a single document by any number of parties. However, the theories and technologies behind Wikis are so complex that they will continue to be explored in-depth throughout the course of this paper. Before reaching into these depths, however, we must start with a few basic ideas and concepts behind a Wiki. First, a Wiki is a Commons-Based Peer Production. [This term] refers to any coordinated, (chiefly) Internet-based effort whereby volunteers contribute project components, and there exists some process to combine them to produce a unified intellectual work. CBPP covers many different types of intellectual output, from software to libraries of quantitative data to human-readable documents (manuals, books, encyclopedias, reviews, blogs, periodicals, and more).⁷

The CBPP quality of the Wiki is what makes it very different from any other technologies. Similar to Microsoft's "Track Changes" feature in its ability to record edits, the Wiki varies from Word in many other ways. A Microsoft Word document that has changes tracked is like the baton in a relay race: each runner can contribute and will influence the final result, yet only one racer at a time can carry the baton. A Wiki is more like a cross-country race in which all runners start the race at once and the team score is determined by an average time: contributions are made by many people simultaneously.

As a result of this change in editing power, Wikis have organizations changing how they handle document sharing and collaboration. Mark Choate comments on this complex change in workflow in an article on Wikis in the workplace:

Wikis turn the idea of workflow on its head. They are decentralized and typically lack the controlling mechanism of a workflow system with a formal approval process.

The fact that Wikis are decentralized and lack sophisticated workflow systems and approval processes is considered a feature of Wikis and not a fault. This is contrary to the basic philosophy of many content management systems, which emphasize control over empowerment.

Despite Wikis decentralized approach, there is one important thing to remember: the anyone-can-edit policy is just that -a policy -and not an inherent feature of the software. At the same time, Wikis don't handle content control in the same way

⁷ Krowne, Aaron. "The FUD-based Encyclopedia." <u>Free Software Magazine.</u> 28 March 2005.

that a content management system does, so you will need to take a different approach with Wikis.⁸

We will see in the technology chapter that the Wiki was created and originally used by those in the high-tech community, yet the Wiki has become a popular tool in a variety of businesses and social communities. The relatively new collaboration technique has been adopted by schools, businesses, charities, and any random group of people who need to share ideas. In an article about Ben Elowitz (founder of FatBrain and Blue Nile) founding WetPaint, a Wikibased company, Laurie Sullivan wrote:

Consumers are warming up to Wikis, too. Wikia Inc., the company founded by Jimmy Wales of Wikipedia, launched a worldwide travel site on Monday. World Wikia offers city guides for locations from San Francisco to New Orleans to London.

For example, romanchurches.wikia already includes nearly 250 articles examining the architecture, art and history of churches in Rome. Wikipedia has become the 17the most-trafficked site on the Web, according to Web traffic research firm Alexa.⁹

The CBPP tool known as the Wiki has been gaining in popularity across any number of communities. The uses for this tool are widespread, and its absolute limits have yet to be reached. Over the course of this paper, I will look at various communities and businesses that make use of this tool in the context of a Web 2.0 setting, and will begin by going into the evolution of a Wiki in more depth.

⁸ Choate, Mark. "What makes an enterprise Wiki?" CMS Watch. http://www.cmswatch.com/Feature/145-Wikis-in-the-enterprise. 28 April, 2006.

⁹ Sullivan, Laurie. "Blue Nile Cofounder Wades into Wikis." <u>TechWeb</u>. 9 August 2006.

Chapter 2: Technology

Wikipedia is defined on its own pages as a "very simple, easy-to-use user-maintained database for searching or even creating information."¹⁰ Many casual users may not realize the transactional complexity of a Wiki: for them, it is a place where they can read or change content. However, most Wikis are so intricately designed and implemented that they have a record of every change submitted to every piece of content.

This sophisticated use of technology has required robust solutions on both the client and server sides, as well as a heavy dose of creativity in order to synthesize these two components. Although what a user sees (the client side) may seem very simple to the user, the underpinnings which connect it to its server side and therefore to the underlying data and information can be quite complex.

2.1 Technology History

The first step toward computer-based collaborative writing was taken by Microsoft. Microsoft released Microsoft Word 6 in 1994, which then contained a feature called "Revision Marks," which would eventually become the "Track Changes" tool used today. It allowed asynchronous, digital collaboration on a document without the former necessity of merging several documents into one cohesive unit.¹¹

¹⁰ "Wiki." http://en.wikipedia.org/Wiki/Wiki. Last updated 26 August 2006. (26 Aug 2006)
¹¹ Szybalski, Andy. "Why it's not a Wiki World (Yet)." March 14, 2005

http://andy.bigwhitebox.org/papers/Wiki_world.pdf, 2.

Teammates and others were able to collaborate on documents through changes made inline as well as through comments which were kept separate from the text of the document. No longer were collaborators required to be in the same place at the same time to effectively create a document which merged their opinions, nor was one person given the task of physically merging several documents into one cohesive units. Teams could circulate one document and collect a number of opinions.

Bei gat yew Inseit Figmat Tools Tybe Window Help T. 1. 23 II A I	
hel Showing Markup - Show - (A) A) - (A + ())))))))))	
the optimal value using the Hong Kong manufacturer. At first glance, this does not seem not make sense since the price to manufacturer a unit was approximately \$9 more for the Hong Kong manufacturer. <u>While this amout my</u> seem special, it is nothing overally significant when we examine the value as a <u>whole</u> . However, after discussing the results with the team, we concluded that the results were correct, as we are taking more risk of over-ordering, and we are leaving some money on the table since we have a higher probability of not meeting the second order minimum quantity order of 1200.	
4. What operational changes would you recommend to Wally to improve performance?	
To improve performance, one consideration is to decrease the minimum constraints on production (i.e., lower than 1200 for China and 600 for Hong Kong). This decrease would provide bettermay not provide the best flexibility in meeting different demands for offerings. Smaller minimums allow companies to provide greater variety within a set facility capacity. Larger order minimums result in less flexibility in meeting demand for a given overall capacity because facilities are constrained to make large orders or hothingmon .	
Second, Wally could try to get a better and streamlined forecasting system to better predict outcomes earlier in the demand discovery cycle. This can include a detina multiple and early forecasts on demand, better intelligence and a set of the second details of the second details are set of the second details and the second details are set of the second details and the second details are set of the second details are set o	دَ)
Deleted after discussing the results with the team, we concluded that the results were correct	/18/2006 2:85:08 PM
ieletet. Der het sind der Belden um verschen Zeiter von Werkend Bene Devidende der beschniete Bener der beschen Duid provide beiter	/18/2005 2:04:00 PM
inserted states and the states and the states of the states of the Devide States Allene Devide States Allene Devide States Allene States and the states of the	/10/2006 2:04:00 PM
Imment [HD1]	/10/2006 2:05:00 PM

Figure 4 Microsoft Word document showing tracked changes and comments.

As always, there was room for improvement from the document circulation model used by Microsoft Word in which collaborators needed to wait for another's changes to be complete before receiving the documents themselves. A model whereby all collaborators had access to the document on a continual basis could further improve the efficiency of document collaboration.

Enter Ward Cunningham, who invented the Wiki in 1995 as a means of allowing software developers to discuss design patterns on his website, the Portland Pattern Repository. The idea was based on a HyperCard stack he wrote in the late 1980's,¹² a database-like program run on the Apple which allowed uses such as "Choose-Your-Own Adventure" stories.¹³ The original WardsWiki had a very simple interface, not even allowing for formatting or images.¹⁴ However, this bare-bones approach left ample room for innovation from its high tech customer base.

Using the Wiki tool, engineers were able to collaborate on commentary about different design patterns. Ward had sought to create a site that was "open, incremental, organic, mundane, universal, overt, unified, precise, tolerant, observable, [and] convergent."¹⁵ The Wiki has survived to this day based in large part on the Wiki authors' principles of "trust, fun, and sharing."¹⁶

http://andy.bigwhitebox.org/papers/Wiki world.pdf, 3.

¹² "Wiki." http://en.wikipedia.org/Wiki/Wiki. Last updated 26 August 2006. (10 September 2006).

 ¹³ "Hypercard" http://en.wikipedia.org/Wiki/HyperCard. Last updated 10 September 2006. (10 September 2006).
 ¹⁴ Szybalski, Andy. "Why it's not a Wiki World (Yet)." March 14, 2005

¹⁵ http://c2.com/cgi/Wiki?WikiDesignPrinciples. Last edited September 8, 2006. (10 September 2006).

¹⁶ http://c2.com/cgi/Wiki?WikiDesignPrinciples. Last edited September 8, 2006. (10 September 2006).

~ ◆ · ⑤ ○ ① У http://c2	.com/cgi/wiki?FactoryMethodPatte	am Will, March Hillsy give you will	V O Go 🎯 🕻 wards wki	- 8	×
http://wiki.cs.uiuc.edu/patternStori	es/FactoryMethodPattern				
http://www.patternsinperl.com/des	ignpatterns/factorymethod/	(BrokenLink)			
http://gsraj.tripod.com/design/creat	ional/factory/factory.html				
http://www.dofactory.com/Pattern	s/PatternFactory.aspx				
	y can be implemented as fa		nentation of the creator class. It's similar to Abstract Factory is that while abstract factory deals with a family of products,		
I see that differently and agree v	rith the description in <u>Abs</u>	stractFactoryVsFactoryMethod	IljaPreuss <u>?</u>		
two constructors)	va) do not allow constructo va) do not allow constructo	ors to have useful names	nay be necessary if you want to use the same method signatu lyweightPattern)	re for	and a second
	Creetor ryMethod() oroquit = F:	FactoryMethod()			
(ryMethod() return new C	ConcreteProduct			
CategoryPattern CategoryCreation	nalPatterns				
Edif Text of this page (last edited Ji FindPage by searching (or browse		iTour)			

Figure 5 The FactoryMethodPattern page from WardsWiki. Note the "EditText" last edited date of June 8,2006

Wikis did not gain widespread notoriety until after 2001, when Wikipedia was founded by James Wales and Larry Sanger.¹⁷ Wikipedia is by far the best-known Wiki, and while an exception in terms of usage and visibility, serves as an excellent example of the means by which a Wiki can be used. This online encyclopedia has over 1,363,000 articles in English alone,¹⁸ and, according to an article in Nature, is considered more accurate than the Encyclopedia Britannica.¹⁹

¹⁷ Szybalski, Andy. "Why it's not a Wiki World (Yet)." March 14, 2005 http://andy.bigwhitebox.org/papers/Wiki_world.pdf, 4.
¹⁸ http://www.wikipedia.org/. 4 September 2006.

 ¹⁹ "Internet Encyclopedias go Head to Head." 14 December 2005.
 http://www.nature.com/news/2005/051212/full/438900a.html (4 September 2006).

COUNCE CHANGE MOZINE PHONOR

File Edit Yiew Go Bookmarks Tools Help

🛊 - 🎲 - 🥰 🔇 🏠 🍹 http://c2.com/cgi/quickDiff?FactoryMethodPattern

Y 🗘 Go

算 FactoryMethodPattern

Revision 38 made 3 months ago by dhcp-38-140.eecs.berkeley.edu

15c15 http://www.patternsinperl.com/designpatterns/factorymethod/ <--- seems to have gone away now http://www.patternsinperl.com/designpatterns/factorymethod/ (*BrokenLink*)

<u>EditText</u> of this page. <u>EditCopy</u> from previous author.

Figure 6 FactoryMethodPattern last edit page shows result of last revision.

2.1.1 Early Content Storage

In their early stages, Wikis stored data and content as flat text files containing information written in a markup language. When a request was made for the page, this flat file was returned, and the markup language rendered into HTML. This was a good start, but did not scale for some larger projects: too many files became stored on servers, and the rendering time was poor.²⁰

This model still exists today. The WikiWiki site started by Cunningham still uses a flat file system and serves as an excellent example of the robustness of the original tool. Pages are stored as separate files in one directory on a Linux server. Serialization is controlled by the mkdir

²⁰ Choate, Mark. "What makes an enterprise Wiki?" <u>CMS Watch.</u> http://www.cmswatch.com/Feature/145-Wikisin-the-enterprise. 28 April, 2006.

command common to both Unix and Linux. This prevents pages from being simultaneously changed, thereby losing information.²¹

However, for some sites such Wikipedia, the content of pages is stored entirely in databases, usually as CLOBs (Character Large Objects, can exceed over 4000 characters in length). While perhaps slightly more expensive in terms of server usage, this methodology makes tracking pages and their changes slightly easier. Rather than relying on file information, entire pages can be called up and ordered using the Structured Query Language (SQL, pronounced, "sequel").

Both of these sites allow the popular feature of history tracking, which allows users to see the evolution of content. Most Wiki sites use a database for this purpose; even if files are stored outside of the database. A row is taken for each entry, and the correct file is found through selecting the most recently updated row pertaining to that page. The correct document can then be returned.²²

2.2 Enabling Technologies

2.2.1 Databases

One of the enabling technologies is the evolution of databases combined with the falling costs of accompanying hardware.

²¹ "More About the Database." http://c2.com/cgi/Wiki?MoreAboutTheDatabase. Last updated 4 June 2004 (10 September 2006).

²² "More About the Database." http://c2.com/cgi/Wiki?MoreAboutTheDatabase. Last updated 4 June 2004 (10 September 2006).

The earliest database was the System Development Corporation's presentation of "Development and Management of a Computer-centered Data Base" in June of 1963.²³ The relational data model took rise in 1970. Since then it has evolved, resulting in distributed databases in the 80s, the object-oriented database of the 90s, and the XML databases of today. With each step, data insertion and access became more efficient, reliable, and scalable. Perhaps more important than the evolution of the models was the falling price of data storage.

In the past, data cost such a large amount of money to store that even two characters were valuable; hence the 2000 crisis in which developers had stored years as "76" rather than "1976," setting up a global crisis for when all years turned to zero.²⁴ Estimates had over 1 trillion lines of COBOL code with the problem, as well as 25 million chips, with approximately 2-5% of these chips being potential problems.²⁵ Costs fell throughout the hardware and software industries, resulting in the price of storing data no longer being prohibitive. An example of this phenomenon is Moore's Law.

Moore's Law states that circuit component complexity doubles with respect to minimum component cost, and this law seems to have carried over into technologies beyond the circuits on which the law is based.²⁶ While their growth is not as striking or as rapid, databases are faster and better at indexing than ever before, and pulling data from them is rapid and efficient. No longer must people be concerned with storing a certain number of characters.

²³ "Database." http://en.wikipedia.org/w/index.php?title=Database&oldid=71234852. Last updated 4 August 2006. (August 24, 2006).

²⁴ "Y2K Information and Resources." http://www.y2ktimebomb.com/. 10 September 2006.

²⁵ "Workshop on the Year 2000 Problem in Computers and Strategies Issues for National Statistical Offices." http://www.unescap.org/stat/gc/y2k_06.asp, 9 June 1998.

²⁶ "Moore's Law." http://en.wikipedia.org/Wiki/Moores_law. Last updated 27 Aug 2006. (28 Aug 2006).

With these changes, it is now possible to archive entire chunks of data. Typically, the content of each Wiki entry is stored in its own row in a database. Each time an edit is made, a new row is created so that tracking the history of each entry is made possible. Most databases store these as CLOBs, and the entire history of any page can be stored in a series of rows containing a CLOB. In the case of flat-file Wikis such as Ward's Wiki, the CLOB is replaced with a reference to the location of the flat file.

2.2.2 Front end

Users are not exposed to the complexity behind a Wiki, one of the major appeals to this technology. When a user visits a Wiki page, a request is made to the server. Typically, the text is then pulled from a database or flat file and rendered into HTML. Different implementations of Wikis can render the text into different markups, including mobile-device compliant languages, such as WAP or WML, as all that is needed is a translator that will take Wiki mark-up and render WML-compliant markup.

Once converted to a viewable markup language, the text is wrapped in a template chosen by the site owner. This helps to give the site the look-and-feel of a site laboriously written in HTML, while those contributing the content are actually using the much simpler syntax known as WikiText, which will be explained in detail shortly.

One problem with Wikis is that the text within these templates—including the rendered HTML—cannot be cached due to their instant-change nature, making them slower to return to the user. Ward's Wiki notes that "Wiki templates (and page rendering in general) often are not cached, so the page is rendered with each request. From an enterprise perspective, a lack of caching can obviously limit the scalability of the system."²⁷ This creates an interesting paradigm: for fractions of a second more waiting on the consumer end, the owner of the Wiki has far less to manage, as cache management can be costly in terms of both human and capital resources.

2.2.3 WikiText

One of the main advantages to Wikis is that contributors do not need to know HTML, even if elaborate text-entry tools are not available. Many will have their own languages with an easy-tolearn lexicon. For example, in some Wikis, a double dash (- -) creates strikethrough type throughout the surrounded text. Writes Wiki expert Mark Choate, "In those implementations, the markup of a newly-edited HTML version of the page is generated and submitted to the server transparently, and the user is shielded from this technical detail."²⁸

This code is known as WikiText. While the name is common among Wikis, the syntax is not, and is defined by each Wiki. One common standard is the use of CamelCase (initial capitals on words run together, such as CamelCase or WikipediaPage) to define words which should be automatically linked.²⁹ This feature is a key component, as it allows for Wikis to become very well linked and integrated within themselves as users in practice create a new page each time they input a CamelCase word. They are then able to edit this page, extending the Wiki. Because

²⁷ Choate, Mark. "What makes an enterprise Wiki?" <u>CMS Watch.</u> http://www.cmswatch.com/Feature/145-Wikisin-the-enterprise. 28 April, 2006.

²⁸ Choate, Mark. "What makes an enterprise Wiki?" <u>CMS Watch.</u> http://www.cmswatch.com/Feature/145-Wikisin-the-enterprise. 28 April, 2006.

²⁹ "Wikitext." http://en.wikipedia.org/Wiki/Wikitext. Last updated 22 August 2006. (26 August 2006).

there are none of the HTML tags, the margin for error is greatly reduced; the omission of even one quotation mark in the typical linkup (click here) can break an entire page.

Wiki Syntax Help	
Basic Syntax	
	l Level l Title
	1.1 Level 2 Title
	Bold
	~~Italics~~
	Striked
Lists	
	* List item level l
	** List item level 2
	** List item level 2
	*** List item level (
	# Numbered list item
	# Numbered list item

Figure 7 WikiText explanation on a site without a WYSIWYG component.

2.2.4 WikiText Alternatives

Some Wikis have gone beyond the simple WikiText to more advanced what-you-see-is-what-

you-get (WYSIWYG, pronounced "wizzy-wig") editors. These have been made possible by

technologies such as JavaScript, ActiveX, and AJAX. Notes Laurie Sullivan of the Wiki team

WetPaint:

The behind-the-scenes technology that enables WetPaint's "three steps to create your own" Wiki sits on a Representational State Transfer (REST) architecture running on the Linux open-source operating system and built on a service oriented architecture (SOA) platform. The Wiki user sees Web pages built on a combination of JavaScript and AJAX with XML on an API layer to support the site.³⁰

³⁰ Sullivan, Laurie. "Blue Nile Cofounder Wades into Wikis." <u>TechWeb</u>. 9 August 2006.

The use of AJAX creates movement on a page, making it look very carefully crafted. Because the text of the Wiki is treated as a basis around which to frame a more elaborate site, this site can have the appearance of being very complex—and, indeed, it may be this complex. Users can still alter content on these sites without harming the general look-and-feel. Sometimes AJAX tools are used to create a more complex means of entering the Wiki. For example, in Figure 9 below, the buttons across the top of the text box which apply the bold, italics, and other font enhancements are coded in AJAX and applied to the Wiki template.

Editing Wiki	
From Wikipedia, the free encyclopedia	
As you are not currently logged in, your IP address will be recorded in this page's edit history. While you are free to edit without logging in, registering for your own account will conceal your IP address and provide you with many other benefits.	
The first wiki, [[WikiWikiWeb]], is named after the "Wiki Wiki" line of [[Chance RT-52]]	

Figure 8 Example of a WYSIWIG (buttons up top) editor with WikiText in text box.

Wiki

From Wikipedia, the free encyclopedia

For other uses, see Wiki (disambiguation).

A wiki (IPA: ['wt.ki:] <WICK-ee> or ['wi:.ki:] <WEE-kee>^[1]) is a type of website that allows users to easily add, remove, or otherwise edit and change some available content, sometimes without the need for registration. This ease of interaction and operation makes a wiki an effective tool for collaborative authoring. The term wiki can also refer to the collaborative software itself (wiki engine) that facilitates the operation of such a website (*see wiki software*), or to certain specific wiki sites, including the computer science site (and original wiki), WikiWikiWeb, and the online encyclopedias such as Wikipedia. The first wiki, WikiWikiWeb, is named after the "Wiki Wiki" line of Chance RT-52 buses in Honolulu International Airport, Hawaii. It was created in 1994 and installed on the web in 1995 by Ward Cunningham, who also created the Portland Pattern Repository. "Wiki-wiki" means "*hurry quick*" in Hawaiian. It also refers to a type of fish native to the islands.

Figure 9 Resulting entry from above.

2.2.5 Look and Feel

Despite the advances made in making the Wiki text entry process a more aesthetically pleasing experience, and despite enhancements made to the sites surrounding this text, Wikis still tend to have a reputation for lacking in beauty. A Google search of "Wikis are ugly" returns over a million results.³¹ The final rendered page has a template applied to it to give it more of a look-and-feel than being simple HTML. Many have complained that the "new" look of the web recalls the "old" look, when companies and individuals wanted to push content rather than improve the overall look of it.³²

However, Wikis are already progressing beyond these visually unappealing originals. Unlike at the beginning of the Web, we now have experience with wrapping basic content with templates or similar frames. Today, many web sites use the Model-View-Controller pattern. This pattern separates out the data (model), presentation (view), and business logic (controller) pieces.³³ The appearance of the Java Enterprise Edition (J2EE) in the late 90s was a large step towards separating out presentation and data. Since then, many other technologies, including Apache Struts (http://struts.apache.org) and a series of other methodologies, have separated out the data and text from the look and feel.

³¹ http://www.google.com/search?q=Wikis+are+ugly, 26 Aug 2006.

³² Choates, Tom. "The Ugly Wiki?" http://www.plasticbag.org/archives/2003/05/the_ugly_Wiki/. 1 May 2003. [26 Aug 2007]

³³ Gamma, Erich; Helm, Richard; Johnson, Ralph; Vlissides, John. <u>Design Patterns: Elements of Reusable Object-</u> <u>Oriented Software</u>. Addison-Wesley Professional. 15 January 1995.

Since the Wiki entry is now only a piece of data stored in a database, its rendering can be greatly enhanced through an effective presentation layer. Traditionalists may still search for an API (Application Programming Interface, typically functions and variables of a computer programming language) with which to render the content, but all that is truly needed is an effective system design to allow the site to develop around the Wiki content, and the Wiki content to develop independent of its surroundings.

2.3 Security Models

One of the key aspects to the Wikis that have made them a viable tool is the means they have of reducing the number and severity of attacks. Many of the solutions to these problems have yet to be solved through technology and must still be handled at a human level, as is typical for many community tools. The technology gives us the basis, while we must still attend to it. The pen and paper were excellent tools, but useless without someone to write with and on them, and almost as useless without someone else to read or improve upon the original text; Wikis are very similar in that we have the tools, but we must work with them to create a viable product. The discussion of the greater part of the security models will be found in the section of this thesis centered on community.

Unfortunately, just as technologies have become more efficient and savvy, so have their attackers. A simple registration requirement is not enough to deter malicious attacks, and in such, many different attack types need to be studied and appropriate responses prepared.

29

2.3.1 Fighting Technology without Technology

Much like a town with a volunteer fire department, the Wiki needs a community that takes pride in it and seeks to protect it, and—much like this community and its town services—the Wiki takes time to build a community and discover those who will seek to protect it. While the subsequent building of this community will be explored in the business chapter, we can look at some of the technologies that can help attract a loyal community. This alternative to computerbased monitoring will be explored in the chapter on community, as well as means of building, sustaining, and creating self-policing communities.

