

Introducing Web Nooks

Online discussion for the rest of us folks...

By Steve King

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Note: This paper was written in 2005 as part of a collaboration with a major publishing company. Remarkably many the concepts are still yet to be realized by the open source or commercial software communities.

A Web Nook is...

A communications tool like a blog or wiki but different. In a web nook, users can share and discuss all sorts of digital content as if they are meeting in an intimate conversation nook.

**An online place to
share and discuss**



About the author...

Steve King is a senior technologist and software designer who finds web nooks particularly compelling because they challenge virtually all of his interest areas: IT, behavioral analytics, publishing, marketing, social networking and grassroots audio/video production.

Executive summary

The online world is ready for a new information sharing model... something that takes us beyond blogs, wikis, chat, IM and forums. This paper proposes a new method of topic-based online discussion that blends published digital content with user commentary and opinion in a unified and immersive web experience.

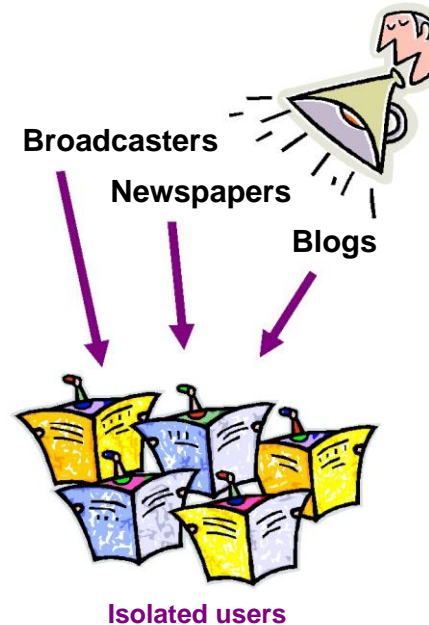
The key to this experience is a new online discussion tool called a *web nook*, which is a browser-based application (e.g., Flash/Ajax/DHTML) with a network database backend for storing commentary. Web nooks let intimate groups of 2-20 users come together in a “virtual conversation nook” to share and discuss textual and multimedia content in a granular and socially interactive way. These small affinity groups can ultimately be aggregated by social network techniques into large dynamic conversational arcologies of unlimited size.

To set the stage, this paper first looks at existing online forums, newsgroups, blogs, news wikis, chat rooms, tag sharing and social networking – all of these are found to be conversationally inadequate in some way. The paper then goes on to introduce the *web nook system*, which has these main characteristics:

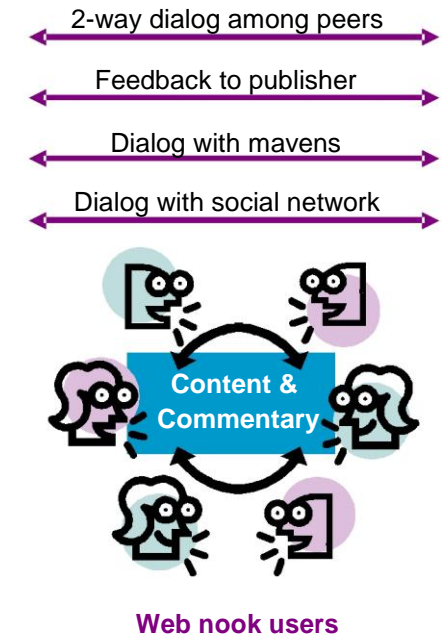
- Creates a *peer-group oriented environment* for online discussion of textual and multimedia content with an easy-to-use user interface
- Unites mainstream *journalism and digital media with grass-roots opinion and citizen commentary*
- Eliminates the *disruption, spam, flaming* and information overload associated with traditional online discussion tools
- Creates a *uniquely “sticky” social application* that’s the basis for new types of ad hoc and formal interest communities, and new web-based conversational gestures

- Supports tagging, folksonomy and *powerful live search tools*, so users can find content and people with similar interests
- Lets marketers, PR firms and researchers *explore community indicators*, topic clouds, viral influencers and topic authorities
- Creates large *live-web datasets* for advanced behavioral measurement, analytics and tracking of trends, early mentions and long tail phenomena
- Is a robust platform for a wide range of branding, *contextual ad serving* and interactive marketing applications

Current publishing model



Social publishing model



Why do we need web nooks?

Throughout the history of the internet there's been a succession of web tools that support and enhance real world conversational behaviors. For instance: email captures and extends real world "mail sending" behaviors; wikis allow writers to co-create documents together (the equivalent of passing a physical manuscript around); blogs initially enabled a diary behavior but more recently blogs have been used by pundits as a sort of personal soapbox.

Blogs are an evolving case of the