2.3.2 Access control

Access control is a key component of ensuring Wiki quality. Wikis can be designed to sniff out robots and crawlers. There are several various means of controlling access and doing the best to ensure that a Wiki edit or entry is done by a person, including registration, "CAPTCHAs," and IP sniffers.

A basic way to control users is to require registration. Registration can help block malicious users and even IP addresses. Of course, no security model is perfect. The robots and spammers have gotten around these by registering many user names and by using programs that disperse IP addresses over a number of different configurations.

In order to make sure you're a live person, not a robot or an automated computer program, we kindly request that you answer the following question: 7+2=

Figure 10 A CAPTCHA which uses math to avoid robots.

Robots can be stopped with "CAPTCHAs" which are images or text created on-the-fly by the server. Some require the solving of a math problem, something that robots have not yet learned to do. Others require the reproduction of a text message embedded in an image. These are temporary fixes, as there is no guarantee that robots will not be able to solve them in the future. The WC3 committee warns of the reliance on these CAPTCHAs:

It is a logical fallacy, then, to hail CAPTCHA as a spam-busting panacea. Even 10% accuracy by a computer amounts to system failure, just at a slower rate. It is also faulty logic to believe that the adoption of CAPTCHA in large sites is evidence of its supremacy in fighting spam. Indeed, a number of techniques are as effective as CAPTCHA, without causing the human interaction step that causes usability and accessibility issues.³⁴

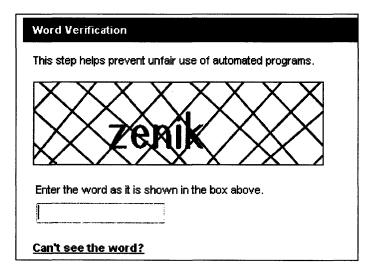


Figure 11 A CAPTCHA which uses visual tricks. Clicking on the "Can't see the word?" directive leads to a site with instructions for calling the vendor.

In addition to these failings, CAPTCHAs can exclude people with disabilities, including those with visual problems. While most sites have a link for those who cannot see the page, the links

³⁴ May, Matt. "Inaccessibility of CAPTCHA." W3C. http://www.w3.org/TR/turingtest/. 23 November 2005.

do not provide much additional help. For example, on the Ticketmaster site, a visual CAPTCHA must be translated for tickets to be purchased. Those who cannot see the CAPTCHA will see a page instructing that they call a service department. However, this department is only open during very limited hours.³⁵

Internet Protocol (IP) sniffers can prove effective in some cases. These sniffers can detect the IP address from which a "user" is making a request for the page. Entire sites or addresses can be blocked by such means. Many different packages exist that can find bad IPs. For example, the SnoopAnalyzer helps users find bad and block bad IP addresses by analyzing Network Protocol access.³⁶

2.3.3 Revision/Version Capture

The database-backed technology allows former versions of pages to be captured and kept for as long as is necessary—most Wikis currently do this indefinitely. In this way, if an entry is wiped or edited beyond repair, an old version can be brought back. While the search for the bad page can be time-consuming on a site of Wikipedia's size, the actual reversion to an earlier version can be performed quickly. Some sites choose not to display history pages, in part because of the rapidity with which versions can be cycled and recycled.

³⁵ Ticketmaster web site. http://www.ticketmaster.com/access/1D003CCEA0454F73?unviewable_optik=1. (10 September 2006).

³⁶ Bradley, Tony. "SnoopAnalyzer Standard"

http://netsecurity.about.com/od/securitytoolprofiles/p/aaprsnoopanlzr.htm. 12 September 2006.

•• • • • • • • • • • •	W http://en.wikipedia.org/w/index.php?title=CNN8action=history	<u>a</u> ⊻0∞@C, - =
4	article discussion edit this page history	3. Sign in / create account
	CNN	Your confinued donations keep Wikipedia running!
WIKIPEDIA The Free Encyclopedia	From Wikipedia, the free encyclopedia Revision actory View logs for this page	· · · · · · · · · · · · · · · · · · ·
vigation	(Latest Earliest) View (previous 50) (next 50) (20 50 100 250 500).
Main Page	For any version listed below, click on its date to view it. For more help,	
Community Portal	Legend: (cur) = difference with current version, (last) = difference with p	receding version, m = Minor edit.
Featured articles Current events	Compare selected versions	
Recent changes	• (cur) (last) ③ 13:15, 10 September 2006 80.129.114.214 (Talk)
Random article	• (cur) (last) 💿 05:32, 10 September 2006 Thavron (Talk contri	bs) m (
Help Contact Wikipedia	■ (cur) (last) ○ 02:20, 10 September 2006 74.133.2.78 (Talk) (-	The second
Donations	• (cur) (last) O 18:01, 8 September 2006 24:36.248.221 (Talk)	,
rch	 (cur) (last) O 23:21, 7 September 2006 70.28.82,34 (Talk) 	
		k contribs) m (Reverted edits by 68.36.40 112 (talk) to version
Go Search	73789717 by 91BOY using VP)	r Feanings) in (neveries esite by 00.00.40 Frz (tain) to veraion
·····	• (cur) (last) O = 21:21, 7 September 2006 68.36.40.112 (Talk) (-	• Tracke)
box What links here	• (cur) (last) O 17:33, 4 September 2006 91 BOY (Talk contribution	
Related changes	(cur) (last) 17:31, 4 September 2006 91BOY (Talk contribution	,
rss atom	 (cur) (last) ○ 15:39, 3 September 2006 91BOY (Talk contribution 2006 91BOY) 	
Upload file	(cur) (last) 15:33, 3 September 2006 91BOY (Talk contribution 2006 91BOY)	
Special pages	(cur) (last) ○ 18.49, 1 September 2006 Vikramsidhu (Talk co	
	 (cur) (last) ○ 18:48, 1 September 2006 Vikramsidhu (Talk cc (cur) (last) ○ 18:48, 1 September 2006 Vikramsidhu (Talk cc 	
	(cur) (last) 17:35, 1 September 2006 Vikramsidhu (Talk cc	
	•	
	(cur) (last) O 17:30, 1 September 2006 Vikramsidhu (Talk co	
	(cur) (last) O 17:27, 1 September 2006 Vikramsidhu (Talk co	
	• (cur) (last) O 18:35, 30 August 2006 204.155.172.17 (Talk) (-	
	■ (cur) (last) O 17:57, 30 August 2006 82:54:250:103 (Talk) (→	•
		proversies and allegations of stas)

Figure 12 This history page for CNN.

In addition, entries can be "diff'd." Two entries are compared side-by-side, which highlights the changes. In this way, if only a small fraction of an article is ruined or lost, it can be restored. This can be very helpful in tracking down who made what changes when, and in seeing if someone made large or small changes to an existing page.

₽•�•₿©©[W http://en.wikipedia.org/w/index.php?title=CNN8diff=748972098x0klid=73789717	⋎ О∞@ <u>C</u> ;
1	article discussion edit this page history	Sign in / create account
n's su		Your continued donations keep Wikipedia running!
THE CA	CNN	
	From Wikipedia, the free encyclopedia (Ditterence between revisions)	
2.1	Revision as of 17:33, 4 September 2006 (edit)	Current revision (13:15, 10 September 2006) (edit)
vigation	91BOY (Talk contribs)	80.129.114.214 (Talk)
Main Page Community Portal	(→Cunant shows - "CNN Newsroom")	
Featured articles	← Older edit	
Current events	Line 4:	Line 4:
Recent changes	network (ago = ([[mage:LOGOCNN.png]200px]]	network_logo = [[mage:LOGOCNN.png[200px]]
Random article	branding = CNN	branding = CNN
Help Contact Wikipedia		- /
Donations	- country = {{flagicon United States}} [[United States]]	<pre>country = ((flagicon United States)) ([United States]] {{flagicon Canada]} [[Canada]]</pre>
wch	network_type = [[Cable television Cable]] [[television network]]	network_type = [[Cable television Cable]] [[television network]]
	slogan = "It's Essential"; "The Most Trusted Name in News"; "Be the first to	slogen = "It's Essential"; "The Most Trusted Name in News"; br/>"Be
Go Search	know" (the first to know"
	Line 16:	Line 16:
libox		The "Cable News Network", commonly known as "CNN", is a cable
What links here	The "Cable News Network", commonly known as "CNN", is a cable [[television	[(television network]) founded in 1980 by [[Ted
Related changes	network]] founded in 1980 by [[Ted Turner]]ref>[http://meandled.com/author.htm	Turner]]. <ref>Interview, included an race by interview.</ref>
Upload file Special pages	Me and Ted Reese Schonfeld	Schonfeld
Printable version	Biols/ret> <ref>Philip://cnn.com/COMMUNITY/transcripts/2000/5/8/bierbauer/ Charles</ref>	Bio] <ref>[http://cnn.com/COMMUNTY/transcripts/2000/5/8/bierbauer/</ref>
A LY STATE	Bierbauer, CNN senior Washington correspondent, discusses his 19-year career at	Charles Bierbauer, CNN senior Washington correspondent, discusses his
Cite this article	CNN.1 <td>19-year career at CNN. I It is a division of the [[Turner Broadcasting]</td>	19-year career at CNN. I It is a division of the [[Turner Broadcasting]
	Warner]], CNN introduced the idea of 24-hour television news coverage, and	System]], owned by [[Time Warner]]. CNN introduced the idea of 24-hour
other languages	celebrated its 25th anniversary on [[June 1]], [[2005]].	television news coverage, and celebrated its 25th anniversary on [[June 1]],
Afrikaans التريية	Construction of Target of State and A of a Bone of a Recoold.	
اهرىيە Català		
Českv		in terms of cumulative (Cume) [[Neisen ratings]], CNN rates as America's #1
Cymraeg	In terms of cumulative (Cume) [[Nielsen ratings]], CNN rates as America's #1 cable	cable news network; however, it is surpassed by [[Fox News]] in long-term
Dansk	news network; however, it is surpassed by [[Fox News]] in long-term viewers	viewers (Nielsen's Points ratings). CNN broadcasts primarily from its
Deutsch	(Nielsen's Points ratings). CNN broadcasts primarily from its headquarters at the	headquarters at the [[CNN Center]] in [[Atlanta, Georgia Atlanta]], and from
Ελληνικά	[[CNN Center]] in [[Atlanta, GeorgialAtlanta]], and from studios in [[New York City]]	studios in [[New York City]] and [[Washington, DC]]. As of December 2004, it
Español	and [[Washington, DC]]. As of December 2004, it is available in 88.2 million U.S.	is available in 88.2 million U.S. households and more than 890,000 American



2.3.4 Monitoring through Crawlers

Another means of controlling for bad content is to constantly monitor the changes via a system of alerts and crawlers. Crawlers work by means similar to those of the large search engines— Google and Yahoo—that "crawl" the Internet is search of content. As these crawlers crawl pages within the Wiki, they can send alerts about or even modify pages with inappropriate content.

The database can be configured to send emails or similar notifications to a set of administrators each time a change is made to a page, subset of pages, or even the whole database. This means of controlling for bad content is becoming increasingly popular: Some Wiki engines provide additional content control. It can be monitored to ensure that a page, or a set of pages, keeps its quality. A person willing to maintain pages will be warned of modifications to the pages, allowing him or her to verify the validity of new editions quickly.³⁷

This type of monitoring still requires human intervention to stop attacks. However, if this work is dispersed across a large set of volunteers, the pain can be greatly lessened. In addition, the crawlers can be programmed to correct some malicious behavior on their own; for example, when an inappropriate word is found, they can be programmed to roll back to the most recent edition of the page in which this content is absent. This type of policing can result in some true users being unhappy about what they may see as excessive monitoring or a limitation placed on free speech, but can pay large dividends over time.

³⁷ "Wiki." http://en.wikipedia.org/Wiki/Wiki. Last updated 26 August 2006. (26 August 2006).

Chapter 3: Community

The basic [idea] of the Web is that [of] an information space through which people can communicate, but communicate in a special way: communicate by sharing their knowledge in a pool. The idea was not just that it should be a big browsing medium. The idea was that everybody would be putting their ideas in, as well as taking them out.³⁸

- Tim Berners-Lee, creator of the World Wide Web

In this chapter, we will look at online communities, including the people involved, typical demographics they fill, and what motivates them to write. These factors will be examined independent of technologies used or business models employed.

3.1 Introduction

While many still balk at the notion of spending time contributing knowledge or opinions for no monetary reward, the movement towards unlimited knowledge distribution has been well under way throughout the 21st century. An excellent example of this is the open source community. It is important to study this community because in it, we can discover the root of an attitude which would help Web 2.0 and its technologies grow outside of the world of software engineers.

The Open Source movement created an unusual platform for software development: developers were contributing content without receiving monetary compensation from the owner of the software being produced. This movement and related attitude of openness would find itself growing beyond the geek community and into the mainstream. Though originally a small movement, sites such as SourceForge.net gave developers a place to collaborate online and find like-minded teammates.

³⁸ Lamb, Brian. Wide Open Spaces: Wikis, Ready or Not. Educause Review, vol 39, no 5. September/October 2004, 7.

Open source projects are run almost entirely online. While some projects may pay contributors to write software through various grants (such as user donations), most rely upon free labor. Some companies which see a benefit to a certain project may pay their employees to work on some of these projects, but again, the majority of open source software projects are done on donated time and effort alone.³⁹ In exchange, the developers receive tools they can use, positive Internet reputations, and acceptance into any number of online communities.⁴⁰

¥• ∳• ∂ © © :	http://wikimediafoundation.org/wiki/Fundraising	⊻ O ∞ @ C	
	article discussion edit (requires login) history Fundraising From the Wikimedia Foundation	🤱 log in (requires approval)	
		Elànyuxá English Esperanto Español Eesti Suomi Français Létzebuergesch Nederlands Norsk(bokmål) Norsk(vynorsk) Polski szaSunda Svenska 10년 Türkçe TrêngViệt Wialon 야가것	
i Home About Wikimedia News Our projects Press room	Imagine a world in which eve to the sum of all human knowle And we need	dge. That's what we're doing.	
Local chapters Bylaws	The Wikimedia Foundation Inc. is a non-profit organization with the	Help empower the world with free knowledge!	
Bytews Benefactors Recert changes Contact us Job openings Donations Search Ge Search Coblox Vyhat links here Related changes Upload file Special pages Printable version Permanent link	goal of providing free knowledge to every person in the world. Meeting this goal through the maintenance, development and distribution of free content, Wikimedia relies on public donations to run its wiki-based projects. Wikimedia provides computing and network resources to create and distribute many reference works including Wikipedia & Wikitonary & Wikiquote & Wikibooks & Wikinews & Wikisource & and the Wikimedia Commons & The content of these projects is provided to the public free of charge. How your donation will help All of our sites are free from advertisements. Visitors are not charged to edit, read or use our content. We rely entirely on donations to fund our projects. Our unprecedented growth in traffic and content requires regular hardware & updates to prevent outages without sacrificing function colocation center, purchase of Wikimedia's domain names, sponsorship of expenses.		
	See Budget/2005 for our latest budget, which details where the money will go, and meta: Wikimedia servers/hardware orders for details of the hardware we ordered after our last fundraising drive.		
	The Wikimedia Foundation also requires funding to continue its pioneering addition, we are pursuing grants to fund the packaging and distribution of Every donation can make a big difference. If you have any questions rega	Wikimedia content to places that do not have access to the Internet.	

Figure 14 Wikimedia's page requesting donations.⁴¹

 ³⁹ "What Does Free Mean?" http://www.debian.org/intro/free. Last edited 24 September 2006. (1 October 2006).
 ⁴⁰ Lakhani, Karim R. The Core and the Periphery in Distributed and Self-Organizing Innovation Systems. Doctorate Thesis, February 2006.

⁴¹ "Fundraising." http://wikimediafoundation.org/Wiki/Fundraising. Last updated 29 August 2006. (17 October 2006).

Open source projects are not a new phenomenon, but their popularity has skyrocketed in recent years. Many believe that the GNU project launched in 1984 was the first true open source project.⁴² Richard Stallman founded GNU ("GNU is Not Unix") in 1983 with a letter containing the following quote:

Starting this Thanksgiving I am going to write a complete Unix-compatible software system called GNU (for Gnu's Not Unix), and give it away free to everyone who can use it. Contributions of time, money, programs and equipment are greatly needed.43

The "free" would later be often clarified as being "free as in speech, not as in beer." Regardless of the definition of the "free," Stallman called for people to work on his project for no monetary reward. It was then distributed including its source code—the earliest "open source."



Figure 15 GNU's mascot.

The Open Source realm has grown exponentially. Among the best known are Apache (a high tech incubator) and SourceForge, which has over one million projects.

⁴² "The GNU Operating System: Free as in Freedom." http://www.gnu.org/. (20 September 2006).

⁴³ Stallman, Richard. "new UNIX implementation." http://www.gnu.org/gnu/initial-announcement.html. 27 September 1983.

/elcome to the Software Map. The Software map will help you quickly navigate around the thousands of rojects hosted on SourceForge.net. To use the Software Map, simply click on one of the popular Topics rojects hosted on SourceForge.net. To use the Software Map, simply click on one of the popular Topics clustering (464) Most downloaded: openMosix Most downloaded: Complexity: OpenMesix Most downloaded/active: openMosix Most downloaded/active: openMosix Most downloaded/active: openMosix Most downloaded/active: openMesix Most downloaded/active: openMesix Most downloaded/active: phpMyAdmin Desktop (3232) Most downloaded/active: spipMyAdmin Desktop (3232) Most downloaded/active: Counter (1882) Most downloaded/active: Counter (1882) Most downloaded/active: SpipMyAdmin Development (22875) Most downloaded/active: Counter Most downloaded/	G.	
OPEC Normal Map Normal Map Normal Map Normal Map Create Project Map		
Hand Hopeds My Page Help Water Map Create Project New Releases Top Projects New Projects Help offware Map Create Project New Releases Top Projects Help offware Map Top Projects Setting (454) Image: Setting (454) Image: Setting (454) elecome to the Software Map. Top Software Map, simply click on one of the popular Topics Setting (454) Clustering (454) Most downloaded comMosix Most downloaded comMosix Most downloaded complexes Setting (456) Most downloaded comMosix Most downloaded comMosix Most downloaded Complexes ERP + CRM Business Setting (455) Most downloaded comMosix Most downloaded Complexe ERP + CRM Business Storage (2137) Most downloaded contrex phpMyAdmn Most downloaded ZSNES Storage (2137) Most downloaded contrex (1420) Most downloaded CDex Most downloaded CDex Most downloaded contrex (1427) Most downloaded CDex Most downloaded CDex Most downloaded contrex (1420) Most downloaded CDex Most downloaded triketox Most downloaded contrex (1420) Most downloaded CDex Most downloaded triketox Most downlo		
New Projects New Projects Help Wanted projects Saftware Map offtware Map Topics elcome to the Software Map. The Software map will help you quickly navigate around the thousands of popular Topics pipets hosted on SourceForge.net. To use the Software Map, simply click on one of the popular Topics pipets hosted on SourceForge.net. To use the Software Map, simply click on one of the popular Topics pipet list. Clustering (464) Most downloaded coenMostx Most downloaded coenMostx Most downloaded: GranWrace MpMAdmin Database (195) Most downloaded: GranWrace Map. 1149961 Most downloaded: GranWrace Most downloaded: GranWrace Desktop (1222) Most downloaded: GranWrace Map. 1149961	are Se	ach. Admi
Index Projects > Software Map oftware Map Topics elscome to the Software Map. The Software map will help you quickly navigate around the thousands of jacts hosted on SourceForge.net. To use the Software Map, simply click on one of the popular Topics played. Once you're browsing a particular topic, you'll be able to easily filter, sort and search your ject list. Clustering :464) Most downloaded: openMosix Most downloaded: copenMosix Most downloaded: fon.Wn32 Most downloaded: StepMaria Most downloaded: why physic		
oftware Map Topics elcome to the Software Map. The Software map will help you quickly navigate around the thousands of jacts hosted on SourceForge.net. To use the Software Map, simply click on one of the popular Topics splayed. Once you're browsing a particular topic, you'll be able to easily filter, sort and search your ject list. Clustering 4641 Financial (1855) Most downloaded: open Hell Most downloaded: Corpiere ERP + CRM Business Solution Database (6155) Most downloaded/dective: phpMyAdmin Database (6155) Games (14936) Most downloaded/dective: phpMyAdmin Games (14936) Most downloaded/dective: phpMyAdmin Most downloaded: StepMaria Desktop (2232) Most downloaded: StepMaria Most downloaded/dective: Gain Hardware (1642) Enterprise (1438) Most downloaded/dective: FileZ0) Most downloaded/dective: ZV - Ajex but no JevaScript Most Active: Intescape Most downloaded/scrive: ZV - Ajex but no JevaScript Most Active: FileZ0) Most downloaded/scrive: ZV - Ajex but no JevaScript Most Active: FileZ0) Most downloaded/scrive: ZV - Ajex but no JevaScript Most Active: FileZ0) Most downloaded/scrive: ZV - Ajex but no JevaScript Most Active: FileZ0) Most downloaded/scrive: ZV - Ajex but no JevaScript Most Active: FileZ0)		
elcome to the Software Map. The Software map will help you quickly navigate around the thousands of picts hosted on SourceForge.net. To use the Software Map, simply click on one of the popular Topics picts hosted on SourceForge.net. To use the Software Map, simply click on one of the popular Topics picts hosted on SourceForge.net. To use the Software Map, simply click on one of the popular Topics picts hosted on SourceForge.net. To use the Software Map, simply click on one of the popular Topics picture forge.net. To use the Software Map, simply click on one of the popular Topics picture forge.net. To use the Software Map, simply click on one of the popular Topics. Clustering (454) Financial (1855) Most downloaded: openMosix Most downloaded: Complete ERP + CRM Business Solution Most active: OpenIPI Most active: OpenIPI Database (6165) Most active: OpenIPI Most active: Inkacape Games (14836) Most active: Inkacape Most active: Sourn/M Most active: Inkacape Most active: Inkacape Most active: Inkacape Multimedia (13232) Most active: Z(- Ajex but no JavaScript Most Active: Most active: Z(- Ajex but no JavaScript Most Active: Most active: Z(- Ajex but no JavaScript Most Active: Most active: Z(- Ajex but no JavaScript Most Active: Most active: Z(- Ajex but no JavaScript Most Active: Most Active: Nost Active:	<u></u>	
elcome to the Software Map. The Software map will help you quickly navigate around the thousands of opiects hosted on SourceForge.net. To use the Software Map, simply click on one of the popular Topics of the software Map. Software Map, simply click on one of the popular Topics of the software Map. Software Map, simply click on one of the popular Topics of the software Map. Software Map, simply click on one of the popular Topics of the software Map. Software Map, simply click on one of the popular Topics of the software Map. Software Software Software Software Software Software Software Software Software Map. S	au theur c	-
Digects hosted on SourceForge.net. To use the Software Map, simply click on one of the popular Topics Security (2892) Digect list. Clustering :464) Financial (1855) Most downloaded: copenMosix Most downloaded: Complete ERP + CRM Business Security (2892) Most downloaded: CopenMosix Most downloaded: Complete ERP + CRM Business Security (2892) Most downloaded: CopenMosix Most downloaded: Complete ERP + CRM Business Security (2892) Most downloaded: CopenMosix Most downloaded: CopenFP Most downloaded: WinSCP Database 16155) Games (14996) Most downloaded: CPL Most downloaded: Gru/Win32 Most active: SourmVM Most active: SourmVM Most downloaded.Gru/Win32 Most active: SourmVM Most active: Inscape Most downloaded.Gru/Win32 Most active: macan - webcain driver for Moc OSX Most active: Tryp/M/C Most downloaded.crive: Gain Most active: Inscape Most active: Inscape Most active: Zr - Ajax but no JevaScript Most active: Inscape Most active: Inscape Most active: Zr - Ajax but no JevaScript Most Active: Inscape Display All * Most active: Sort All Projects Most Active: Most Active: FleXilla New Additions: 1. eMula 1. Gaim 1. Stanford Conference And Research	XURCER AGE	
pipayed. Once you're browsing a particular topic, you'll be able to easily filter, sort and search your Security (2832) Clustering (464) Financial (1865) Most downloaded: openMosix Most downloaded: Complete ERP + CRM Business Soldion Soldion Database (6155) Most downloaded: Complete ERP + CRM Business Database (6155) Most downloaded: Complete VDERP Database (6155) Games (14996) Most downloaded/active: phpMyAdmin Games (14996) Most downloaded/active: phpMyAdmin Games (14996) Most active: inscape Most active: Sourn/VM Development (2237) Most active: Sourn/VM Most downloaded/active: Gain Hardware (1642) Enterprise (-1287) Most active: Inscape Most active: Inscape Networking (463) Most active: Inscape Display All * View all of the topics in the Software Mep Statistics for All Projects Most Active: Most Downloaded: Nest Active: 1. eMula 1. Gaim	DOWNLOAD	1
Clustering (464) Financial (1855) Security (2832) Most downloaded: openMosix Most downloaded: Compiere ERP + CRM Business Security (2832) Most downloaded: VMSCP Most downloaded: VMSCP Most downloaded: VMSCP Datablase (6155) Most downloaded: VMSCP Most downloaded: VMSCP Desktop (3222) Games (14396) Most downloaded: VF. FePess Password Safe Desktop (3222) Most downloaded: SSNES Most downloaded: VF. FePss Password Safe Desktop (3222) Most downloaded: SSNES Most downloaded: T. Sph MyAdmin Desktop (3222) Most downloaded: SSNES Most active: Fight/Admin Most downloaded. Gru/Wn32 Most active: Sourm/VM SysAdmin (3310) Most downloaded. StepMania Most active: macan - webcam driver for Mac OS X Most active: fight/NUC Most downloaded. Wrighton Most active: macan - webcam driver for Mac OS X Most active: freePs Most active: ZK - Ajax but no JavaScript Most active: Inkscape Display All * Most downloaded: Most Active: FieZila Display All * Statistics for All Projects Most Active: FieZila New Additions: 1. eMula 1. Gaim 1. Stanford Conference And Researce		
Most downloaded: openMosix Most active: Open IPI Most downloaded: Compilere ERP + CRM Business Solution Most downloaded: VMSCP Most active: Cpenbravo ERP Most downloaded: VMSCP Most active: Cpenbravo ERP Database (6155) Games (14996) Storage (2197) Most downloaded/active: phpMyAdmin Games (14996) Storage (2197) Most advive: inscape Most advive: SourmVM SysAdmin (2300) Most active: inscape Most advive: SourmVM SysAdmin (2300) Most active: inscape Hardware (1642) Most active: inscape Development (2237) Most active: inscape Most active: inscape Most downloaded.ctive: Gain Most active: inscape Most active: inscape Most advive: inscape Most advive: inscape Most advive: inscape Most advive: inscape Most advive: inscape Most advive: inscape Development (2237) Most advive: inscape Most advive: inscape Most advive: inscape Most advive: inscape Most advive: inscape Most advive: inscape Most advive: inscape Display All * Most advive: inscape Networking (463)) Most downloaded! View all of the topics in the Software Map Most advive: inscape Most advive: inscape Display All * Most advive: inscape Most advive: inscape Networking (463)) Most downloaded!		
Most downloaded: openMosix Most active: Open IPI Most downloaded: Compilere ERP + CRM Business Solution Most downloaded: VMSCP Most active: Cpenbravo ERP Most downloaded: VMSCP Most active: Cpenbravo ERP Database (6155) Games (14996) Storage (2197) Most downloaded/active: phpMyAdmin Games (14996) Storage (2197) Most advive: inscape Most advive: SourmVM SysAdmin (2300) Most active: inscape Most advive: SourmVM SysAdmin (2300) Most active: inscape Hardware (1642) Most active: inscape Development (2237) Most active: inscape Most active: inscape Most downloaded.ctive: Gain Most active: inscape Most active: inscape Most advive: inscape Most advive: inscape Most advive: inscape Most advive: inscape Most advive: inscape Most advive: inscape Development (2237) Most advive: inscape Most advive: inscape Most advive: inscape Most advive: inscape Most advive: inscape Most advive: inscape Most advive: inscape Display All * Most advive: inscape Networking (463)) Most downloaded! View all of the topics in the Software Map Most advive: inscape Most advive: inscape Display All * Most advive: inscape Most advive: inscape Networking (463)) Most downloaded!		
Most active: Open HPI Solution Most active: Open brave ERP Most active: KeePass Password Safe Database (6165) Most active: Open brave ERP Storage (2137) Most downloaded/active: phyMyAdmin Games (14936) Most downloaded: SSNES Most downloaded/active: 7-Zip Desktop (3230) Most active: SUBS Most downloaded: StepMania Most active: Inkscape Hardware (1642) Most active: phyMyAdmin Development (22373) Most active: macam - webcam driver for Mac OS X VolP (315) Most active: Inkscape Most active: macam - webcam driver for Mac OS X VolP (315) Most active: Researc Most active: macam - webcam driver for Mac OS X VolP (315) Most active: Researc Most active: macam - webcam driver for Mac OS X VolP (315) Most active: Researc Most active: macam - webcam driver for Mac OS X VolP (315) Most active: Researc Most active: macam - webcam driver for Mac OS X VolP (315) Most active: Researc Most active: macam - webcam driver for Mac OS X VolP (315) Most active: Researc Most active: Inkscape Display All * Most active: Inkscape Display All * View all of the topics in the Software Map Networking (4663) Most active: FleZilla View all of the topics in the Software Map Statistitics for All Projects Most Active:		
Most downloaded/active: phpMyAdmin Games (14396) Most downloaded/active: 7.2jp Most downloaded/active: 7.2jp Desktop (3232) Most downloaded: Gnu/Wn32 Most downloaded: Gnu/Wn32 Most active: Iniscape Hardware (14396) Most downloaded: StepMania Most downloaded: StepMania Most downloaded/active: macam - webcam driver for Mac OS X Most active: field (15250) Most active: field (1663) Most active: field (1663) Most active: field (1663) Most active: field (1663) Most active: fi	fe	
Most downloaded: Most downloaded: ZSNES Desktop (2232) Most downloaded: SysAdmin (3340) Most downloaded: Most downloaded: Most downloaded: Development (2237) Most downloaded: Most downloaded: Development (2237) Most downloaded: Most downloaded: Most downloaded: Most downloaded: VolP (315) Most downloaded: Most downloaded: Most downloaded: Most downloaded: Wost downloaded: VolP (315) Most downloaded: Most downloaded: Most downloaded: Most downloaded: Most downloaded: Display All () Most downloaded: Networking (465)) View all of the topics in the Software Map Statistics for All Projects Most Active: New Additions: 1. eMule 1. Gaim 1. Stanford Conference And Researce		
Desktop (3232) Most active: ScumiVM SysAdmin (3310) Most downloaded: ChuWh32 Hardware (1642) Most downloaded: Tight/NIC Most active: hkscape Most downloaded: StepMania Vol P (315) Development (22373) Most active: macan - webcam driver for Mac OS X Vol P (315) Most downloaded: Way Not active: macan - webcam driver for Mac OS X Vol P (315) Most downloaded: Way Not active: macan - webcam driver for Mac OS X Vol P (315) Most downloaded: Way Not active: macan - webcam driver for Mac OS X Vol P (315) Most active: macan - webcam driver for Mac OS X Vol P (315) Most active: macan - webcam driver for Mac OS X Vol P (315) Most active: macan - webcam driver for Mac OS X Vol P (315) Most active: macan - webcam driver for Mac OS X Vol P (315) Most active: macan - webcam driver for Mac OS X Vol P (315) Most active: macan - webcam driver for Mac OS X Vol P (315) Most active: macan - webcam driver for Mac OS X Vol P (315) Most active: macan - webcam driver for Mac OS X Vol P (315) Most active: macan - webcam driver for Mac OS X Vol P (315) Most active: macan - webcam driver for Mac OS X Vol P (315) Most active: macan - webcam driver for Mac OS X Vol P (315) Most active: macan - webcam driver for Mac OS X View all of the to		
Most downloaded: Gru/Wn32 Hardware (1642) Most downloaded: TightYNC Most downloaded: Most downloaded: Most downloaded: Most downloaded: Development (22873) Most downloaded: Most downloaded: Most downloaded: Most downloaded: Most downloaded: Most downloaded: Vol P (313) Most downloaded: Most downloaded: Most downloaded: Vol P (313) Most downloaded: Most downloaded: Most downloaded: Vol P (313) Most downloaded: Most downloaded: Most downloaded: Vol P (313) Most downloaded: Most downloaded: Most downloaded: Vol P (313) Most downloaded: Most downloaded: Most downloaded: Vol P (313) Most downloaded: Most downloaded: Most downloaded: Vol P (313) Most downloaded: Most downloaded: Cleax Display All * Most downloaded: Most downloaded: Vol P (313) View all of the topics in the Software Map Statistics for All Projects Most Active: New Additions: 1. Most Downloaded: 1. Gaim 1. Stanford Conference And Researc		
Most active: Inkscape Hardware (14521) Most active: phpMyAdmin Development (22373) Most downloaded: StepMinia VolP (315) Most downloaded.edive: Gain Multime dia (13252) Most active: mePBX Enterprise (-398) Most active: inkscape Display All & Most active: XX - Ajax but no JavaScript Networking (4663) Display All & Most active: FielZilla Most active: FielZilla New Additions: 1. eMulta 1. Gaim 1. Stanford Conference And Research		
Most downloaded: StepMania Most downloaded: StepMania VolP (315) Development (22373) Most downloaded: StepMania Wost downloaded: TstepMania Most downloaded:ded/ective: Gain Most downloaded: (31230) Most downloaded: Trictoox Enterprise (1388) Most downloaded: (13230) Most downloaded: Trictoox Most downloaded: wxPython Most downloaded: (20ex Most active: Inkscape Most downloaded: wxPython Most active: Inkscape Display All * Networking (4663) Most downloaded: Clex: View all of the topics in the Software Map Statistics for All Projects Most Active: FileZilla New Additions: 1. eMule 1. Gaim 1. Stanford Conference And Research		
Development (22373) Most active: macan - webcam driver for Mac OS X Vol P (313) Most downloaded/active: Gain Multime dia (1523) Most downloaded: tricbox. Enterprise (1389) Most downloaded: CDex Most active: rePBX Most downloaded: two ybython Most active: inkscape Display All + Most downloaded: CDex Most active: rePBX Display All + Most downloaded: CDex Most active: repEX Display All + Most downloaded: CDex Most active: repEX Display All + Most downloaded: CDex Most active: repEX Display All + Most downloaded: CDex Most active: repEX Display All + Networking (4663) Most downloaded/active: FleXilla View all of the topics in the Software Map Statistics for All Projects Most Active: New Additions: 1. eMulta 1. Gaim 1. Stanford Conference And Researce		
Most downloaded/active: Gain Multimedia (13230) Most downloaded: trizbox. Enterprise (1368) Most downloaded: CDex Most active: treePBX Most downloaded: VaxPython Most active: inkscape Display All * Most active: ZK - Ajax but no JavaScript Networking (4663) View all of the topics in the Software Map Statistics for All Projects Most Active: New Additions: 1. eMule 1. Gaim 1. Stanford Conference And Research		
Enterprise (+368) Most downloaded: CDex Display All + Most downloaded: wxPython Most downloaded: CDex Display All + Most active: Inkscape Display All + Most active: Zk - Ajex but no JavaScript Networking (4663) Most downloaded: Most downloaded/Active: FieZilia		
Most active: Display All * Most active: Display All * Most active: ZK - Ajax but no JavaScript Most downloaded/active: File Zilla Most Downloaded: Most Active: 1. eMule 1. Gaim		
Most downloaded, worymon Networking (4663) View all of the topics in the Software Mep Networking (4663) Networking (4663) Most downloaded/active: New Additions: 1. eMule 1. Gaim		
Networking :4633 Most downloaded/active: FileZilla Statistics for All Projects Most Downloaded: Nost Active: New Additions: 1. eMule 1. Gaim 1. Stanford Conference And Researc		
Most downloaded/active: FieZila Statistics for All Projects Most Downloaded: Most Active: New Additions: 1. eMule 1. Gaim 1. Stanford Conference And Researc	е Мар	
Most Downloaded: Nost Active: New Additions: 1. eMule 1. Gaim 1. Stanford Conference And Research		
Most Downloaded: Most Active: New Additions: 1. eMule 1. Gaim 1. Stanford Conference And Research		
1. eMule 1. Gaim 1. Stanford Conference And Research		
	Research	
2. Ares Galaxy 2. ZK - Ajax but no JavaScript Forum		
3. Azureus ¹³ : 3. 7-Zip 2. process sustaining database	ase	
4. Shareaza 4. OpenWFE 3 3. LotusScript Editor for Eclipse	ipse	

Figure 16 SourceForge.net is an online space for developers to work jointly on software projects.

Boston Consulting Group wanted to look at what made people write "free" software. In doing

so, they spoke with Open Source expert Karim Lakhani.

Lakhani says (open source programmers) could be separated into four categories: community believers (those who believe source code should be open), professionals (program for a work need), hobbyists (program for non-work reasons) and the learners (program to build skill and have fun).⁴⁴

These attitudes would carry over from beyond software developers into many areas. Each of the

four groups created could eventually be applied to more casual users of community technology,

such as Wikis.

⁴⁴ Surmacz, John. "Creative Coding." <u>Darwin</u>. 31 July 2002.

http://64.28.79.73/learn/numbers/number_detail.cfm?ID=92&METRIC=410. (20 September 2006).

Community believers work for a common good. They would enter content into Wikis, chat rooms, or forums believing that someday their "donation" would be returned in the form of information they might need. In addition, a survey conducted for this thesis identified that 50% of those polled would contribute content to a Wiki simply for the "sense of helping others."⁴⁵ A strong community is an imperative for a Web 2.0 site, and those who are already community believers are a good resource.

Professionals in open source code to improve their own software. While they may receive no monetary compensation, they are rewarded with a software product which can help them further their jobs. This is probably the category to which it is most difficult to directly tie community sites. While only 22% of survey respondents said they would enter Wiki content for money, many have joined companies in which contributing to Wiki content can build a positive online reputation. For example, if one wanted to build credibility around a new sports site, those involved in this community may want to post to other sites to start building a reputation that would lend credibility to their own sites. While perhaps not exactly the same as coding software to use a product, it is similar in that these users are strengthening communities so that their own may survive.

Hobbyists are perhaps the clearest to link. Many people like to share knowledge about their passions. In the survey, 68.6% of respondents who had contributed to a Wiki cited the main reason as being subject expertise, not error correction or compensation. Contributing to an

⁴⁵ Davidi, Ilana. "SurveyMonkey: Web 2.0 Contributions."

http://www.surveymonkey.com/s.asp?u=833272435673. Survey closed 25 October 2006.

online community is one means by which to further a hobby; it creates more vested involvement, especially when the contribution requires a login and helps the user to start building a reputation within that community.

Last are the learners. 17.1% of those who had contributed to a Wiki did so to "try a new technology."⁴⁶ People can have the opportunity to learn both by playing with the new web 2.0 technology, and by learning about the content on the site. This thesis was available at http://www.writemythesis.com. While the experiment of having others write this did not necessarily succeed, reactions were interesting. I intentionally left spelling errors on the page. I had one person respond to me, telling me of the error. When I had this person fix it, she was happy that she understood the new technology, and said she would contribute again in the future if the opportunity presented itself centered on a subject she understood.

3.2 Attitude history

For some, the notion of people doing work for free seemed almost impossible. Said Aaron Swartz, a member of the board at Wikimedia:

"If I had come here five years ago and told you I was going to make an entire encyclopedia by putting up a bunch of web pages that anyone could edit, you would have been able to raise a thousand objections: It will get filled with vandalism! The content will be unreliable! No one will do that work for free!" ⁴⁷

However, once Wikipedia's growth began, it was exponential. A community grew around the content, and many of Wikipedia's entries are among the first hits that come up for various

⁴⁶ Davidi, Ilana. "SurveyMonkey: Web 2.0 Contributions."

http://www.surveymonkey.com/s.asp?u=833272435673. Survey closed 25 October 2006.

⁴⁷ Swartz, Aaron. "Who runs Wikipedia?" http://www.aaronsw.com/weblog/whorunswikipedia. 7 September 2006.

Google searches. While vandalism does exist (and will be discussed shortly), the attitude of many people was positive enough to make Wikipedia into a viable and successful business.

3.2.1 Open Source Attitude outside of Open Source

More and more services and products similar to those produced by open source are being done by those not involved in software programming: the online sphere has become a popular place for such adventures as dating or finding and booking travel. The openness seen in the open source community seemed to be dispersed into other parts of the Internet, those populated both by software engineers and by average users. User reviews would soon be shared on lines in such sites as Epinions and TripAdvisor.

e <u>E</u> dit <u>Y</u> iew <u>G</u> o <u>Bookmarks</u>	Iook Help			¢.,
• 🕹 • 🛃 🔕 🚳	🟶 http://www1.epinions.com/pr-Hughes_HR10-250_Digital_TV_Recorder/display_~reviews 🕑 🔘	50 👸	C,	
Read Reviews				
Showing 1-15 of 16 reviews	Page 1 <u>2</u> - <u>View all</u>		- %	
Sont by Product Rating	Sort by Review Date			
Product Rating: ★★★★ Sound: and an	Those in the Know - TiVo! High-Def On Demand Programming with the Hughes HR10-250 by <u>mrs.j Poetularautikor - Top 100</u> , Dec 01 124 of Very Heloful review)		(((\$)))	
Picture Guelity, Managemen Nurability Asam	 Pros: TiVo functionality for HDTV can't be beat, great interface, the usual TiVo greatness. Cons: Hardware failure on our first unit required its replacement within the first six months. 			
lecording Time	My TiVo addiction began when a very good friend who happened to be my roommate practically forced me into buying an open box TiVo, and then helped me hack it into a 101 hour TiVo. I reviewed that box h ere. I fell in		VALUE	
	Read the full review		YOU EXPECT	
Product Rating: ★★★★ Sound: 2007-00-000-000-000-000-000-000-000-000-	A True Believer In DirecTV and TiVo by <u>muuviemaker</u> , May 21 06 (A Very Helpful review)			
Ease of Use Annual Constant Picture (Suality) Annual Constant Durability Annual Constant	Pros: Worth The money. Get many Freebies. Easy to use and understand. Sophisticated yet simple. Cons: Sometimes cuts your pre-recorded program short.	V	NAL+MART	
lecording Time Manuan an	How in the world did we survive all these decades without it? Now if it is broken it is as serious as our car not running. I have had DirecTV since 2001 and upgraded to TiVo a couple years ago. Fell madly in love and have upgraded Receivers and Dishes	1997 1997		
	Read the full review		curcuit 1	
Product Rating: ★★★★ Sound:	Integrated DVR & TiVo Makes this a Hit ! by <u>glenhamilton</u> . Sep 29 C4 (A very Helpful raview)	• •		
Ease of Use	Pros: Quiet, reliable, flawless recordings. Built-in ATSC tuners (HDTV off-air broadcasts).	S	Shop smarter	

Figure 17 User opinions on ePinions.com

People would work for free, contributing time and effort to submit a user review, and often for no credit other than an attribution to a screen name. However, this process is still not completely communal; while posters seem to be posting for no reason other than helping others, they are still passing on information unilaterally instead of through a communal voice. In addition, all reviews must be approved through processes at Epinions and TripAdvisor, and can take up to 48 hours to appear. Rather than being of one voice in a real-time setting, users spoke asynchronously through different channels. While still a positive community, the asynchronous nature of this type of site left space for a different type of communal site.

3.2.2 Web logs

Web logs, less formally and more commonly known as "blogs," have appeared almost everywhere; information consolidator Technorati lists over 53.1 million blogs.⁴⁸ Some blogs are web diaries, while other have distinct purposes: information, entertainment, or knowledge dissemination centered on a specific topic. Some writers claim blogs, others blog anonymously. While a blog is not an even community as a Wiki is, it is a place where one person or one group of people can share an initial opinion, and many others can comment.

What makes people blog?

If we can look at why people blog, perhaps we can understand why they are ready to go another step and completely hand over control of their knowledge. One blogger named "Writer Chick" asked what made people write blog entries. Responded one writer:

⁴⁸ http://www.technorati.com/. 4 September 2006.

The blogger, by virtue of simply writing down whatever is on his mind, will be confronted with his own thoughts and opinions. Blogging every day, he will become a more confident writer. A community of 100 or 20 or 3 people may spring up around the public record of his thoughts. Being met with friendly voices, he may gain more confidence in his view of the world; he may begin to experiment with longer forms of writing, to play with haiku, or to begin a creative project—one that he would have dismissed as being inconsequential or doubted he could complete only a few months before.⁴⁹

According to Writer Chick, it seems that bloggers blog for appreciation, self-reflection, and to create their own community. Many respondents to a survey distributed for this thesis noted that they blog to help people, think about what they have experienced, and just share with others to search for a common bond.

One survey respondent noted that she had posted to TripAdvisor because she would hope that someone with information about places she wanted to stay would post their opinions in return. Again, this is reminiscent of the "community" attitude discussed by Karim Lakhani in conjunction with Open Source software; people believe in community.

⁴⁹ "Why do Bloggers Blog?" http://writerchick.wordpress.com/2006/08/14/why-do-bloggers-blog. 14 August 2006 (20 September 2006).

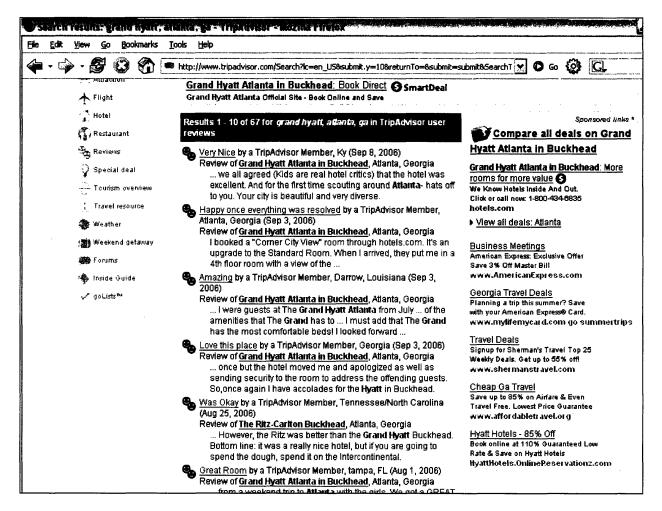


Figure 18 Listing of user reviews on TripAdvisor. Content is attributed to a single user for each entry, and content must be approved before being displayed on the site.

3.2.3 Wiki

With community-inspired entities such as open source, opinion sites, and blogs creating the Web

2.0-like community atmosphere, a path was cleared for Wiki to make its entry. As addressed in

the first chapter, "Wiki" is derived from the term "WikiWiki" in Hawaiian, meaning quick. A

Wiki was described by Ward, its creator, as "The simplest online database that could possibly

work." Wiki.org has expanded on this definition as follows:

Wiki is a piece of server software that allows users to freely create and edit Web page content using any Web browser. [...] Wiki is unusual among group

communication mechanisms in that it allows the organization of contributions to be edited in addition to the content itself.⁵⁰

One of the benefits of a Wiki is that it gives all users an equal opportunity to edit and manage content. This was the true intent of the Web by the man that invented it, who saw the Web as a place for people to "communicate by sharing their knowledge in a pool."⁵¹

3.3 Who writes Wikis

"When they first hear about Wikipedia, many people think that articles are created by people adding a few words at a time. Many edits are very minor, and just fix spelling, rephrase, or add a fact or two. But some editors who are interested in a particular subject contribute paragraphs or whole articles at a time; these editors might be anyone from a professor in the field, to a hobbyist, to a person who just wants to fill a hole in the encyclopedia."⁵²

Indeed, many different types of people contribute to Wikis. Wikis center on any number of subjects, and each successful Wiki must have active contributors. There are Wikis for almost every topic, as well as general Wikis such as Wikipedia or Wikinews, which appeal to a vaster audience.

Absolute indicators of who contributes to Wikis were difficult to discern in a survey conducted for this thesis. Of the 45 respondents who had contributed to a Wiki, 91.1% of them considered themselves technically savvy (compared to 68.5% of the total of 131 respondents). 51.1% of them were on the computer for 8 or more hours a day, and the reason most cited for contribution was "subject matter expertise" at 68.6%. 79.5% of them had used Microsoft's "Track Changes"

⁵⁰ "What is Wiki?" http://Wiki.org/Wiki.cgi?WhatIsWiki. Last edited 27 June 2002. (20 September 2006). ⁵¹ Lamb, Brian. Wiki Ready or not, p7.

⁵² "Who Writes Wikipedia?" http://en.wikipedia.org/Wiki/Wikipedia:Who_writes_Wikipedia. Last updated 19 September 2006. (19 September 2006).

feature. This last feature seemed to be the second biggest indicator of whether someone might contribute to a Wiki or not behind the consideration of oneself as technically savvy; only 64.8% of all respondents had contributed.

These numbers were in general to non-absolute to prove a path about Wiki contributors. It seems that people will contribute when they know a subject, although those that are technically savvy may be slightly more inclined to do so. Being on a computer for more than 8 hours a day may also give users more time to spend looking at Wiki sites and familiarizing themselves with these communities.

3.3.1 Problem of people not understanding purpose

Some visitors to Wiki sites may not have an ill purpose in mind, but can compromise the integrity of a Wiki by not fully understanding or learning its purpose: both the purpose of the site, and the purpose of Wiki technology.

Instead of providing information, these users may post questions in the middle of a Wiki or create a Wiki around a question. For example, on the CarGurus Wiki site, one user had posted: "I am trying to find out how many mustangs were made in 1964-1/2" on the Wiki page for this car. Ironically, this behavior is not ostensibly harmful to the site, and may even win some users, as they see that others share the same inquiries as themselves. However, it is still not directly inline with the purpose of the Wiki.

When I distributed the link to the Wiki for this thesis (http://www.writemythesis.com), I received questions and comments concerning the Wiki. I was thrilled; this meant that perhaps I would be

seeing some edits from various people. However, many of the comments centered on typos I had put in to the Wiki on purpose. Several people reported these typos to me rather than fixing them themselves.

3.3.2 The Reversal: Using the online community to perfect the real

community

More Perfect (http://www.moreperfect.org) is a Wiki site which seeks to improve society by sharing ideas on a communal, un-password-protected Wiki.

more perfect was born out of the firsthand experience of its founders, who have been directly involved in the formulation of local and state-wide legislation and public policy for more than a decade. Frustrated with the limitations of the traditional approach to policy development, **more perfect's** founders set out to develop a model for collaboration that avoids a time consuming, costly and often ineffective public outreach process, and that would involve more people and reinvigorate the market of ideas.⁵³

They are taking the idea of an online community and extending it backward into an actual community, rather than the more typical reversal of trying to create a web community based on an existing "real" community. They have different sections to allow those who want to discuss and improve different aspects of society to do so.

⁵³ "About More Perfect." http://www.moreperfect.org/Wiki/index.php?title=About_More_Perfect. Last edited 21 September 2006. (2 October 2006).

* • • • 8 © G	http://www.moreperfect.org/wiki/ind	ex.php?title=National_Education	n:_Goals	♥ O ∞ @ G.	- 8 x
mor	e perfect			hink Tank	
	article discuss page edit	page page history		3 Create an account or log in	
get the latest Sign up for our news updates!	National Education: G	oals	1		
jump to your state	1. The Problem	2. Goals	3. Action	Read More	
browse home transportation education health care erwironment civil liberties civil liberties civil liberties civil liberties safety and security government reform more	 Increase graduation rate r Achieve a student-teacher no more than 80 students Achieve a computer ratio Empower students to thin 	r ratio of 18:1 in core acade total by 2010 of 4:1 by 2010	emic courses, with the goal o	of each teacher having a load of e teaching methods Next: Action >>	
heip • getting started • heip topics search Go Search handy links • new pages • recent changes • what links here					

Figure 19 Screen shot of more perfect.

While they get nowhere near the traffic of Wikipedia, their approach to managing society

through a Wiki is novel. They currently have 186 articles,⁵⁴ whereas Wikipedia measures theirs in the millions.

More perfect has been far from successful, as many of their pages remain the originally

generated stubs. This problem of creating an active online community with actively contributing

writers will be further explored in the following chapter on Business.

⁵⁴ "About More Perfect." http://www.moreperfect.org/Wiki/index.php?title=About_More_Perfect. Last edited 21 September 2006. (2 October 2006).

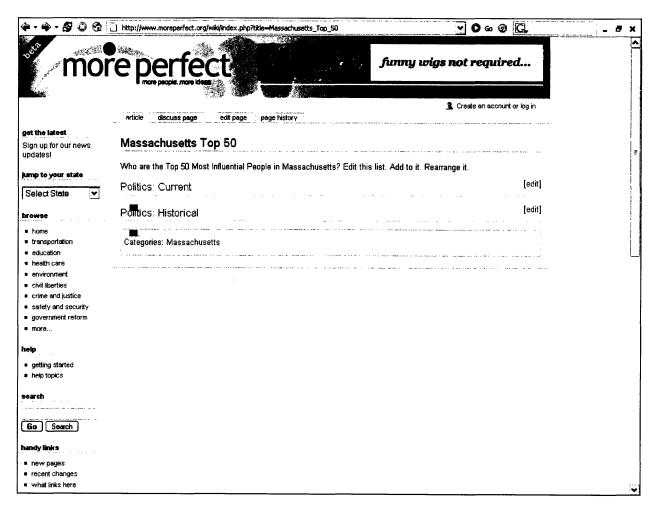


Figure 20 Screenshot of the more perfect page, showing an untouched Wiki stub.

3.4 Threats to Community

There are several threats to a community such as that comprised around a Wiki. For this community to be successful, the threats must be identified and controlled, either by the community or by official "police," such as a site owner.

The venerable Wikipedia has had many problems with vandalism and similar threats:

As problems of vandalism, prejudice and inaccuracy ensued, Mr. Wales [the founder] was reluctant to clamp down. In the end, he had to. The site has set down policies to mediate debates; it has banished unco-operative contributors; it locked down entries that were frequently vandalized (such as one on George Bush)—changes come only from contributors who are designated as leaders on

the strength of their work. A blunt new policy was promulgated: "Don't be a dick." [...] Wikipedia changed its rules so that only registered users can edit existing entries, and new contributors must wait a few days before they can start new ones.⁵⁵

Just as the world's largest Wiki has had to play with rules to get a successful product somewhat sheltered from threats, so must all other sites.

CBBP-type policies can play a large role in aiding in the content management of many sites. While some Wiki owners may be hesitant to request a login due to the threat of losing users who do not want to register, the reduced amount of vandalism may be worth losing a user to some. It may give the site more of an exclusive feel—not necessarily a good thing in a community site but legitimate users will likely respect the steps taken to protect the content they have painstakingly created.

3.4.1 Threats: Bots

Bots are machine processes which can interact with content on a site in ways intended only for human users. The most common non-malicious usage of bots is information gathering. For example, web crawlers crawl sites recursively to gather a listing of pages for that site.⁵⁶ The only real threat from these is server usage.

Other bots can be malicious by replacing content with advertising, inappropriate content, or nothing: they simply erase existing content. These bots can cripple a site both through their

⁵⁵ "Open Source Business: Open, but not As Usual."

http://www.economist.com/business/displaystory.cfm?story_id=5624944. 16 March 2006.

⁵⁶ "Internet Bot." http://en.wikipedia.org/Wiki/Internet_bot. Last edited 8 September 2006. (10 September 2006)

usage of the server and by leaving a path of destruction that humans have no alternative but to follow and clean.

The server usage by bots is such a threat to Wikipedia that it has created an official policy directing the use of bots on the site.⁵⁷ Bots on Wikipedia must receive permission from Wikipedia and must identify themselves through a formal policy program Wikipedia has created.⁵⁸ Owners of bots must first be good, active contributors to Wikipedia, and their bots must be proven to be harmless through the bot permission submission process. Most importantly, the bots must be benign, meant only to catalogue or record the information as a search site crawler would. In addition, spell-checking bots are explicitly outlawed, as Wikipedia feels these can ruin content in their sometimes haphazard attempts to improve it.

3.4.2 Threats: Spam

Spammers have many ways of infiltrating a Wiki. They can use brute force, posting links and text advertising their site. In some Wikis, then can even post images. They can choose to integrate their advertisements in at least two ways.

⁵⁷ Wikipedia:Bots. http://en.wikipedia.org/Wiki/Wikipedia:Bots. Last edit 7 September 2006. (10 September 2006).

⁵⁸ "Wikipedia:Bots. http://en.wikipedia.org/Wiki/Wikipedia:Bots. Last edit 7 September 2006. (10 September 2006).

▶ • ∳ • ∲ © ੴ	http://www.wiklindex.com/Category:Spam		·] O •• @ [C], _ = =		
WikiIndex	category discussion edit history		🤱 Log in / create account		
wiriInaex					
0-0	Category:Spam				
	Related		[edit]		
IndexWiki	 Spammed 				
ntent					
Welcome	Wikispam, external links placed	l in a wiki by spammers in an effort to	o raise the Google Page Rank of the		
 RecentChanges Community Portal WikiNode Wiki Lists People & Books Weblogs 	Wikis in this category discuss wiki spam. W be moved to Category Spammed. Articles in category "Spam"	e could use help going through these wikis to verify t	hat their topic is spam. If it's not, they should		
vigate					
Browse	There are 28 articles in this category.				
Help - Aide (fr) Random page	А	F cont.	R		
earch	 AnyiJser 	 Flashcom Wiki 	 Rider Guide 		
	В	 FusionAnomalyWiki 	S		
Go Search	 BlogWiki 	I	 Spam Scalpel Wiki 		
olbox	 BlubNet 	 InteractionWiki 	 Spamhuntress 		
What links here	С	κ	т		
Related changes Upload file	ChongqedWiki	■ Konspire2bWiki	 Talk:Devipedia 		
Special pages	 Community Wiki (rosemart org) 	Μ	 The Okopipi Wiki 		
Printable version Permanent link	 CommunityWiki CreationMatters 	 MetaFilter Wiki 	U		
vertisement	 CreationMatters CudebebadoWiki 	 MexicoWirelessWiki 	 UbcGradWiki 		
Ads by Google	F	N	v		
	 FairlγSecureAntiSpamWiki 	 Networks, art, & collaboration 	 Victoria 		
		 NotYourHouse 	w		
<u>Wiki Colbert</u>		Р	 WizardsOfOs3Wiki 		
Bring Stephen into 1		961			

Figure 21 Articles from Wikis focusing on dealing with spamming within Wikis.⁵⁹

First, some spammers and the bots they create work overtly. They will not mask their intent, posting only text such as "Check out this link: http://www.dummysite.com." This brute force method is easy to identify, but may be hard to fix. Either the Wiki community can delete the text or a site owner may be forced to monitor the site more carefully. If the site has login capabilities, these may need to be more stringently enforced.

To protect against this type of threat, a site owner (or a surrogate with administrator privileges) can try to filter out certain types of sites or IP's. However, this could create a problem for

⁵⁹ "Category: Spam." http://www.wikiindex.com/Category:Spam. Last updated 11 June 2006. (6 October 2006).

legitimate users. For example, if a site owner filters out any site linking to a specific technology, make of cars, or line of clothes, legitimate writers may no longer be able to post this type of information. However, if the same poster is consistently posting links to the same sites, code can be added to disallow these entries. Unfortunately, this could add more burden on the database and servers of the site owners. Balancing threats while not alienating users requires a delicate balance which will be explored in the Business chapter of this paper.

Another means by which bots operate is to integrate their text as seamlessly as possible into the text of the Wiki. They will appear to give advice centered around their good or service. For example, they can recommend visiting a certain car dealership or hotel, claiming that they have superior service. For the most part, this is harmless. However, when the seamlessly-entered link is to an inappropriate site, unsuspecting users can be misled. In addition, if this entry purposely uses incorrect information, the overall value of the Wiki would be diminished. This also can present an unfounded bias into which community members may fall.

The problem of blatant posting can be ameliorated in at least two ways. First, registration can be a requirement, keeping in mind that spammers could get around this by registering a new account each time their old one is shut down. However, registration can make it easier for a site owner to go in and delete all from a certain user.

A second defense is brute force. Users or owners of the community would need to go in and delete whatever this user has posted. This can start to deteriorate the community as users gain thoughts of being too closely monitored or policed. Conversely, it can strengthen the community

as they work to expel threats together. This theory will be explored in more detail in the section on community policing.

Blending is the third means, and is slightly more sinister in its cure. Users will have to go in and manually delete only the sentences, links, words, or phrases placed there by the spammers. This must be done carefully and by a human user, as loyal users to the community may be recommending some legitimate services, while spammers may be only recommending their own. Writes Sternstein of the trouble with spam in Wikis:

"Accessibility can [also] let in annoyances such as spam. People who use spambots - applications that post unwanted advertisements on public Web sites that allow comments - love Wiki sites because they are like free billboards. Wiki sites archive all their versions so they also archive spam, boosting spammers' page rankings on the Google search engine. Much of [a site director's] efforts were directed toward blocking spam. "It's a tough thing between being open and being secure," he said. "60

3.4.3 Threats: Malicious behavior

At the risk of sounding completely unscientific, I make this statement: some people are jerks.

They seem to base their existence not on their own accomplishments, but in detracting from

those of other people. They are not out to advertise services or further their own causes; they

just want to cause trouble.

These people have just as much right to go to Web 2.0 pages as any other user, and fully exploit this right. They do not have an advertising purpose in mind, but instead go into a community site and use profanity or grossly modify or delete the work of others. They can use inappropriate language and post inappropriate images.

⁶⁰ Sternstein, Aliya. "Wiki Means Fast." FCW.com http://www.fcw.com/article88467-04-04-05-Print. 5 April 2005.

Many threats of this type have learned how to get around prevention techniques. The use of fake IP addresses is common. The Microsoft web site goes into some detail on the problem of IP spoofing:

Most networks and operating systems use the IP address to identify a computer as being valid on a network. In some cases, it is possible for an IP address to be falsely used. This is known as identity spoofing. An attacker might use special programs to construct IP packets that appear to originate from valid addresses inside an organization intranet. After gaining access to the network with a valid IP address, the attacker can modify remoute or delate data. The attacker can also conduct other types of

modify, reroute, or delete data. The attacker can also conduct other types of attacks, as described in the following sections.⁶¹

Once one IP address is banned, they merely switch to another using any number of available software programs. Users such as these can exploit registration sites by entering false information, a fake or temporary email address, or other misleading information.

Similarly, some malicious users will go so far as to use network rerouters to hide their incoming information. Such sources are best known as the proxies which allow users to access blocked sites. Using fake routers, users can penetrate sites from which they have been blocked. There are sites throughout the web which allow people confined within schools to bypass blockers to access such sites as MySpace and Facebook.⁶² Similar sites can be used to alert other web sites which use IP address blocking as security.

⁶¹ "Security Issues With IP." http://www.microsoft.com/resources/documentation/windows/xp/all/proddocs/enus/sag_ipsec_ov2.mspx?mfr=true. Microsoft Corporation.

⁶² "View Blocked Sites from School or Work." http://www.fastandloud.com/uncategorized/blocked-school-work-filter-bypass-myspace-facebook-friendster-google-orkut-yahoo-360/. (1 October 2006)

3.4.4 Does community policing strengthen or weaken the community?

Community policing is the internal verification of Wiki content by those within the community. There are varying opinions on whether community policing strengthens or weakens the community. Some believe that it strengthens the community, as inappropriate content is filtered out by members of the community itself. However, others disagree that it strengthens the community, as different people may find different content inappropriate. Others wonder where the line is drawn for free speech.

For example, the aforementioned article on Bill Gates led to a discussion within the Wiki on the true origins of the "rumors" of his arrest and atheism.⁶³ It is, unfortunately, also an example of Wiki vandalism. Eventually, members of the community cleaned the article and gave it special status as an article which only selected members of the community can edit. The members of the community successfully policed this article, rendering a piece of work which was more factual. As with many Wikis, the history remains available so that users can see the past edits to the entry.

Sustainable Ballard considers itself a Wiki meant to be a "blueprint for every town."⁶⁴ It requests that users of different levels—from casual to administrator—monitor different pages and report any vandalism immediately. Administrators are further requested to follow up on such threats by

⁶³ "Bill Gates." Wikipedia. http://en.wikipedia.org/Wiki/Talk:Bill_Gates. Last modified 1 October 2006. (1 October 2006).

⁶⁴ "Sustainable Ballard." http://www.sustainableballard.org/Wiki/index.php. (9 October 2006).

using the database to monitor behavior by suspected vandals.⁶⁵ Casual users are asked to monitor

"Recent Changes" and note any misuse.

http://en.wikipedia.org/wiki/Talk:Bill_Gates	▼ O 60 @ C.	
THEREALVIEW		(edit)
To all editors who have been reverting this user's ridiculous edits, thanks, and it ha Mikipedia:Administrators%27_noticeboard/3RRRenesis13 14:39, 27 July 2006 (•	
don't think it was ridiculous, just misleading and not relevant to Bill Gates persona vas shown to have made are. Gazpacho 18:06, 27 July 2006 (UTC)	ally, while his deposition testimony and the d	ecisions he
The content itself is not <i>necessarily</i> what I meant was ridiculous it was com specifically, it was being reinserted immediately after removal (7 times), and a like a criminal ("before his founding company was declared an illegal monopoly blocked now, so we don't have to keep reverting the page over and over again.	lso the edits to Gates' photo's caption to mak y in the United States."). Anyway, the user h	ke him sound
Semi-Protection		[edit]
Anyone think, with the recent vandalism, that this article needs protection? - A Sh	ade Of Gray 09:49, 13 August 2006 (UTC)	
Pre-Law		[edit
think Bill Gates studied pre-law at Harvard, not computer science. He enrolled as	pre-law.	
Regardless of whether that is true, "pre-law" is not a degree. It is a program of prepare for law school. Gazpacho D1:15, 4 September 2006 (UTC)	f courses you take in addition to your degree	studies to
Were there even computer science degrees back then? I'd think almost certainly n be ahead of the curve User:coreydaj 03:53 17 Sept 2006	o my only doubt stems from the fact that H	larvard tends to
Arrest		[edit]
When was Gates arrested? April 75, September 75, or December 77? Somebody at all; different dates are all over the place. In the picture there's a number that cou supposed to be a date or not. We should have some definitive source for this. Ever	ld be the arrest date: 12 13 77. But I don't kn	• ·
What was the disposition of this arrest? Was he convicted or acquitted? We s was guilty. –Shoaler (talk) 09:29, 27 August 2006 (UTC)	shouldn't leave it hanging there because that i	mplies that he
I don't know, but I think the most important thing is to ensure that we have amission. Everyking 00:33, 37, August 2006 (LTC)	e the right date in there, because inaccuracy	is worse than

Community policing is primarily a positive thing. It shows that community members are vested

in the site and want to make it work to succeed. A small faction of these users may be upset

about what they may see as a limitation to free speech. In the end, the heightened quality of

pages from user policing offsets any problems with those upset about it. Users know the site is

used and protected, and will be more likely to leave their content there.

⁶⁵ "Sustainable Ballard: Vandalism."

http://www.sustainableballard.org/Wiki/index.php?title=Sustainable_Ballard:Vandalism_Prevention. Last updated 28 March 2006. (9 October 2006).

Chapter 4: Business

"Nobody has found the de facto business model for Wikis...It's kind of the Wild West."

-Ramit Sethi, co-founder of PBWiki, 4 September 2006⁶⁶

The concept of earning money from others' labor is intriguing. With several Web 2.0 technologies, that possibility presents itself as a viable reality. The ease of user interaction in a Wiki makes it a prime candidate for the basis of an Internet business. However, to build a successful business online, the site must appeal to a large audience—especially if the model is based on advertising.

This chapter will explore means of building, sustaining, and earning money from user writing.

4.1 Why Wiki

As noted in the Wiki definition section of this paper, a Wiki is a Commons-Based Peer Production, which is a project whose team is comprised of volunteers. CBBP refers primarily to Internet-based projects, but can include many different project types, such as software, libraries of data, and books.⁶⁷

Aaron Krowne, author of an article on the dispute between Encyclopedia Britannica and Wikipedia, claims there are at least two forms of CBPP sites: the free-form model and the owner-centric model. Wikipedia is an example of the former: no login is required although the

⁶⁶ Levine, Robert. "New Web Sites Seeking Profit in Wiki Model. <u>The New York Times</u>. Section C, page 1, column 6. 4 September 2006.

⁶⁷ Krowne, Aaron. "The FUD-based Encyclopedia." <u>Free Software Magazine.</u> 28 March 2005.

user can register if he or she wishes to claim the content he or she creates, and any person can edit any entry. Benefits of this kind of site were discussed in the chapter on community. The owner-centric model has an owner for each entry—usually the person who started the entry and this owner can grant selected users permission to edit. While users can suggest changes, only the owner may actually enter them until he or she decides to grant permissions to others. This model gives the owner more control of his site.

This owner-centric type of site is very similar to an open source project. Generally, in open source software—and always in Apache open source software projects—a project has an owner.⁶⁸ Users of the software may submit fixes, but in the beginning, the owner must implement these fixes himself. As the project progresses, the owner may recognize that individual and grant him the role of contributor or the higher role of administrator. Different roles have different levels of commit privileges, allowing users to edit and contribute directly to various parts of the project. In the CBPP model, different Wiki contributors earn the right to directly contribute content, just as do open source software developers.⁶⁹

⁶⁸ Davidi, Ilana; LaMantia, Matthew; Schiller, Dave; Shapira, Yoav. "Open Source Software at Apache." Unpublished. Submitted to System Project Management class, December 2005.

⁶⁹ Davidi, Ilana; LaMantia, Matthew; Schiller, Dave; Shapira, Yoav. "Open Source Software at Apache." Unpublished. Submitted to System Project Management class, December 2005.

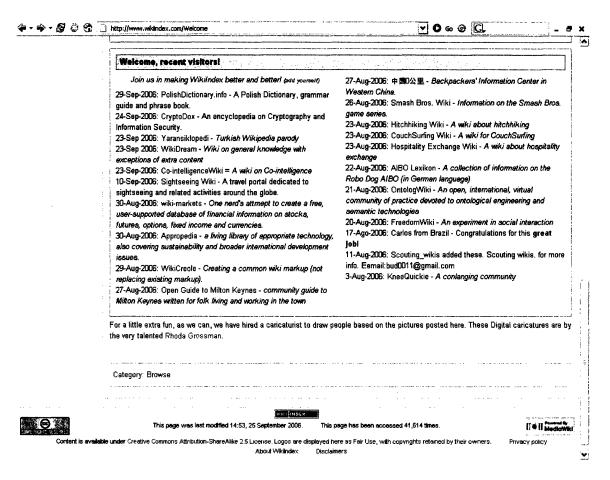


Figure 23 A variety of Wiki sites listed at wikiindex.com

To Krowne's two definitions, I add a third commonly found model: the login site with no specific monitoring for each entry. Monitoring can be executed at a higher level, with each entry allowed to flourish under the guidance of a user community. I would place this option in between his two options in terms of monitoring capabilities and user empowerment, and will refer to it as the general login model.

All of these models have advantages and disadvantages. With the free-form model, there is little barrier for users to write. This can be both a positive and a negative: while casual users may be more likely to make minor changes to content, they may be less likely to commit time when there is no credit to be received. This can also make it easier for vandalism to occur on the site, as there is no registration process and vandals can edit or destroy entries slightly more quickly and easily.⁷⁰

With the general login model, it is easier to track users, and it is simpler for these users to build reputations for themselves. Users can log in, create a name, and start earning a reputation. With the self-policing within the community, there is less for the business owner to do. He or she needs to monitor at a high level, but can leave it to the community to denote direction.

In owner-centric model, the owner has complete control. The challenge of this model is that the owner needs to allow the community to write and feel as though it has the right to do so without being constantly policed for any minor infraction, such as a misspelling. The owner controls not only the site (as with the general login model), but each individual entry separately. This model requires extra vigilance on the part of the owner, as well as on the part of those who participate in it.

4.2 Starting out: Types of sites that may succeed

Collaborative sites must effectively manage a large circle of what are essentially non-employees with perhaps little or no interest in the company other than the information they can gather from the sites' pages. The company must provide this benefit to them and give them a desire to keep the site running in order to do its best to ensure itself with a sustainable revenue model. The business of running these sites hearkens back to some of the DotComs sites: they are hybrid

⁷⁰ "Sustainable Ballard: Vandalism."

http://www.sustainableballard.org/Wiki/index.php?title=Sustainable_Ballard:Vandalism_Prevention. Last updated 28 March 2006. (9 October 2006).

companies, providing both products and services, but in a less-defined way than might traditional

storefronts.

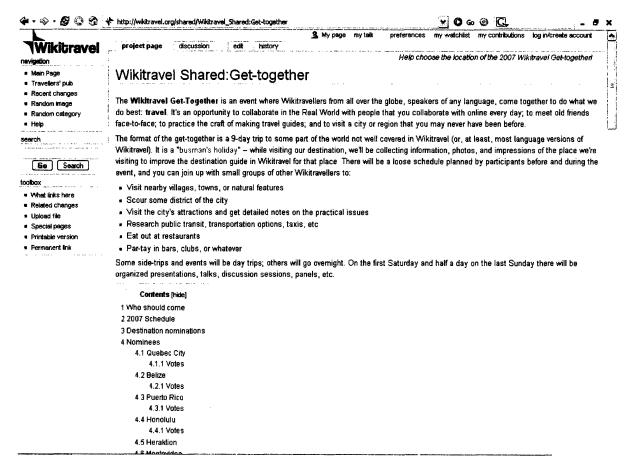


Figure 24 Creating a "business trip" for the Wikitravel community⁷¹

The main product is information. By putting together the collective knowledge of a relatively random group of individuals, a variety of views of information can be amassed. While the information may not always be truthful—such as the Bill Gates article in Wikipedia discussed in the community section—it is a place to begin a discussion and perhaps to learn more.

⁷¹ http://wikitravel.org/shared/Wikitravel_Shared:Get-together. Last updated 28 September 2006. (2 October 2006).

The service provided can be equally as vaguely defined. Part of the service is the provision of a place for like-minded people to find one another. Connections made over obscure topics can be difficult to discover in day-to-day conversations, yet Wikis provide a place for these people to find one another. In addition, certain sites can provide information services.

The company's main role from a user perspective is therefore to provide a place for these people to congregate. Once a company has an audience, it can provide further services, such as links to topic-related pages or ways to learn more about certain subjects. The company cannot stop actively maintaining a community once one starts to appear. Those involved with the company should carefully monitor the site's progress to ensure that community members are having a positive experience.

A major risk in building a business on a Wiki is that the energy behind it may change. As Robert Levine noted in an article in the <u>New York Times</u>, "If Wikis become a big business, some of that idealism may fade — and consumers may begin to resent contributing to the sites free. So far, though, the sites are growing fast, thanks to dedicated volunteers."⁷² To avoid this type of problem, a company must supply a robust product and establish a dedicated corps of users and writers.

⁷² Levine, Robert. "New Web Sites Seeking Profit in Wiki Model. <u>The New York Times</u>. Section C, page 1, column 6. 4 September 2006.

4.2.1 Build something useful

The Wikis currently in existence center on many different topics. As previously discussed, a Wiki's success depends heavily on its community; an active community is a requirement for Wiki sustainability. Users will return to a site if it is useful to them. Obvious though this may seem, many Wikis die due to a lack of community; there was no use found in the site by its potential users.

Based on the number of pages, the most popular public Wiki is Wikipedia. This site provides the same function as the encyclopedia books that are used so often in research. In addition, it has become the home for anything factual; if something is based in fact, Wikipedia will most often allow a page. Pages showing bias or company advertising are often not allowed.

Wikipedia fills a very useful niche: it is the Encyclopedia Britannica for a generation that does much of its work and research online. No longer are periodically updated volumes purchases required; information can be updated realtime and made immediately available to the viewer. It is well-indexed online, and is usually among the first entries for any Internet search.

Web former Affred Name Afred	<u>Sign in</u>
Google web Images Video News Maps more » ice cream Search Preferences	
Veb Results 1 - 10 of ab	out 3,630,000 for ice cream [definition]. (0.11 seconds)
en & Jerry's Homemade Ice Cream	Sponsored Links
natural ice cream, frozen yogurt and sorbet. Overnight delivery. Includes company	
ormation, consumer help, and job openings.	<u>Ice Cream</u>
Aubenjeny com/ - 8k - <u>Cached</u> - <u>Similar pages</u>	Find Specialty Foods Near You.
	Directions, Maps & Local Search.
old Stone Creamery - The Ultimate Ice Cream Experience	MapQuest.com
ers franchise opportunities featuring premium ice cream, frozen yogurt, smoothies, and	ha a O ma a ma
ian sorbets. Includes locator of stores in USA and Caribbean	<u>Ice Cream</u>
w coldstone creame ry.com/ - 94 - <u>Cached</u> - <u>Similar pages</u>	Charbroiled Burgers. 80 Flavors of
	Ice Cream. Indulge Yourself Today!
<u>skin-Robbins ice cream Flavors, Cakes, Milk shakes, Sorbets</u>	BigBullysBurgers net
skin-Robbins is the world's largest chain of ice cream specialty stores selling premium ice	Boston, MA-Manchester, NH
eam, ice cream cakes, and frozen beverages in over 4500	Dei alta anna 1 a chuanna
w baskinrobbins.com/ - 14k - <u>Cached</u> - <u>Similar pages</u>	Brighams Ice Cream
	New England's Premium Ice Cream
e Cream	Available in your grocer's freezer.
e cream has a long history as a popular dairy food item This is the ice cream	www.brignams.com
nepage, a subset of the Dairy Technology Education Series	Massachusetts
w.foodsci.uoguelph.ca/dairyedu/icecream.html - 4k - <u>Cached</u> - <u>Similar pages</u>	45 Dinte Eros Les C ream
	25 Pints Free Ice Cream
e cream - Wikipedia, the free encyclopedia	Ben and Jerry's or Baskin Robbins
odern industrially-produced ice cream is made from a mixture of ingredients: A newer	Just enter your email address
thod of making home-made ice cream is to add liquid nitrogen to	brandarama.com
wikipedia.org/wiki/Ice_cream - 70k - <u>Cached</u> - <u>Similiar pages</u>	Ice Cream
illever Ice Cream - Ice Cream USA - Brevers®, Good Humor	Shop Wal-Mart to Find Products
lever Ice Cream - Ice Cream USA - Breyers®, Good Humor®, Klondike®, Popsicle®	at Every Day Low Prices.
w icecreamusa.com/ - 4k - <u>Dached</u> - <u>Similar pages</u>	WANTAGED AND COLOR
in the Dalla's final Description for O ne on additionic differences	Ice Cream For Less
iendly's - Delicious food, Premium Ice Cream and Magical Moments	Looking for Ice Cream?
endly's Restaurants serve signature sandwiches and entrees such as Colossal Burgers,	Find exactly what you want today.
hamajig and Supermelts, along with premium ice cream desserts in	www.eBay.com
w Inendtys.com/ - 19k - Cached - Similiar pages	

Talloui Neu ospective, To years, Too montents of the web

<u>بر</u>

Figure 25 Even for a term as popular as "ice cream," Wikipedia is still listed in the top five entries.⁷³

Similarly, other popular Wiki products focus on every-day usage items, such as Wiktionary, a Wiki dictionary with over 296,330 entries.⁷⁴ A dictionary is a common usage item for many people, and again, these are real-time entries. Hard-cover dictionaries do not need to be purchased annually to update any of the new or current words.

Other popular Wikis center on software, including the original Wiki, Ward's Wiki. These sites are especially useful, as the software community spends much of its time online and expects to

 ⁷³ Google. http://www.google.com/search?q=ice+cream. (2 October 2006)
 ⁷⁴ Wiktionary. http://en.wiktionary.org/Wiki/Main_Page. Last updated 20 October 2006. (20 October 2006).

find resources there. While Ward's Wiki centered on patterns, many open source software projects use Wikis for their documentation. Users of the software can edit the pages related to any problems, tricks, or instructions they may discover throughout their own use.

While still not as popular as some of the other mainstream Wikis, Apache's Wiki has seen different edits on its various software projects. Some people have added accompanying graphics, as well as step-by-step instructions to implementing many of Apache's software products.⁷⁵

Many of the most popular Wikis provide uses for people searching for general, useful content. Sites such as Wikipedia, Wiktionary, and Lyricpedia (for retrieving song lyrics) top the list of most popular Wikis (for the complete list, please see Appendix C).⁷⁶

4.2.2 Center on a subject which evokes passion

As noted above, many of the more popular Wikis seem to focus on the mundane, useful parts of life, such as encyclopedias and dictionaries. However, others can create a common ground for those with a common interest, no matter how much of a niche the interest may seem. It can be hard to divine which subjects evoke more passion. While some may seem fairly obvious, pockets of passionate users exist throughout various communities. Some sites evoke passion from their users, who respond by filling the site with information.

⁷⁵ "Apache Wiki: Recent Changes." http://Wiki.apache.org/general/. Last updated 3 October 2006 (5 October 2006).

⁷⁶ List of Largest Wikis. http://meta.wikimedia.org/Wiki/List_of_largest_Wikis. Last updated 15 October 2006. (22 October 2006).

🏟 • 🗞 • 🔗 🖓 🗋 •	ttp://otho.cms.shu.ac.uk/pmwiki/pmwiki.php], a x
TECHNOL Social A Design and civ	DGY + CTION	<u>SearchWiki</u> :	60
<u>Main SideBar (edit)</u> Home Page WikiSandbox PradsaGanesh	Main / HomePage		Recent Changes Printable View Page History Edit Page
Participate Trento, Italy, 1st August	Welcome to the Technology and Social Acti	on Wiki	
Themes Free (Libre) Open-Source Software Storytelling and Social Action Evaluation and Learning Open Documentary	Technology and Social Action is a project to foster dialogue and collab and community organisations and technology designers. It is funded under <u>Humanities Research Council</u> and the <u>Engineering and Physical Science R</u> We are committed to supporting networks exploring effective ways of d and of ensuring that technological innovation responds to social prioritie	the <u>Designing for the 21st Centu</u> esearch Counci <u>l</u> esigning and using technology	ry initiative of the <u>Arts and</u>
Common Threads Mapping Research Research Methods Learning versus Knowledge Design and Use	The project is co-ordinating face-to-face meetings and on-line dialogues of facing social actors using technology, and examine how designers can con Previous events	•	k to identify key issues
Background Resources	The <u>first event</u> was a workshop at Leeds Metropolitan University on the 2 between academics and practitioners, to identify key themes for Technol		ided to open a dialogue
<u>Reports from external</u> events Related Research Projects Example TSA Projects Useful Resources Related Events	The <u>second event</u> took place at Sheffield Hallam University on 20th and 2 efforts of those involved in the cluster. These themes are • <u>Free/Libre Open Source Software</u> • <u>Storytelling and Social Action</u> • <u>Evaluation & Learning</u>	1st June. It took forward three th	ternes to galvanise the
About the Project	Following on from the work at Leeds and Sheffield, we are holding a furth	er, 1-day, workshop on the them	ne of Evaluation &

Figure 26 The Technology and Social Action Wiki provides a place for those involved with social movements to collaborate and discuss.⁷⁷

Realistically, an assumption that there is only room for a limited number of large-scale Wikis cannot be far from the truth. As such, creators of new Wiki sites may want to center on topics which have passionate communities, such as travel, conspiracy theories, or pets. For now, the most successful Wikis are those with broad-based interests, but going forward, the smaller communities should be ready to gain in space.

⁷⁷ "Welcome to Technololgy and Social Action Wiki." http://otho.cms.shu.ac.uk/pmwiki/pmwiki.php. Last updated 13 December 2005. (6 October 2006).

4.2.3 Establish credibility within the community

As noted repeatedly, arguably the most important aspect of a community site is the community. To gain respect within this community, the owner of a community-type company should do his or her best to blend into and to better the social network surrounding the subject matter of the site.

Having a subject matter which inspires passion in users is indeed a good way to draw people to a site. Similarly, these passionate users may not like someone using their passion to make money. For example, a stamp collector may not appreciate a site which merely haphazardly links to advertisements for stamp-related products. Rather, the site owner should take care to show that the company is aware of trends in the industry as well as of other sites or information repositories surrounding the hobby.

The site owner or representative can also log into various related communities, such as chat rooms centered on the topic. By proving knowledge by answering forum questions or participating in group topics, the site representative can build a positive reputation for the company. Participating in user communities outside of his or her own site can also create valuable links to the site which may be followed both by fellow community members as well as by search engine spiders, thereby increasing the company's page rank and indexability.

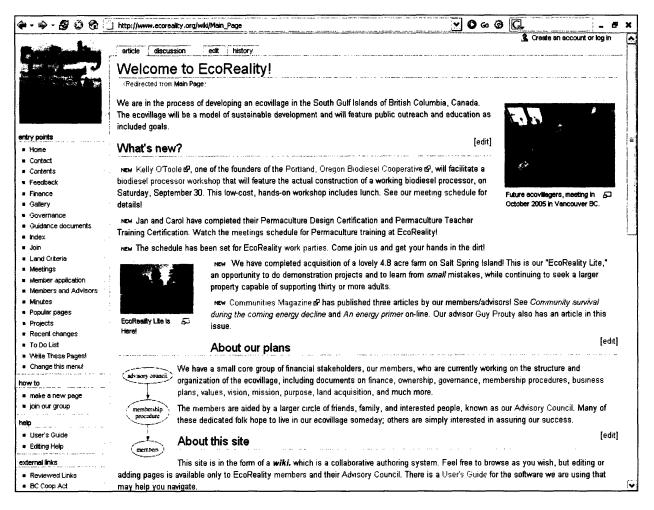


Figure 27 This Wiki site provides a place for those who want to build an ecovillage to discuss their plans.⁷⁸

4.2.4 Make the site inviting

For one web site, the key to getting more writers was to change their interface. At first, the site did not have a slick, Web 2.0-type interface. Instead, the site was difficult to navigate with only a text "edit" to alert the user that the content was indeed editable.

⁷⁸ "Welcome to Ecoreality." http://www.ecoreality.org/Wiki/Main_Page. Last updated 28 September 2006. (6 October 2006).

After a change to a more modern interface, edits skyrocketed. The week previous to the change, the site had had two original posts. The week following, there were nine, then 16 in the next week.

Unfortunately, this success came at a cost to the revenue model. Users were so intrigued by the tabs that they neglected to click through on ads embedded on the site. Ironically, improvements to the look and feel of the site had been a deterrent to writing rather than an attraction to it.

Any change to the site should be made carefully. The value of an aesthetically pleasing site should not be undervalued. However, if this change is going to come at the expense of a drop in revenue, the change should be made carefully, with a constant eye toward the bottom line. Of course, one must keep in mind that community support is tightly coupled with the site's revenue, and with fewer customers to the site, it will lose money, regardless of the slick look and feel.

4.2.5 Avoid barriers to entry as possible

Some aspects to a site should be avoided when possible. For example, a large barrier to entry for getting people to start writing on a Wiki can be login. As noted in the Technology chapter, registration is a useful tool for improving security on a site. However, this same tool for deterring vandalism or corruption can also deter legitimate writers. Many site owners believe that what they gain from a robust, reliable site containing good content is worth the occasional loss of a contributor, care should be taken and studies completed before any extra hurdles are put before potential writers.

71

While many security models can help to improve the overall quality of a site, any possible data collection should be conducted to ensure that the best model is employed for each site. As noted earlier, Wikipedia found the required login too large of a barrier to entry to maintain. They eventually took down the required login and saw a vast improvement in the number of hits and edits they were getting.⁷⁹

4.3 Encouraging an active writing community

In an article called "Why it's not a Wiki world....Yet," Stanford Masters candidate Andy Szybalaski wrote, "There is no instant gratification to be found in starting a Wiki; in fact, even new Wikis started by the high-profile Wikimedia Foundation, such as Wikinews, are slow to become useful."⁸⁰

Indeed, a large problem for any Wiki business is gaining customers, particularly customers who will actively contribute to the site. In addition to the problems faced by typical software companies, a Wiki business must deal with the additional problem of getting people to start writing on their sites.

The problem of getting people to start writing and authoring Wiki entries is a difficult one indeed. Oftentimes, behavior may seem random. In a poll conducted for this thesis, only 37.1%

⁷⁹ Timothy, "The Early History of Nupedia and Wikipedia, Part Two," <u>Slashdot</u>. 19 April 2005.

http://features.slashdot.org/article.pl?sid=05/04/19/1746205&tid=95.

⁸⁰ Szylabaski, 8.

out of 116 respondents had ever edited a Wiki,⁸¹ even though 86% considered themselves to be technologically savvy. Further, only 69.9% of those surveyed cited a reason why they might contribute in the future.

The chicken-and-egg problem surrounding a site such as a Wiki is that people will not visit until there is content available, and without visitors, there are few ways to input content. Having original content on a site can pay huge dividends in terms of attracting search site crawlers.⁸² To get around this, business owners may have to "seed" the Wiki by entering content themselves. The minimal cost paid to getting someone to post content can be offset through gains reaped in advertising on other parts of the site. There are a variety of ways to entice people to start writing for a site, and several of these will be discussed below.

4.3.1 Advertise the need for content

On most Wikis, there is a page specifically for those who would like to get involved. On this page is a consolidated list of links to articles which need to be cleaned up, deleted, or expanded. Those who want to get involved with the site can come to these pages, find a task, execute on that task, and start building an online reputation.

⁸¹ Davidi, Ilana. "SurveyMonkey: Web 2.0 Contributions."

http://www.surveymonkey.com/s.asp?u=833272435673. Survey closed 25 October 2006.

⁸² "Search Engine Optimization." http://forums.devshed.com/search-engine-optimization-108/content-is-king-217484.html. Last edited October 2004.

• • • 6 0 0	🖨 http://www.hrwiki.org/index.php/HRWiki:Cleanup 🔽 🔿 Go 🎯 💽	- 8
	HRWiki:Cleanup	
igation Main Page Fhe Stick H*R.com updates Strong Bad Email	These are ongoing projects that will probably never reach a "completed" stage. Since content is always be the Homestar Runner site and new wiki pages are always being created, we will always be cleaning up our consider yourself a WikiGnome, these are the projects for you. Also see Category: Articles needing cleanup have been flagged for revision and updating.	wiki. If you
Recent changes Random page Help	Contents [hide] 1 General Cleanup	
Conations rch	2 Disambiguation Pages with links 3 Dead End Pages, Orphaned Pages, etc. 4 Merge and Redirect 5 Pages Needing Deletion 6 List of common misspellings	
box What links here Related changes	General Cleanup	[edit]
Jpload file Special pages Printable version Permanent link	If you find an article in need of some work and are either unsure how to proceed or would like some help fix the template {{cleanup}} to the beginning of the article to flag it for future edits. Also add a comment to indicating what you believe should be done. The Category:Articles needing cleanup will be updated automa	the talk page
ernal links	Disambiguation Pages with links	[edit]
Forum Fanstuff Chat channel	Ideally nothing should link to a disambiguation page. Using the "What links here" feature, you can determine in the Category:Disambiguation has unneeded links. Links should be edited to go to the appropriate article.	e if any article
Jser's guide	Dead End Pages, Orphaned Pages, etc.	[edit]
	There are a number of pages on the "Special Pages" list that are useful tools to keep the wiki in tip-top cor	ndition.
	 Orphans: Pages that are not linked to by any other page (note: ideally, disambig pages should be orphan Dead End Pages: Pages that do not link to any other page Wanted Pages: Requested pages that do not exist yet 	ned)
	Before creating a new page, check that a suitable page does not already exist.	
	Merge and Redirect	[edit]
	Sometimes multiple pages are created for the same thing. If you find multiple pages that need merging, Put	

Figure 28 Cleanup page for HomestarRunner Wiki.⁸³

These pages are good for getting newcomers to the site involved. However, for a blossoming site, all of its pages may need content but not all pages can be listed on these as "needing content." To get content on these pages, it may sometimes be necessary to hire writers or use creative ways to attract people to write.

⁸³ "HomestarRunner: Cleanup." http://www.hrwiki.org/index.php/HRWiki:Cleanup. Last updated 26 August 2006. (9 October 2006).



Figure 29 A call to action. Note text which says, "This is your Wiki - feel free to build it."84

4.3.2 Be robust and reliable

Few things can deter potential users more than an unreliable canvas on which they must risk creating their "art." When setting up a business which requires user input to succeed, care must be taken in the configuration of servers and related technologies to ensure as much up time as possible. If a user believes he or she cannot depend on his or her input being available whenever needed, the business can lose this user: the user does not want to see hard work immediately lost.

⁸⁴ "The Open Business Model Project." iCommons.

http://Wiki.icommons.org/index.php/%E2%80%98The_Open_Business_Model_Project:_call_for_partners

Geoffrey Moore discussed this "whole product solution" in his book, Crossing the Chasm. He notes that software firms must offer reliable and robust products to customers in order to gain a wide audience.⁸⁵ While this type of rule is applicable to most businesses, in Wikis and other web-related technologies, this is of utmost importance: there are many alternatives to these sites, and users will not usually give multiple chances to websites with failures. Notes For Use, a website familiar with enhancing the user experience:

From a design standpoint it is especially important to understand how readily Web site visitors can shift among roles. The transitions from one role to another need to be considered and managed if possible. The fact that the user can so easily and quickly abandon a site to go to the competition or another resource needs to be taken into account. It can be of great importance if and when a Frustrated-Product-Installer switches roles to become an Interested-Add-On-Buyer or a Disgruntled-Email-Help-Seeker.⁸⁶

This thought holds doubly true for a site such as a Wiki in which those visiting the site can

potentially become active contributors to it. An article by GUI blooper purveyor Jeff Johnson

further emphasizes the need to have a good, reliable site:

Web users are even less tolerant of services that are hard to use. Why struggle, when there are several dozen (or several hundred) other sites offering the same thing for less hassle? We'll just hit "Back" and go somewhere else.⁸⁷

Because of the explosiveness of technology online, the site owners must be extremely careful to

define and enforce a positive user experience. If not, users may abandon the site for a more

robust one which poses little risk of lost data.

In addition, Wikis are dependent on users for more than simple advertising revenue. A Wiki needs to have an active community and disappointing even one member of the already

⁸⁵ Moore, Geoffrey. Crossing the Chasm.

 ⁸⁶ "For Use FAQ." http://www.foruse.com/questions/index.htm. Last updated: 2003.
 ⁸⁷ Danino, Nicky. "Interview: Jeff Johnson of GUI Bloopers." Sitepoint. 30 April 2002.

established community outside of the Wiki can have negative consequences. Any lost user could have been the one that would someday become a lead writer or review, or even a site administrator.

All saves must be done without issue, and the site must be available as often as possible. When the editable site is taken down for any reason, a placeholder must be arranged, even if the content is not able to be edited. Content must be available at all times.

૱ - & - & - €	http://www.wikiindex.com/Category:Great	Feature	✓ Ø ∞ Ø <u>Q</u>	_ # ×
WikiIndex	category discussion edit	history	🧏 Log in / create a	account
wikiInaex	Category:GreatFea	ture		
		on someones view of a wiki having a great feature		
IndexWiki				
content	Subcategories			
* Welcome	There is 1 subcategory to this categ	orv		
 RecentChanges 	Е			
 Community Portal WikiNode 	 Editthis.info 			
 Wiki Lists People & Books 	Articles in category "Grea	atFeature"		
■ Weblogs	There are 14 articles in this category	/.		
navigate ■ Browse	в	н	T cont.	
■ Help - Aide [fr]	 BookShelved Wiki 	∗ Hooze	 TigerWeb 	
 Random page 			•	
search	С	M	U	1
	 CityMap 	 Marvel Universe 	 UnrealWiki 	
Go Search	D	 MidnightWiki 	w	
toolbox	 Davis Wiki 	P	 WikiEngineTree 	
Vvhat links here	G	PietroSperon/Wiki	 WikiFUN 	
 Related changes 	-	т	 WikiMaas 	
 Upload file 	 Gp2x dev wiki 	I I		
 Special pages Printable version 		TheTransit:oner		'
 Permanent link 				
advertisement Ads by Google	Category: Browse			1
SharePoint User				
Mant				
Manage SharePoint Users Across your				
WSS or Portal Farm				
Seamlessiy www.barracudatonis.com				
				V

Figure 30 This Wiki page focuses in on user-chosen Wiki sites which have "Great Features."⁸⁸

⁸⁸ "Great Features." http://www.wikiindex.com/Category:GreatFeature. Last updated 17 May 2006. (6 October 2006).

4.3.3 Perceived reward: Work recognition

Now that a user has found a site which fits a need and is robust and reliable, the Wiki business should find a way to reward this user for his or her participation. One type of perceived reward is the recognition of a user's community involvement. Users can get "karma," or points, for each entry they contribute. This karma can be varied depending on amount written or on votes given by other community members for a positive contribution.

A hall of fame or constant contributor area can be set up and maintained to point out the best contributors in the community. Wikipedia recognizes articles as "featured articles." Writers of these articles can be seen by looking at the history pages.

•••• 🔗 🖓 🚱 🕅	W http://en.wikipedia.org/wiki/Wikipedia:Featured_articles	Y 🗘 G	• @ G.		- 8	ł
4 Miles	Inned my tr project page discussion edit this page history watch	alk my preferences	my watchlist	my contributions	log out	•
n Sin	Wikipedia:Featured articles					
	From Wikipedia, the free encyclopedia					
VIKIPEDIA be Free Encyclopedia	Featured Articles in Wikipedia	Featured com	ient:	Sho	rtout:	
gation	The featured articles are what Wikipedia editors believe are the best	 Featured a 	rticles ←	W	P:FA	
Main Page	articles in Wikipedia. Before being listed here, articles are reviewed at	 Featured pie 	ctures	·		
Community Portal	Wikipedia: Featured article candidates for accuracy, neutrality,	 Featured lis 	ts			
Featured articles	completeness, and style according to our featured article criteria.	 Featured po 	rtals			
Current events Recent changes	At present, there are 1155 featured articles, of a total of 1,491,813 articles on	Featured artic	le tools:			
Random article	Wikipedia. Thus, about one in 1,290 articles is listed here. Articles that no longer	 What is a fe 	atured article	e?		
Help	meet the criteria can be proposed for improvement or removal by being listed at	 Featured and 				
Contact Wikipedia	Wikipedia:Featured article review.	 Featured an 		163		
Donations	A small bronze star () on the top right corner of an article's page indicates that					
rch	the article is featured.					
Go Search		 Featured and 		_		
		 Featured and Former featured 		S		
box		 Former teat 	ured anticles			
What links here				·		
Related changes Upload file	Contents					
Special pages	Art, architecture, and archaeology Awards and decorations Biology and	medicine · Busir	ess econo	mics, and fina	nce ·	
Printable version	Chemistry and mineralogy · Computing · Culture and society · Education					
Permanent link	Geography and places · Geology, geophysics, and meteorology · History					
ther languages	Mathematics · Media · Music · Philosophy · Physics and astronomy · Poli		•			
7777		-	-	un, mysacism,	anu	
العربية	mythology · Royalty, nobility, and heraldry · Sport and	u games · Transp	ort vvar			
Беларуская						
Català						
Česky	Art, architecture, and archaeology				[edit]	
Deutsch	Company and the province of the second					
Ελληνικά Samañal	Felice Beato - Belton House - Matthew Brettingham - Buckingham Palace - Buddhi					
Español Esperanto	Deconstructivism · Dürer's Rhinoceros · Holkham Hall · IG Farben Building · Paul K					
csperarito	Michigan State Capitol Henry Moore · Sylvanus Morley · Benjamin Mountfort · Oxy	yrhynchus · Palace	of Westmin:	ster · Palazzo Pi	itti	

Figure 31 Wikipedia's featured articles⁸⁹

Sondra Crane, a 76-year-old woman living in Florida, talked about contributing content to the wikiHow Wiki site on topics such as cooking a pot roast: "I've been writing all my life and I always wanted to have my name known," she said. "I'd like to get paid - I put a lot of hours in. But it's nice to know that people are being helped.""⁹⁰ Contributors such as Crane seem to enjoy helping others, but also want to have name recognition, if only by a screen name. While what they may see as the good deed of helping others may not be rewarded with monetary

⁸⁹ "Featured Articles." http://en.wikipedia.org/Wiki/Wikipedia:Featured_articles. Last updated 18 October 2006. (18 October 2006). ⁹⁰ Levine, Robert. "New Web Sites Seeking Profit in Wiki Model. <u>The New York Times</u>. Section C, page 1,

column 6. 4 September 2006.

compensation, they can achieve a positive online reputation and karma through an association of their names with their content.

4.3.4 Pay them

If users are not getting to the site by themselves or are not happy by merely receiving karma points for their work, a Wiki business may be able to entice them with money. Writers can always be paid to write. One option to seeding a Wiki is to hire writers at a lower cost, then put them to work writing about the subject matter. The hiring of writers can be done for little or no investment. Communities such as Craigslist allow free job postings.⁹¹ Job postings found there ranged in salary from around \$7.50/hour to \$30 an hour for writers.⁹² Depending on the throughput of the writers and the site's current revenue levels, the writing can provide large return for low investment. No longer will visitors be faced with an empty entry, but a more legitimate, longer stub from which they can grow their content.

There are some caveats accompanying this method. The first is that all writers have a distinct style, and if users detect that one person is being made to write extensive content, it may be offputting for the community. Second and more importantly, having a professional writer seed a Wiki can intimidate others into not posting their own content. As previously noted, mistakes can attract edits.⁹³ A user may be hesitant to edit a seemingly "perfect" article. I like to call this the "Karaoke Effect." When doing karaoke, few want to follow professional-quality singers.

⁹¹ "About Craigslist." http://www.craigslist.org/about. (16 October 2006).

⁹² http://boston.craigslist.org/writing.

⁹³ Davidi, Ilana. "SurveyMonkey: Web 2.0 Contributions."

http://www.surveymonkey.com/s.asp?u=833272435673. Survey closed 25 October 2006.

However, if there is a bad singer, the line follow can grow rapidly. Similarly, while a professionally-written Wiki article may be good to read, it may cause other, well-intentioned users to avoid editing it for fear of destroying the high quality of content already in existence.

Another alternative found throughout business but applicable in Wikis as well is to have a contest. Users can be required to register, then entered into a drawing for each Wiki edit made. Edits can be required to be of a certain length or quality, but in truth, the business just needs users on the site. The possibility of a \$100 or so prize can encourage hundred of people to write original content, possibly for less than that paid as an hourly wage. Sites such as TreoCentral have employed contents to encourages users to contribute. Noted a blogger on TreoCentral: "Many thanks to every user who contributed to the TreoCentral Wiki during our TreoCentral Wiki Contest! Literally every edit I saw was beneficial and helped make it more informative, organized, just plain better."⁹⁴

Paying for the initial seeding of content may pay large dividends as search engine crawlers such as Google's or Yahoo's discover more original content on sites and continue to offer more links to them through their search engines.

4.3.5 Monitor the site

A Wiki site needs to be monitored to be successful. While some community policing may exist, if the site's goal is to create revenue, the site or business owner must be prepared to monitor the

⁹⁴ "TreoCentral Wiki Contest Winners." http://www.treocentral.com/content/Stories/913-1.htm. 20 September 2006.

content. As noted in the technology chapter, this can be done in a number of ways, including internal bots crawling for inappropriate content or email alerts referring to new entries.

Site owners can use "Recent Changes" pages to monitor what pages have been changed, and what these changes have been. Monitoring the site requires vigilance, especially in the early stages, as someone bent on destroying the site can do damage in a short amount of time. While it is not usually difficult to revert pages, having the vandalism on the site can be embarrassing and may cause customers to not return if they visit during that time.

🏟 • 🟟 • 💋 🛈 🚯 🛽	🛾 http://www.sonsofsamhorn.net/wiki/index.php/Special:Recentchanges 🛛 🔊 🔮 🔿		8 x
for devide the first transmit the divide sign for the sec	special page	Log in / create account	4
Salah	Recent changes		
JUJ T	Track the most recent changes to the wiki on this page.		
AAA DU A DUMA DATA AA	Below are the last 50 changes in last 7 days.		
	Show last 50 100 250 500 changes in last 1 3 7 14 30 days Hide minor edits Show bots Hide anonymous users Hide logged-in users Hide patrolled edits Hide my	edits	
navigation	Show new changes starting from 20:57, 22 October 2006		
 Main Page Community portal 	Namespace: all 📩 Go 🛛 Invert selection		2 1 1
Current events	22 October 2006		8
 Recent changes Random page Help 	 (diff) (hist) 2006 Free Agents; 20:12 mabrowndog (Talk contribs) (Greg Norton re-signed) (diff) (hist) Sox Bars; 17:45 mabrowndog (Talk contribs) (—Kyoto) 		
 Donations 	(diff) (hist) Mabrowndog's Quote-A-Rama; 14:22 mabrowndog (Talk contribs) (→Memorable Tidbits	5)	
search	21 October 2006		
Go Search	 (diff) (hist) Derek Jeter, 22:15 ccsubruce (Talk contribs) (→Trivia) (diff) (hist) Mabrowndog's Quote-A-Rama; 02:10 mabrowndog (Talk contribs) (→Memorable Tridbit) 	9	1999
	20 October 2006		
toslbox ■ rss atom	(diff) (hist) Enos Slaughter; 19:52 SouthPaw21 (Talk contribs)		Ĵ
 rss storn Upload file 	 (Upload log); 19:51SouthPaw21 (Talk contribs) (uploaded "Image:Enos.jpg") 		
 Special pages 	 (diff) (hist) Harmon Killebrew; 18:06 SouthPaw21 (Talk contribs) (Upload log); 18:05 SouthPaw21 (Talk contribs) (uploaded "Image:Killebrew.jpg") 	•	
	 (diff) (hist) N Al Kaline; 14:46 SouthPaw21 (Talk contribs) 		
	 (diff) (hist) Barry Bonds; 14:37 South Paw21 (Talk contribs) (→Achievements) 		
	 (diff) (hist) N Harmon Killebrew; 14:33 SouthPaw21 (Talk contribs) 		
	(diff) (hist) Category:3,000 Hit Club; 14:31 SouthPaw/21 (Talk contribs)		
	 (diff) (hist) Stan Musial; 14:30 SouthPaw21 (Talk contribs) 		
	 (Upload log); 14:30 SouthPaw21 (Talk contribs) (uploaded "Image:Musial.jpg") 		
	 (diff) (hist) Sandy Koufax; 14:03 SouthPaw21 (Talk contribs) 		
	Upload log); 14:02SouthPaw21 (Talk contribs) (uploaded "Image:Koufax.jpg")		
	 (diff) (hist) Roberto Clemente; 13:38 SouthPaw21 (Talk contribs) (distantian) 12:37 SouthPaw21 (Talk contribution) (or the start of Maximum Clements in Page 14:000) 		
	 (Upload log); 13:37 SouthPaw21 (Talk contribs) (uploaded "Image:Clemente.jpg") (diff) (hist) Dave Winfield; 12:09 SouthPaw21 (Talk contribs) 		
	 (Unit) (inst) Date withined, 12:09 SouthPaw21 (Talk Contribs) (Upload log); 12:09 SouthPaw21 (Talk contribs) (uploaded "Image:Winfield.jpg") 		
	19 October 2006		
	 (diff) (hist) Category:500 Home Run Club; 19:59 SouthPaw21 (Talk contribs) 		

Figure 32 Recent changes pages on the Sons of Sam Horn Wiki.⁹⁵ The site owner might want to start his or her monitoring of this Red Sox fan site with the change to the article on Yankee Derek Jeter. ;)

4.3.6 Simple corrections

Minor edits can entice contributors to begin to edit pages. In a survey conducted for this thesis,

of those that had edited a Wiki, 34.3% had done so to correct an error in fact, grammar, or

spelling.96 These types of edits are generally minor and quick, making it easy for someone to log

in, correct the error, and see the results immediately.

⁹⁵ "Recent Changes." Sons of Sam Horn. http://www.sonsofsamhorn.net/Wiki/index.php/Special:Recentchanges. Last edited 22 October 2006. (22 October 2006).

 ⁹⁶ Davidi, Ilana. "SurveyMonkey: Web 2.0 Contributions."

http://www.surveymonkey.com/s.asp?u=833272435673. Survey closed 25 October 2006.

While this may seem like an enticing means of attracting users to edit Wikis, errors can give the Wiki a less professional appearance. Intentional errors such as minor misspellings could cause the Wiki to lose its credibility as an area where knowledge is shared. While these edits are beneficial to the quality of the content, they do not necessarily expand the quantity.

When using the tactic of minor error correction, the hope is that those that made these fixes will feel encouraged to continue doing good for the community. In addition, if login is required, these users may be more likely to come back in order to build an online reputation.⁹⁷

4.3.7 Do not over-monitor the site

When first conceived, Wikipedia (then "Nupedia") entries would go through a rigorous editing process. However, after a year, only two dozen articles had been entered.⁹⁸ Success was far from immediate, but grew quickly once better established: "After 20 days, the site had over 600 articles; six months later, it had 6,000; by year's end, it totaled 20,000 articles in a plethora of languages."⁹⁹

Once the Larry Sanger and Jimmy Wales, the co-founders of Wikipedia, began to let the entries grow more freely, they grew more quickly indeed. The process was not slowed by the rigorous edits imposed by Nupedia's structure. Rather, the articles grew freely as people added and edited them without the slowing process of being professionally edited and approved before release.

⁹⁷ Davidi, Ilana. "SurveyMonkey: Web 2.0 Contributions."

http://www.surveymonkey.com/s.asp?u=833272435673. Survey closed 25 October 2006. ⁹⁸ "Open Source Business: Open, but not As Usual."

http://www.economist.com/business/displaystory.cfm?story_id=5624944. 16 March 2006. ⁹⁹ "Open Source Business: Open, but not As Usual."

http://www.economist.com/business/displaystory.cfm?story_id=5624944. 16 March 2006.

When running a Wiki site today, these same lessons should be applied. Be sure to keep an eye on the site to monitor content quality, but do not get so caught up in the minor problems of the site that it cannot grow organically. As noted, typographical errors can be fixed by users and may even help win users. Let the community take care for some of the cleaning, and concentrate on making the Wiki stronger and more robust.

4.3.8 Simple questions

Another less-than-professional-appearing technique is to ask questions within the body of the Wiki. This was previously mentioned in the community section on people not understanding how a Wiki works or what it is.

As an experiment, I inserted a question into the body of a Wiki entry I wrote about a Ford Mustang.¹⁰⁰ The question was not directly answered, but the entry did receive a large edit, providing excellent information on the car. I continue to monitor this page to see if anybody has answered the question. I believe this technique should be used sparingly. Too many questions on a Wiki can give it the appearance of a forum, chat room, or similar asynchronous community site.

¹⁰⁰ "1986 Ford Mustang." http://cargurus.com/Cars/Overview-c3703-1986-Mustang-Overview.html. (15 September 2006).

4.3.9 Keep trying new tactics

One page on CarGurus.com which received almost immediate edits was the 1968 Corvette page. The content on this page began, "Continuing its apparent quest to honor cartilaginous fish, the 1968 Chevrolet Corvette was a close relative of Chevrolet's "Mako Shark" concept car created by Larry Shinoda. This popular Sting Ray Corvette featured a complete redesign; as the sales brochure said, "all different all over," and went on to discuss the features of the Corvette in comparison to a shark: "Like a shark, the '68 Corvette was muscular and aerodynamic in external design. It also appeared to have no eyelashes, with wipers that were hidden from view when not in use. Also like a shark, it was scary powerful. (Okay, no more shark analogies, I promise.)"¹⁰¹ While many other entries on this site floundered, the 1968 flourished, eventually covering over four times the typical entry on the site.¹⁰²

This entry was meant to sound more fun than typical entries. The less professional-sounding animal metaphor may have encouraged others to write and join the fun.

4.4 Creating a sustainable business

Assuming that the site has an active audience, there are a few different ways to earn money from such a site, including advertising, partnerships, and user fees.

While Wikis in general are still struggling, there is one clear success story in terms of user privation: Wikipedia. However, Wikipedia's goal is not to make money. On its own pages,

¹⁰¹ "1968 Corvette." http://www.cargurus.com/Cars/Overview-c443-1968-Corvette.html. Last updated 2006. (9 October 2006).

¹⁰² "1968 Corvette." http://www.cargurus.com/Cars/Overview-c443-1968-Corvette.html. Last updated 2006. (9 October 2006).

Wikipedia states it is "a non-profit organization with the goal of providing free knowledge to every person in the world."¹⁰³ Instead, donations are requested for the sole purpose of site upkeep, including server acquisition and maintenance. Money is donated to Wikipedia's parent, Wikimedia, which distributes it among its free websites, including Wikiquote, Wikibooks, Wikipedia, and Wiktionary.¹⁰⁴

🖌 🗣 · 🛃 😳 😚	🕐 http://wikimediafoundation.org/wiki/Fundraising	⊻ O ⊛ @ CL -	. 8
	article discussion edit (requires login) history	3 log in (requires approv	val)
		. Was 1967 at an and 2 and an and 4 and a second a second a second at an a second at an an and a second at second at a second a	
(99)	Fundraising		
Y	From the Wikimedia Foundation		
FOUNDATION	ia, אלא Asturianu Български Brezhoneg Català Česky Cymraeg Deutsch Galego איביע Hrvatski Magyar BahasaIndonesia Italiano 日本語 한국인 Português Românā Pyockwi Slovančina Slovenščina Cpneuw/Sinski B	ł Lëtzebuergesch Nederlands Norsk (bokmai) Norsk (nynorsk) Polski	
vigation			
Home	Imagine a world in which eve		
About Wikimedia News	to the sum of all human knowle		
Our projects	And we need	i your neip.	
Press room			
Local chapters	The Wikimedia Foundation Inc. is a non-profit organization with the	Help empower the world with free knowledge!	
Bylaws	goal of providing free knowledge to every person in the world. Meeting	Theip empower the world with thee knowledge.	
Benefactors Recent changes	this goal through the maintenance, development and distribution of free		
Contact us	content, Wikimedia relies on public donations to run its wiki-based	One time gift of USD \$ ↔	
Job openings	projects.	Public comment	
Donations	Wikimedia provides computing and network resources to create and	(200 characters max)	
arch	distribute many reference works including Wikipedia छ, Wiktionary छ,	^	
	Wikiquote 6과, Wikibooks 6과, Wikinews 6과, Wikiscurce 6과 and the	Public donor list	i
Go Search	Wikimedia Commons 🗗 The content of these projects is provided to	O List anonymously	
	the public free of charge.		1
lbox	How your donation will have		
What links here Related changes	How your donation will help		
Upload file	All of our sites are free from advertisements. Visitors are not charged	Tax-deductibility of donations - Other donation methods	
Special pages	to edit, read or use our content. We rely entirely on donations to fund	You can also donate monthly or yearly	
Printable version	our projects. Our unprecedented growth in traffic and content requires		
Permanent link	regular hardware & updates to prevent outages without sacrificing function colocation center, purchase of Wikimedia's domain names, sponsorship expenses.		а
	See Budget/2005 for our latest budget, which details where the money wi hardware we ordered after our last fundraising drive.	II go, and meta: Wikimedia servers/hardware orders for details of th	1e
	The Wikimedia Foundation also requires funding to continue its pioneerin addition, we are pursuing grants to fund the packaging and distribution of	Wikimedia content to places that do not have access to the Intern	net.
	Every donation can make a big difference. If you have any questions rega	rding donations or the Wikimedia Foundation, please contact us.	

Figure 33 Wikipedia's fundraising page, featuring the donation box.¹⁰⁵

¹⁰³ "Fundraising." Wikipedia. http://wikimediafoundation.org/wiki/Fundraising. Last updated 23 October 2006 (30 October 2006).

¹⁰⁴ "Fundraising." Wikipedia. http://wikimediafoundation.org/wiki/Fundraising. Last updated 23 October 2006 (30 October 2006).

¹⁰⁵ "Fundraising." Wikipedia. http://wikimediafoundation.org/wiki/Fundraising. Last updated 23 October 2006 (30 October 2006).

The majority of these donations are raised during fundraising periods, which occur three or four times a year.¹⁰⁶ Grants from corporations are also used to fund Wikimedia's various projects.

4.4.1 Advertising

In a discussion of not charging for access to web sites, Internet technology article author Laurie Sullivan notes, "The goal is to leverage advertiser support in order to keep the service free and remove barriers for adoption."¹⁰⁷ Through actions such as these, the payment for the upkeep of the site may remain out of the users' view. They use the site and click through to advertisements when the content of these commercials is applicable to them. They do not have to go out of their way to support the site, as they advertisements should be targeted to the users and should appear as a benefit to the user in the form of additional sources for related information.

Purposely assuming an opposite point of view in a forum on business models for Wiki, one

poster took a sarcastic look at one faction of users' views on earning money from Wikis:

What ever fly little concept you dream up, if you try to float it as a Wiki, people with way too much time on their hands and a permanent indignant streak, will brand you a whore to The Man, and a complete rip-off for running banner ads or Google ads or whatever. You should be doing it for free, didn't you know? Or maybe flat American beer. But you certainly shouldn't be trying to make a living on other people's labor, swine. I say if you're a masochist, rock on dude. Rock on...¹⁰⁸

This user makes light of the sometimes self-righteous attitude found among a community of people who may be used to getting services free of charge. He reflects a common belief: that the

¹⁰⁶ "Yahoo Answers: How does Wikipedia make money?"

http://answers.yahoo.com/question/index?qid=1006040210318. Last updated March 2006. (30 October 2006). ¹⁰⁷ Sullivan, Laurie. "Blue Nile Cofounder Wades into Wikis." <u>TechWeb</u>. 9 August 2006.

¹⁰⁸ "Wiki, as a business model?" http://forums.devshed.com/business-help-92/Wiki-as-a-business-model-336005.html. Comment updated April 2005. (2 October 2006).

sudden appearance of advertisements can "cheapen" the look of the Wiki, and scare off a community who now think (or know) that the site is just for profit.

One respondent to the survey conducted for this thesis noted that she had started running ads on her blog. She received many complaints about them, as readers thought she may have been altering the content of her blog to get better or more ads from Google AdSense.¹⁰⁹ She eventually felt pressured into taking them down. Other bloggers have left their advertisements up on their blogs, despite "capitalization" accusations.

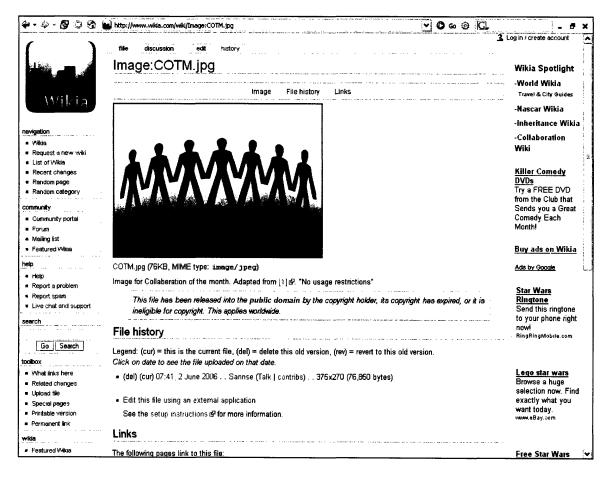


Figure 34 Wikia page showing subtler Google ads in right margin.¹¹⁰

¹⁰⁹ Davidi, Ilana. "SurveyMonkey: Web 2.0 Contributions."

http://www.surveymonkey.com/s.asp?u=833272435673. Survey closed 25 October 2006.

¹¹⁰ "Image: COTM.jpg. htp://www.wikia.com/Wiki/Image:COTM.jpg. (2 October 2006).

As for the model of earning money from advertising, there are several different means through which this can be accomplished. Among the more commonly used advertising methods is Google AdSense. Google AdSense provides a very simple means for any company or individual to start using Google Ads. The company or individual need only start an account on Google, then insert generated scripts into the pages of the site. Google AdSense matches advertising to content contained on the site through the same type of tools it uses to crawl pages.

There are several other companies that provide the same type of service as Google AdSense. Internet giants such as Yahoo and Microsoft have both tried to get into this business, though neither has been particularly successful.¹¹¹ Competitors such as Chitika, Azoogle, AdEngage, Adbrite, and many more provide easy-to-install advertising.¹¹²

A product called "IntelliTXT" links page content automatically to target advertising. Unlike Google AdSense and many of the similar products, it puts advertising directly into the body of the page.¹¹³ While IntelliTXT may blend more seamlessly into pages, there are several tools available while will disarm the required JavaScript on these pages, and render the advertising useless to anyone who has the new tools installed.

¹¹¹ "Mirosoft to Bow Google AdSense Competitor."

http://www.marketingvox.com/archives/2005/03/15/microsoft_to_bow_google_adwords_competitor/index.php?rss1

^{. 15} March 2005. ¹¹² "AdSense Alternatives." http://www.v7n.com/forums/google-forum/28009-adsense-alternative.html. Last update 21 April 2006. (22 October 2006). ¹¹³ IntelliTXT. http://www.intellitxt.com/.

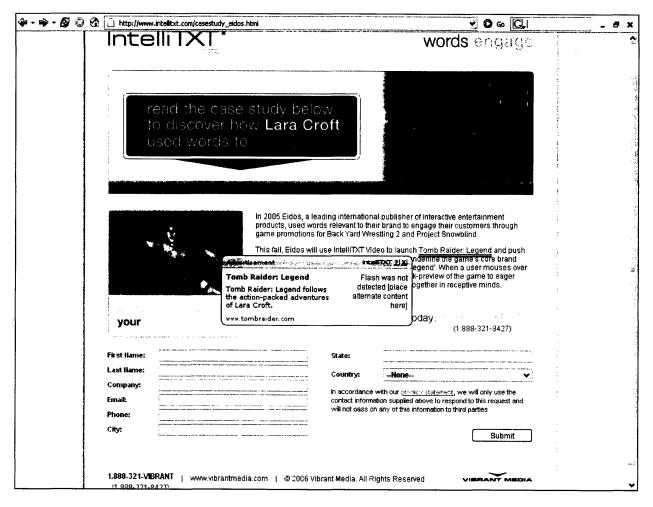


Figure 35 Example of IntelliTXT on IntelliTXT own page.¹¹⁴

Lastly, sites can solicit their own advertisements. Some sites choose to maintain a large company advertising presence, such as Google AdSense, while simultaneously soliciting individual advertisers. Although getting individual advertisers to pay to show their advertisements on a web site may be more time-consuming to set up, the returns will be larger, as the proceeds will not need to be shared with Google, and because the advertiser may be willing to pay a premium to appear on a site which he or she believes will send targeted business.

¹¹⁴ IntelliTXT – Eidos Case Study. http://www.intellitxt.com/casestudy_eidos.html. Vibrant Media, 2006.

•• 🗣 • 😽 🛈 😘 ::	http://www.moreperfect.org/w4ki/index.php?title=About_More_Perfect 🕑 🖸 🚱 🚱	 . 8	×
prinkubic Yorokir	policy proposals and positions to a diverse and engaged audience, gathering real-time teedback while potentially avoiding a time consuming, costly and often uncertain public outreach process.	 	1.50
	Many groups spend thousands of dollars to run focus groups of a dozen individuals in order to gather direct feedback on their efforts. more perfect , on the other hand, provides the opportunity to bring in thousands of diverse individuals and		
Education Reform Read about education reforms	opinions to examine an issue. And the depth of engagement is vastly superior to a traditional focus group. The result? A stronger likelihood of success.		
and take part in	more perfect allows individuals and organizations to:		
discussions and debate	 Solicit feedback on an issue, law or public-policy initiative from a diverse audience. 		
reenviedspresso com	 Float trial balloons in a new, innovative and open environment. 		
and the state of the state	• Have an issue examined, vetted and shaped prior to formally filing an initiative or proposing specific legislation.		
Proposal Ideas	re-invigorating the marketplace of ideas		
The Latest Online Source You Will Find It Herel eproposalideas.com	It is increasingly difficult for the average person today to participate in shaping the public agenda. Most policy initiatives are drafted in back-rooms with only a few individuals providing nearly all the input; the public is rarely involved in this process. Add to that, television, radio and print media have become accessible largely in only one direction, with little interactivity or opportunity for everyday citizens to contribute ideas.		
<u>Engagement</u> <u>Ideas</u> Classic & Vintage Rolls Royce limos Southern California	In contrast, more perfect offers an open public forum where everyone is a potential contributor and participants create their own content. By focusing on the written word instead of the 20-second sound bite and enabling anyone to contribute to the public discourse, more perfect offers a unique opportunity to re-invigorate the marketplace of ideas originally envisioned by our founding fathers. more perfect puts collaboration front and center — the technology takes a back seat to the content and the public discourse that develop around it.	:	
autoriterri Camornia autoriterri Camornia	real-world experience		19
a ana ang ang ang ang ang ang ang ang an	more perfect was born out of the firsthand experience of its founders, who have been directly involved in the formulation		
Meet Republican	of local and state wide legislation and public policy for more than a decade. Frustrated with the limitations of the		
<u>Singles</u> Free to Join. 1000's of pictures of Beautiful	traditional approach to policy development, more perfect's founders set out to develop a model for collaboration that avoids a time consuming, costly and often ineffective public outreach process, and that would involve more people and re-invigorate the market of ideas.		
Republican Singles	what more perfect is and is not		
disting on the sta	 more perfect is only a tool. A powerful medium to be sure, but a tool nonetheless. It is not intended to replace, or even displace, existing institutions or legislative processes. 		
	 more perfect is non-binding. Nothing posted on more perfect is intended to be binding upon our existing legislative processes. It is instead an open forum where the public can share and collaborate alongside others in shaping the public agenda. 		
	puolic agenda. • more perfect is not just a digital grassroots effort. To achieve its full potential, more perfect operates in a open,		

Figure 36 Google ads on moreperfect.org. They appear on the left-hand side of the page. It also requests that those interested in advertising directly click through to a form to begin to do so.

4.4.2 Partnerships

A common practice in the software business—as well as most types of business throughout the world—is partnership. This type of model can allow the Wiki to be specialized or centered on one topic, while providing its customers with access to a number of services provided by partners.¹¹⁵

¹¹⁵ Cusumano, Michael. <u>The Software Business</u>. Free Press, New York, NY. 2004. pp 250-257.

For example, a Wiki site focused on hotels may not want the added burden of having to manage a number of pages about air travel to these destinations or about activities in which people can participate once they arrive. The owner of this hotel Wiki may decide to partner with providers of the other services in order to concentrate on being the best at the hotel Wiki description service.

The two sites may do as little as provide specialized links to one another. They may work out a revenue sharing program by which money earned through purchases made by those who click on the partner link are shared. If both sites are participating in advertising programs, this money would be divided between the two sites.

 About Us
 Affiliate with Us
 Add your Hotel
 Promote with Us
 Group Travel
 Travel Agents
 Privacy
 Careers
 Terms of Use
 Price Guarantee
 Site Map
 Hotel Directory

 Partner Sites:
 City Search Evite
 HSN Ticket Master Lending Tree
 RealEstate.com
 Match.com
 ZeroDegrees
 Entertainment.com
 LiveDaily
 Expedia
 Hotwire
 Trip Advisor

 VacationSpot.com
 TravelNow.com
 Orlando.com
 Classic/Vacation.com
 ZeroDegrees
 Entertainment.com
 LiveDaily
 Expedia
 Hotwire
 Trip Advisor

 Model
 Device
 Orlando.com
 Classic/Vacation.com
 SeroDegrees
 Entertainment.com
 LiveDaily
 Expedia
 Hotwire
 Trip Advisor

 Model
 Device
 Orlando.com
 Classic/Vacation.com
 SeroDegrees
 Entertainment.com
 LiveDaily
 Expedia
 Hotel
 Directory

 Meast
 Device
 Device
 Directory
 Directory

Figure 37 Partner sites listed at Hotels.com (a non-Wiki, Internet commerce site)¹¹⁶

This partnering can increase traffic, thereby increasing the potential for content to be contributed to the site.

4.4.3 User fee/Subscription

While it would be difficult to run a successful site off of user fees or subscriptions alone, the subscription business model has survived for years in such businesses as magazine publishing and can be applied in conjunction with other revenue streams. The subscription model can entice

¹¹⁶ Hotels. http://www.hotels.com. (22 October 2006).

customers with the promise of endless availability.¹¹⁷ It also promises the company at least some level of user commitment.

However, it does not guarantee that these users will help to strengthen the community by contributing to the Wiki. Furthermore, if the subscription fee is applied site-wide, it could deter users who would be contributors. The use of a subscription for premium pages in the site could be a divisive factor, and may not be the best model to apply to a Wiki business.

4.4.4 Acquisition

The final business model this thesis will examine is acquisition. Recently, the video server

YouTube was acquired by Google for \$1.65 billion.¹¹⁸ Before being acquired, YouTube's

business plan baffled many. Wrote MediaShift blogger Mark Glazer:

But the enigma is how YouTube will profit on its own spectacular popularity. Julie Supan, senior director of marketing for YouTube, said the site now serves up 35 million videos per day, and users upload 35,000 videos per day, with 100 million page views per day. These are massive numbers for a site that's not even a year old yet.

But so far, the only hint of a way this startup will make money is by making deals with media companies such as MTV2 and E! Entertainment Television to help promote their offerings with video clips.¹¹⁹

¹¹⁷ "Subscription Business Model." BookRag. http://www.bookrags.com/Wiki/Subscription_business_model (2 October 2006).

¹¹⁸ Arrington, Michael. "Google Has Acquired YouTube." TechCrunch

http://www.techcrunch.com/2006/10/09/google-has-acquired-youtube/, 9 October 2006.

¹¹⁹ Glaser, Mark. "YouTube Ceo Hails 'Birth of a New Chip Culture." MediaShift.

http://www.pbs.org/mediashift/2006/04/digging_deeperyoutube_ceo_hail.html 4 April 2006.

This type of model has become increasingly popular in a world where a few businesses specifically Google, Yahoo, and Microsoft—have most of the dollars. Many companies try to build something that will build "buzz" and wait to be acquired.

These types of sites can be funded by venture capital money before being acquired. VC money can dilute the pool of shares owned by those who run or originally invested in the site, so it may not be a desirable source of funding for many. However, if the correct VC's are chosen, they can contribute not only money, but advice as well. While the venture capitalists now have a say in decisions made, the site has funding to get them through to whatever the next step may be.

Some sites are started and privately funded by serial entrepreneurs. These business-savvy individuals or teams take their money from successful startups from the past and reapply it to a new venture. Like VC's, they come with a background of making sites successful or even what makes them fail; often knowing why a venture in the past has failed can be more valuable than a site which was immediately successful.

Of the sites that have been successful with this model, TripAdvisor is most similar to a Wiki site, as it consists almost entirely of user-written content. TripAdvisor practiced careful Search Engine Optimization to generate business for their site. With the number of visitors they would get to their site, they were able to offer user reviews and opinions on hotels, flights, and locations. They were acquired in May of 2004 by Expedia for \$220 million, joining Harry

95

Diller's travel conglomerate, InterActiveCorp.¹²⁰ The management team from the original site split up, with two of them staying at TripAdvisor, and others deciding to part ways and try to make other startups successful.

4.4.5 Establishing a "volunteer fire department"

The establishment of a "volunteer fire department" is an extremely important part of managing a successful Wiki site. Many of the qualities of a good Wiki site already discussed can help to make this challenge a reality.

If users come to value the site, depend on it, and use if frequently, they may step forward and begin to take responsibility for the quality of content available on it. They can do this through many of the means that we studied in the section on community: by deleting bad articles, contributing major and minor Wiki edits, and be contributing content themselves.

To continue to encourage this squadron, site owners may give recognition to top contributors, or make these top editors members of the team; they may be granted administrator-level access. This type of permission grant is beneficial for both the volunteer and the site owner. For the volunteer, it can help give him or her a positive reputation on the site and in the larger community. For the site owner, it adds one more vested, knowledgeable party to the team.

¹²⁰ "Big Miss: Mark Mahaney's Take (ESPE)," *Seeking Alpha.* http://Internet.seekingalpha.com/article/10603. 15 May 2006.

This type of recognition may be as simple as noting a user's participation next to this user's screen name throughout the site. For example, most forums note user participation and give accompanying titles to show which users are the more senior.

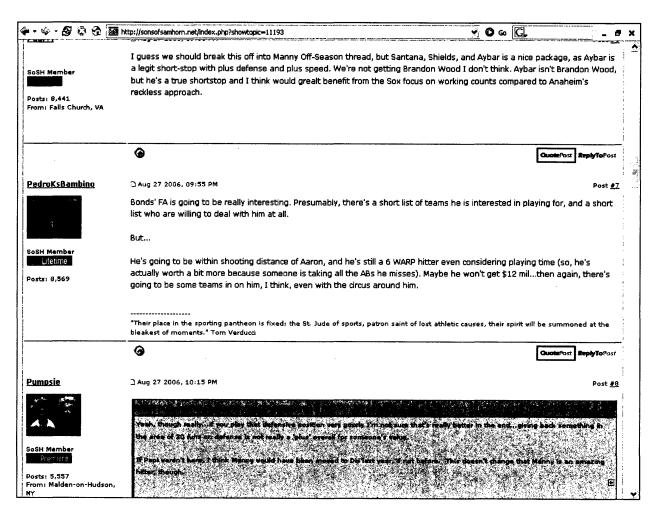


Figure 38 Sons of Sam Horn forums. Member status is shown beneath their names. These are three very senior members, with the "Dope" being short for "Dope that runs this site."¹²¹

This type of acceptance into a community can create an atmosphere in which the user will want to become fully vested and protective of the site. Rewarding participation on a Wiki can

¹²¹ "Sons of Sam Horn: Manny....again." http://sonsofsamhorn.net/index.php?showtopic=11193. Last updated 28 August 2006. (22 October 2006).

encourage the user to contribute more and to make sure that the quality of the site remains high, as he or she has a desire to protect it and its content.

4.4.6 How do you know when to stop?

Many masterpieces have a stopping point; a point when even one more brush stroke can ruin a work of art. Some believe that despite the fluid motion of a Wiki, such a time will arise. Wikipedia, a Wiki whose popularity many others hope to achieve, had a large discussion about freezing a "Wikipedia 1.0" version, having it reviewed by experts, then summarily copying to a DVD.¹²²

However, many Wikipedia administrators and contributors objected to this content freeze. One noted, "Stable articles? A paper encyclopedia? Privileged editors? Is that what everyone did it for?"¹²³ Although some objected to this contributors theories as being more about the process than the product, he represents the way many in a community may feel: the changeability of the Wiki is in itself much of what makes the product great. All are equal in some Wikis; anyone can change anything at any time. Noted another editor, "The beauty of Wiki is its openness - Wiki is a dynamic process." ¹²⁴

¹²² Sanger, Larry. "Why Wikipedia Must Jettison Its Anti-Elitism." KuroShin. 31 Dec 2004. http://www.kuroShin.org/story/2004/12/30/142458/25, 24 February 2004

¹²³"Wikipedia Talk: Version 1.0 Editorial Team Objection Archive."

http://en.wikipedia.org/Wiki/Wikipedia_talk:Version_1.0_Editorial_Team_objections_archive 26 Nov 2004 (20 September 2006)

¹²⁴ Wikipedia Talk: Version 1.0 Editorial Team Objection Archive."

http://en.wikipedia.org/Wiki/Wikipedia_talk:Version_1.0_Editorial_Team_objections_archive 26 Nov 2004 (20 September 2006)

Chapter 5: Conclusion

A new breed of sites is popping up now, although some experts expect none to reach the level of Wikipedia.¹²⁵ Said Gil Penchina, the chief executive of Wikipedia, "It feels to me like Craigslist," he said. "It's a small business, but it's a good business and it makes a lot of people happy."¹²⁶ This type of happiness is intrinsically linked to the three components of a professional Wiki: technology, community, and business.

Originally conceived by Ward Cunningham for a site on design patterns, Wikis combine a number of different technologies that were either created or made significant advances in the past few years. Databases have become efficient enough to insert, retrieve, and update rows of large content in seconds. Memory has become inexpensive to store this data and to run the business logic necessary to deliver it quickly, efficiently, and correctly to the user. Front-end processes have advanced to allow for wrapping and translation of content from a Wiki-specific markup language into one which is viewable in a pleasing form by users. The layering of these technologies is called the model-view-controller pattern; fittingly, a pattern which appears on the site containing the earliest Wikis, the WardsWiki.

The community aspect has developed into an important part of what we know as the Internet today. Although the creator of the Internet-enabling Hypertext, Sir Tim Berners-Lee, originally conceived the Internet as a collaboration tool, it took many different communities to turn it into

¹²⁵ Levine, Robert. "New Web Sites Seeking Profit in Wiki Model. <u>The New York Times</u>. Section C, page 1, column 6. 4 September 2006.

¹²⁶ Levine Levine, Robert. "New Web Sites Seeking Profit in Wiki Model. <u>The New York Times</u>. Section C, page 1, column 6. 4 September 2006.

such. The Open Source community and the collaborative attitude it fostered were key elements in the process of getting random people to work toward a common goal, whether they did it for their own self-satisfaction, for the community, or to build a positive online reputation. Sites such as Epinions and TripAdvisor gave those that wanted to contribute opinions outlets for doing so. Wikipedia took a different tact, asking users to contribute factual rather than opinionated content, and giving them a place to share their knowledge.

The last component is the discovery and application of business models. While there is great potential in these models, this is the area in which Wikis fall short. Many different types of sites have been successful using models such as subscription, donations, acquisition, or advertising. These models have been applied to sites such as YouTube, TripAdvisor, Adobe, and many others, but not yet to an exclusively Wiki-based site. The most popular Wiki, Wikipedia, is strictly donation-based. The goal of Wikipedia has not been to earn money, but to create an online encyclopedia. As of yet, there is still no one clear business model that seems to be able to make Wikis succeed.

When I started this thesis, I believed that I would be able to find a clear-cut way for companies to center businesses on Wikis. Although I found some encouraging data, such as the article on Wiki business models in the <u>New York Times</u>, it seems like it may still be too early for Wikis to succeed in the mainstream. The site I created for this thesis, http://www.writemythesis.com, was untouched by anyone other than myself. I had hoped that people would want to play with the technology, and contribute small edits, but this did not happen. Given more time, I would perhaps appeal to a larger audience and try to take out advertising on Google to direct people there. However, I had hoped that word of mouth would be enough to get this effort started.

In discussions I have had about why people do not seem to want to edit Wiki content, a popular reason is the impression of the sanctity of the written word. Contributing an opinion to a site such as epinions.com is easier, as it is adding content, not changing it. We were raised in book world: one does not edit the content of a book, one reads and comments on it instead. Changing what appears to be words embedded in HTML can be intimidating to some.

In conclusion, Wiki technology is indeed an exciting and up-and-coming field. However, like many technologies, it may take time to be adopted into the mainstream. Until this happens, the key for businesses is to continue to direct people to their pages and to earn revenue through such channels as advertising and partnership.

Chapter 6: Appendices

6.1 Appendix A: Survey Questions

1. Do you consider yourself tech savvy? 🌙 Yes J No. 2. How many hours a day are you on a computer? **J** Less than 1 **J** 1-3 4-5 🤳 6-8 J More than 8 3. Do you blog? If so, how many do you maintain? **J** No (0) 🌙 Yes (1) **J** Yes (2) Yes (more than 2) 4. Have you ever visited a wiki site such as Wikipedia? 🌙 Yes 🌙 No 5. Have you ever contributed to an online forum or wiki? 🤳 Yes 🥑 No

6. 1f -	If you answered, "No" to question #5, please skip to question 7. /ou answered "Yes" to #5, what made you contribute to a Wikl. (Please check as many as apply)
1 miles	Subject matter expertise
	Wanted to try new technology
	Wanted to correct error in writing
1.00	Other (please specify)
7,	what other factors could make you contribute? (Please check as many as apply)
Γ	Sense of satisfaction
[]	Sense of helping others
	Payment .
Γ	Contest
Γ	No idea
	Other (please specify)
B. I	Have you ever used the "track changes" feature in Microsoft Word or other word processor?
1.1	Yes
<u> </u>	Να
	How many times a week do you go visit with friends? (Dinner, drinks, movies, etc)
ل	지수는 것이 물건에 가지 않는 것이 아들은 것은 것이 같은 것이 같은 것이 같이
<u> – – – – – – – – – – – – – – – – – – –</u>	1-2
	3-4
- 23	More than 4
ل	Too busy with online friends
	다가 다 여러 집에 다 다 다 다 다 다 다 다 다 다 다 다 다 다 다 다 다 다

10. How did you find out about this survey? If I can contact you further about your answer, please leave me your email address.

6.2 Appendix B: Survey Data

是"ATTAL ARE AND HER PERSON ARE AN A PERSON AND A	and the second	Percent	Response Total
Yes		67.9%	89
No		32.1%	42
	Total Rea		181

		Response Percent	Response Total
Less than 1	2	3.1%	. 4
1-3		16%	21
4-5		13%	17
6-8		32.8%	43
More than 8		35.1%	46
	Total Res	pondents ;	131
<u> </u>	(skipped this o	westion)	2

No (0) Sec.6% 82 Yes (1) Sec.6% 33 Yes (2) Sec.6% 11	Asservation and Asservation	Response Percent	Response Total
Yes (2) 8.4% 11	No (0)	62.6%	82
	Yes (1)	25.2%	33
	Yes (2)	8.4%	11
	Yes (more than 2)	3.8%	5

		Response Percent	Response Total
Yes		83.8%	109
No		16.2%	21
	total Res	Pondente	130

		Response Percent	Response Total
Yes		35.1%	46
No		64.9%	85
	Total Reș	pondents	131
	(skipped this o	question)	2

		Response Percent	Response Total
Sul	bject matter expertise	66.7%	24
Wante	d to try new technology	16.7%	6
Wanted to	o correct error in writing	33.3%	12
View	Other (please specify)	19.4%	7

		Response Percent	Respons Total
Sense of satisfac		43.1%	44
Sense of helping ot	ers Ministration and Anna Anna Anna Anna Anna Anna Anna	49%	50
Paym	ent annument	22.5%	23
Con	test Ministra	15.7%	.16
No i	dea Anno 1996	30.4%	31
Other (please spec	ify) (1996)	9.8%	10
	Total Res	pondants	102

8. Have you ever used the "track changes" feature in Microsoft Word or other word processor?								
		Response Percent	Response Total					
Yes		64.6%	84					
No		35.4%	46					
	Total Res	ondents	138					
(skipped this question)								

F

Response Percent	Response Total
6.9%	9
42.7%	56
36.6%	48
13%	17
0.8%	1
يارد المجرمون متحسا فطاليها	131
	Hercent 6.9% 42.7% 36.6% 13% 13%

10. How did you find out about this survey? If I can contact you further about your answer, leave me your email address.	please
View) Total Respondents	96
(skipped this question)	37

6.2 Appendix C: List of Largest Wikis

Key

<u>Wikip</u>	<i>edia</i> p	rojec	ts						
			dada kala asina ata	uda de j	é en en é nome de	 	 	1. 6	

List

No.	Wiki	Good	Total	Admins	Users	Edits	Views	Updated (CET)
1	English Wikipedia		6028992			84254576		2006-10-15 06:03:51
2	German Wikipedia	480249	1264420	235	289022	23435897	8543798	2006-10-15 06:03:12
3		<u>424679</u>	426060	2	<u>64</u>	160758	255172	2006-10-14 12:01:08
4		<u>389039</u>	390434	<u>1</u>	<u>15</u>	<u>496917</u>	32667	2006-10-15 06:02:29
5	French Wikipedia	<u>376180</u>	893971	<u>115</u>	<u>161441</u>	<u>10757040</u>	2285300	2006-10-15 06:03:51
6	Polish Wikipedia	<u>305344</u>	484028	<u>103</u>	<u>73267</u>	<u>5190601</u>	2704125	2006-10-15 06:03:53
7		<u>294059</u>	405093	<u>40</u>	<u>22300</u>	1544004	395224	2006-10-15 06:03:12
8	Japanese Wikipedia	<u>272316</u>	627823	<u>51</u>	<u>87511</u>	<u>8536142</u>	2340980	2006-10-15 06:04:52
9	LATOWIL	<u>240603</u>	252925	<u>9</u>	<u>1151</u>	<u>277197</u>	3387199	2006-10-15 06:05:10
10	Dutch Wikipedia	<u>233223</u>	529625	<u>83</u>	<u>67994</u>	<u>5631491</u>	3200225	2006-10-15 06:03:50
11		<u>206614</u>	236179	<u>11</u>	<u>2389</u>	<u>1426393</u>	7	2006-10-15 06:03:50
12	Italian Wikipedia	<u>205442</u>	517321	<u>56</u>	<u>99655</u>	<u>5259032</u>	406	2006-10-15 06:04:04
13		<u>203553</u>	206905	<u>3</u>	<u>399</u>	<u>346338</u>	0	2006-10-15 06:02:37
14	Portuguese Wikipedia	<u>188760</u>	493312	<u>60</u>	<u>133689</u>	<u>3682425</u>	156	2006-10-15 06:03:56
15	Swedish Wikipedia	<u>187386</u>	384306	<u>62</u>	<u>23351</u>	<u>3009073</u>	1254153	2006-10-15 06:04:09
16	Spanish Wikipedia	<u>160865</u>	375090	<u>88</u>	<u>235942</u>	<u>5683062</u>	2161426	2006-10-15 06:03:59
17	Russian Wikipedia	<u>110952</u>	288859	<u>40</u>	<u>28934</u>	2115556	79753	2006-10-15 06:03:49
18	The DVLV States States	<u>107108</u>	124076	<u>14</u>	<u>4048</u>	<u>219114</u>	7550454	2006-10-15 06:05:04
19	Manzahar Constants and	<u>103447</u>	124352	<u>3</u>	<u>668</u>	<u>163772</u>	5125062	2006-10-15 06:02:25
20	Chinese Wikipedia	<u>94510</u>	310129	<u>80</u>	<u>114972</u>	<u>2681080</u>	325484	2006-10-15 06:04:11
21		<u>91275</u>	106211	<u>6</u>	<u>1456</u>	353057	1	2006-10-15 06:03:14
22		<u>85247</u>	122077	1	<u>85</u>	<u>295899</u>	0	2006-10-15 06:03:44
23	Finnish Wikipedia	<u>82404</u>	198180	<u>36</u>	<u>34468</u>	1798352	396	2006-10-15 06:03:35
24	Norwegian Wikipedia	<u>79400</u>	174800	<u>62</u>	<u>22112</u>	<u>1407869</u>	152	2006-10-15 06:03:47
25	Wikisocoirs	<u>76410</u>	92791	<u>13</u>	<u>3696</u>	<u>172027</u>	0	2006-10-15 06:03:55
26		<u>68353</u>	78409	<u>3</u>	<u>178</u>	<u>120472</u>	0	2006-10-15 06:03:48
27	Esperanto Wikipedia	<u>59469</u>	124024	<u>9</u>	<u>2407</u>	<u>686495</u>	716972	2006-10-15 06:03:52
28	Slovak Wikipedia	<u>57148</u>	101927	<u>20</u>	<u>3816</u>	<u>598027</u>	381	2006-10-15 06:04:03

29	Danish Wikipedia	50758	110480	27	8981	942981	604158	2006-10-15 06:03:56
30		47810	88644	12	983	282037	58	2006-10-15 06:03:45
31	Czech Wikipedia	47598	115050	20	10343	856131	50023	2006-10-15 06:04:12
32		46619	1142849		76257	3407070	0	2006-10-15 06:04:12
33	Hebrew Wikipedia	45881	156843	38	25860	2169014	29380	2006-10-15 06:03:52
34		45374		2	256	223811	1923310	2006-10-13 06:00:04
35		44817	51641	<u>6</u>	974	172651	2	2006-10-15 06:02:46
36		44070	57521	7	3455	194781	4227107	2006-10-15 06:04:43
37	Catalan Wikipedia	42506	92876	10	4050	653470	171	2006-10-15 06:04:28
38	Hungarian Wikipedia	41567	94289	<u>10</u>	<u>9608</u>	923848	6640	2006-10-15 06:04:02
39	Enelish Willinging	<u>39612</u>	60131	<u>20</u>	<u>5876</u>	249074	0	2006-10-15 06:04:09
40	Romanian Wikipedia	<u>39404</u>	103376	<u>18</u>	<u>20489</u>	<u>593491</u>	15059	2006-10-15 06:03:46
41	NATION OF A STREET OF A STREET	<u>39376</u>	97470	<u>16</u>	18447	764095	8931947	2006-10-15 06:04:59
42	Serbian Wikipedia	<u>38196</u>	97981	<u>39</u>	<u>5011</u>	<u>663194</u>	3862	2006-10-15 06:04:00
43		<u>37608</u>	52381	<u>14</u>	<u>5184</u>	423728	25	2006-10-15 06:03:43
44		<u>37338</u>	129788	<u>11</u>	<u>452</u>	<u>244928</u>	2053909	2006-10-15 06:02:24
45	Indonesian Wikipedia	<u>37258</u>	86279	<u>11</u>	<u>27988</u>	<u>414686</u>	49	2006-10-15 06:03:58
46	Turkish Wikipedia	<u>34371</u>	109695	<u>9</u>	<u>37255</u>	<u>791672</u>	9762	2006-10-15 06:03:57
47		<u>33959</u>	52741	<u>11</u>	<u>1137</u>	<u>164878</u>	8845228	2006-10-15 06:05:12
48	Channel Brook Change Street	<u>33073</u>	34357	<u>2</u>	<u>4</u>	<u>12219</u>	19395	2006-10-15 06:03:01
49	Slovenian Wikipedia	<u>33018</u>	89758	<u>23</u>	<u>5479</u>	<u>618282</u>	14648	2006-10-15 06:04:01
50		<u>32293</u>	46619	2	<u>364</u>	<u>141064</u>	0	2006-10-15 06:03:17
51	Lithuanian Wikipedia	<u>32123</u>	65550	<u>17</u>	<u>3494</u>	<u>407902</u>	20	2006-10-15 06:04:39
52		<u>31587</u>	65628	<u>7</u>	<u>787</u>	<u>186799</u>	3	2006-10-15 06:04:03
53	Bulgarian Wikipedia	<u>30826</u>	85299	<u>9</u>	<u>9067</u>	<u>727874</u>	85	2006-10-15 06:03:54
54	ek elenen west to soler at the	<u>30436</u>	31477	<u>2</u>	<u>76</u>	<u>31740</u>	52904	2006-10-15 06:05:07
55	Ukrainian Wikipedia	<u>30023</u>	54082	<u>8</u>	<u>2697</u>	<u>288547</u>	59	2006-10-15 06:04:01
56	Korean Wikipedia	<u>28013</u>	69464	<u>14</u>	<u>8607</u>	<u>584944</u>	38991	2006-10-15 06:04:59
57	Nostalgia Wikipedia	<u>27374</u>	33595	1	1	<u>94699</u>	0	2006-04-29 19:24:02
		<u>26586</u>	27994	<u>1</u>	<u>64</u>	<u>72106</u>	372972	2006-10-15 06:05:21
		<u>26394</u>	103511	<u>5</u>	<u>40</u>	<u>583063</u>	14609226	2006-10-15 06:04:50
60		<u>25238</u>	71545	<u>5</u>	<u>5701</u>	<u>34447</u>	14868842	2006-10-15 06:02:20
61		<u>24511</u>	32821	<u>9</u>	<u>629</u>	<u>138407</u>	4	2006-10-15 06:03:32
62	Estonian Wikipedia	<u>24190</u>	54575	<u>23</u>	<u>2077</u>	<u>383840</u>	140	2006-10-15 06:03:51
63	summer a state a state of an attack	<u>24071</u>		<u>4</u>	<u>354</u>	<u>933969</u>	0	2006-10-15 06:03:34
		<u>23120</u>	50270	<u>17</u>	<u>1108</u>	<u>144756</u>	3039617	2006-10-15 06:04:44
65	Croatian Wikipedia	<u>22750</u>	53389	<u>13</u>	<u>3784</u>	<u>402194</u>	6276	2006-10-15 06:04:40
66		<u>22378</u>		9	<u>1877</u>	<u>154092</u>	0	2006-10-15 06:04:10
		<u>22185</u>		<u>44</u>	<u>40662</u>	<u>629608</u>	25043	2006-10-15 06:03:09
68		<u>21302</u>	27668	<u>7</u>	<u>653</u>	<u>58942</u>	0	2006-10-15 06:04:39
69				3	<u>63</u>	<u>47565</u>	0	2006-10-15 06:02:37
70		<u>20962</u>	50083	17	<u>15353</u>	<u>377887</u>	16755092	2006-10-15 06:04:58

71	cnic.org	20885	33468	6	2024	116070	13346457	2006-10-15 06:04:54
72	French Chainki	20138	21509	1	2	16087	25535	2006-10-15 06:03:09
73	TaxAlmanac	19948	53517	19	11868	97121	6327072	2006-10-15 06:05:11
74	Citevelopedia.	19382	93268	46	28472	1274322	17643923	2006-10-15 06:04:56
75	French Wikisource	19232	67061	7	1086	199790	0	2006-10-15 06:04:10
76	Galician Wikipedia	18838	34870	13	1463	223975	17	2006-10-15 06:03:43
77	Arabic Wikipedia	17701	62094	9	31538	367734	5201	2006-10-15 06:03:48
78	Nynorsk Wikipedia	<u>17594</u>	42059	<u>13</u>	1427	202973	0	2006-10-15 06:04:41
79	NationStates Wiki	17145	29759	<u>8</u>	<u>3398</u>	222937	2920769	2006-10-15 06:04:48
80	Spanish Wikisource	<u>16672</u>	24364	<u>5</u>	<u>848</u>	<u>60896</u>	0	2006-10-15 06:02:26
81		<u>16105</u>	25276	<u>14</u>	1827	<u>91110</u>	0	2006-10-15 06:03:59
82	<u>Malay Wikipedia</u>	<u>15469</u>	33832	<u>12</u>	<u>6037</u>	163633	4072	2006-10-15 06:04:56
83		<u>15457</u>	34604	<u>11</u>	<u>123</u>	<u>57321</u>	0	2006-10-15 06:02:34
84	Persian Wikipedia	<u>15438</u>	40466	<u>8</u>	16436	323267	24	2006-10-15 06:04:05
85	<u>Thai Wikipedia</u>	<u>15380</u>	43559	<u>18</u>	<u>12490</u>	262630	16	2006-10-15 06:04:42
86	Greek Wikipedia	<u>15257</u>	37722	<u>10</u>	<u>4911</u>	262893	4165	2006-10-15 06:04:08
87		<u>15029</u>	25188	1	<u>432</u>	74460	0	2006-10-15 06:03:13
88	Marvel Database Project	<u>14952</u>	32694	<u>11</u>	<u>1473</u>	<u>86191</u>	8232549	2006-10-15 06:02:46
89		<u>14773</u>	17462	<u>6</u>	<u>127</u>	<u>29781</u>	0	2006-10-15 06:02:36
90	Basque Wikipedia	<u>14359</u>	32041	<u>5</u>	<u>710</u>	<u>224626</u>	10	2006-10-15 06:03:55
91	Ido Wikipedia	<u>13974</u>	17642	<u>6</u>	<u>300</u>	<u>67813</u>	2	2006-10-15 06:03:34
92		<u>13663</u>	19005	<u>4</u>	<u>679</u>	<u>36353</u>	0	2006-10-15 06:03:33
93		<u>13650</u>	15418	3	<u>440</u>	<u>43212</u>	0	2006-10-15 06:02:38
94		<u>12666</u>	20867	<u>13</u>	<u>419</u>	<u>121788</u>	1	2006-10-15 06:03:34
	wikiHow	<u>12626</u>	56322	<u>26</u>	<u>31040</u>	<u>300542</u>	48796152	2006-10-15 06:05:06
	Gamer Wiki	<u>12492</u>	16986	<u>3</u>	<u>576</u>	<u>25997</u>	448467	2006-10-15 06:05:24
97	Neapolitan Wikipedia	<u>12241</u>	18166	<u>4</u>	<u>284</u>	<u>98895</u>	0	2006-10-15 06:02:25
	<u>Homestar Runner Fanstuff</u> <u>Wiki</u>	<u>12155</u>	41669	<u>12</u>	<u>6052</u>	<u>337776</u>	5226859	2006-10-15 06:03:11
99	Bengali Wikipedia	<u>11830</u>	27329	<u>6</u>	<u>866</u>	<u>73956</u>	0	2006-10-15 06:04:40
100	Icelandic Wikipedia	<u>11715</u>	28068	<u>20</u>	<u>1209</u>	<u>149651</u>	4	2006-10-15 06:04:12
101	Georgian Wikipedia	<u>11469</u>	25936	<u>5</u>	<u>701</u>	<u>113961</u>	0	2006-10-15 06:04:29
102		<u>11460</u>	23274	<u>4</u>	<u>84</u>	<u>70936</u>	0	2006-10-15 06:02:35
		<u>11419</u>	31035	<u>21</u>	<u>9602</u>	<u>391136</u>	1721856	2006-10-15 06:05:14
104	Simple English Wikipedia	<u>11341</u>	29207	<u>16</u>	<u>5637</u>	<u>220809</u>	92	2006-10-15 06:04:41
	<u>Bosnian Wikipedia</u>	<u>11317</u>	24458	<u>17</u>	<u>1558</u>	<u>187139</u>	10216	2006-10-15 06:03:57
-	muppet.wikia	<u>11288</u>	31731	<u>5</u>	<u>11103</u>	<u>145892</u>	232960	2006-10-15 06:04:51
f		<u>11149</u>	12434	<u>1</u>	<u>502</u>	<u>15364</u>	24388	2006-10-15 06:02:33
H	Vietnamese Wikipedia	<u>11123</u>	52678	<u>13</u>	<u>17252</u>	<u>368043</u>	4	2006-10-15 06:03:52
109		<u>11105</u>	13772	<u>1</u>	<u>208</u>	<u>48120</u>	0	2006-10-15 06:02:34
			25228	<u>5</u>	<u>760</u>	<u>155792</u>	0	2006-10-15 06:04:05
l i i i i i i i i i i i i i i i i i i i			41948	<u>15</u>	<u>15666</u>	<u>363814</u>	175559095	2006-10-15 06:05:05
112	Choral Public Domain Library	<u>10406</u>	22359	<u>8</u>	<u>9531</u>	<u>66216</u>	20013145	2006-10-15 06:03:16

Articles 8 709 912	Total 21 884 685	Edits 200 297 048	Admi 3 459		Users 4 571 592	Images		
Grand Tota								
[edit]								
121 Meta.W	/ikimedia	<u>8701</u>	43830	<u>65</u>	33679	464668	284928	2006-10-15 06:02:39
120 Man W	<u>iki</u> si ki si	<u>8846</u>	11909	<u>3</u>	<u>106</u>	<u>20381</u>	675621	2006-10-15 06:04:52
119 scratch		<u>8951</u>	19135	<u>8</u>	<u>13862</u>	<u>74245</u>	47771	2006-10-15 06:05:25
118 Lyriki		<u>9117</u>	22653	<u>6</u>	<u>548</u>	<u>43913</u>	881610	2006-10-15 06:05:23
117 Breton	Wikipedia	<u>9231</u>	18299	<u>4</u>	<u>340</u>	<u>70828</u>	0	2006-10-15 06:03:44
116 German	t Kamelopedia	<u>9309</u>	18958	<u>23</u>	<u>1912</u>	<u>157748</u>	10475855	2006-10-15 06:04:51
	an Wikipedia	<u>9754</u>	23841	7	<u>1316</u>	<u>107829</u>	2	2006-10-15 06:03:54
114		<u>10140</u>	17523	<u>6</u>	<u>887</u>	<u>69283</u>	3	2006-10-15 06:03:35
113 psycho	logy.wikia	<u>10250</u>	16821	<u>3</u>	<u>14464</u>	<u>33979</u>	0	2006-10-15 06:02:22

¹²⁷ "List of Largest Wikis." http://meta.wikimedia.org/Wiki/List_of_largest_Wikis. Last edited 15 October 2006. (22 October 2006).

6.3 Appendix D: Bibliography

Allen, Robbie; Davidi, Ilana; Shah, Dharmesh; Shapira, Yoav. "Web 2.0: Hype, Reality, and the Future?" Unpublished 15.358 team paper, December 2005.

Blood, Rebecca. "Weblogs: A History and Perspective." Rebecca's Pocket. Sept 2000. http://www.rebeccablood.net/essays/weblog_history.html (3 Aug 2006).

Bruns, Axel; Humphreys, Sal. "Wikis in Teaching and Assessment: The M/Cyclopedia Project." 2005. http://snurb.info/files/Wikis in Teaching And Assessment.pdf (September 23, 2005).

Choate, Mark. "What makes an enterprise wiki?" CMS Watch. http://www.cmswatch.com/Feature/145-Wikis-in-the-enterprise.

Choates, Tom. "The Ugly Wiki?" http://www.plasticbag.org/archives/2003/05/the_ugly_wiki/. 1 May 2003.

Cusumano, Michael. <u>The Business of Software: What Every Manager, Programmer, and</u> <u>Entrepreneur Must Know to Thrive in Survive in Good Times and Bad</u>. New York, NY. Free Press. 2004.

"Document Mode." Portland Pattern Repository Wiki. Last updated 18 Feb 2005. http://c2.com/cgi/wiki?DocumentMode (3 Aug 2006).

Dodds, Leigh. "Bootstrapping a Corporate Wiki." Lost Boy. 1 Feb 2005 http://www.ldodds.com/blog/archives/000184.html.

"Delete Insults." Portland Pattern Repository Wiki. Last updated 11 March 2006. http://c2.com/cgi/wiki?DeleteInsults (3 Aug 2006)

"Good Wiki Citizen." http://c2.com/cgi/wiki?WikiCitizen. Last updated 26 January 2006. (6 Aug 2006)

"Database," <u>http://en.wikipedia.org/w/index.php?title=Database&oldid=71234852</u>. Last updated 22 August 2006. (August 24, 2006).

Davidi, Ilana; LaMantia, Matthew; Schiller, Dave; Shapira, Yoav. "Open Source Software at Apache." Unpublished System Project Management term paper. December 2005.

Espen, Andersen. "Using Wikis in a Corporate Context." Version 1.0B. November 10, 2004. http://www.espen.com/papers/EA-CorpWiki-v1.00.pdf.

Godwin-Jones, Bob. "Blogs and Wikis: Environments for On-line Collaboration."

Language Learning and Technology, Vol. 7, No. 2, May 2003. http://llt.msu.edu/vol7num2/emerging/default.html.

Gonzalez-Reinhart, Jennifer. "Wiki and the Wiki Way: Beyond a Knowledge Management Solution." February 2005. Adobe PDF, http://www.uhisrc.com/FTB/Wiki/wiki way brief B1 D-Jennifer 05.pdf.

Krause, Steven D. "When Blogging Goes Bad: A Cautionary Tale About Blogs, Emailing Lists, Discussion, and Interaction." August 2004. http://english.ttu.edu/kairos/9.1/praxis/krause/blog.html

Laird, Katie. "Emerging Web site technologies enable two-way communication." Houston Business Journal. April 2006 http://www.schipul.com/en/rel/?.

Lakhani, Karim R. "The Core and the Periphery in Distributed and Self-Organizing Innovation Systems." Doctorate Thesis, February 2006.

Lamb, Brian. "Wide Open Spaces: Wikis, Ready or Not." Educause Review, vol 39, no 5. September/October 2004, 36-48.

McHenry, R., "The Faith-Based Encyclopedia." Tech Central Station. 15 Nov 2004. http://www.techcentralstation.com/111504A.html.

Moore, Geoffrey. Crossing the Chasm. New York, NY. HarperCollins, 2002.

Nardi, Bonnie A., Schiano, Diane J., Bumbrecht, Michelle, Swartz, Luke. "I'm Blogging This: A Closer Look at Why People Blog." The Blogosphere. Volume 47, Issue 12, pages 41-46. December 2004.

Rosen, Jeffrey. "Your Blog or Mine?" The New York Times. 19 December 2004.

Sanger, Larry. "Wikipedia is wide open. Why is it growing so fast? Why isn't it full of nonsense?" 24 September 2001. http://features.slashdot.org/article.pl?sid=05/04/19/1746205&tid=95.

Shah, Sunir. "Wisdom of Wikis." July 27, 2005. http://www.socialtext.com/weblog/050727wikiwisdm.html (September 29, 2005).

Shirky, Clay. "Power Laws, Weblogs and Inequality." Exposure. Pp 77-81. 8 February 2003.

Smith, Ken. "Welcome to weblogs in higher education." April 30, 2005. http://www.mchron.net/site/edublog.php?id=C0 83 13.

Sternstein, Aliya. "Wiki Means Fast." 4 April 2005. http://www.fcw.com/article88467-04-04-05-Print.

Sullivan, Laurie. "Blue Nile Co-Founder Wades Into Wikis." http://www.informationweek.com/news/showArticle.jhtml?articleID=191900589 12 Aug 2006.

Szybalski, Andy. "Why it's not a Wiki World (Yet)." March 14, 2005 http://andy.bigwhitebox.org/papers/wiki world.pdf.

Tonkin, Emma. "Making the Case for a Wiki." *Ariadne Issue 42*. January 30, 2005. http://www.ariadne.ac.uk/issue42/tonkin/.

Weedman, Judith. "Burglar's Tools: The Use of Collaborative Technology in Professional Socialization." San Jose State University, San Jose, California 1998.

"Wikipedia: Wiki." http://en.wikipedia.org/wiki/Wiki. Last updated 26 August 2006. 26 Aug 2006.

"Wikipedia: Wikitext." http://en.wikipedia.org/wiki/Wikitext. Last updated 22 August 2006. 26 Aug 2006.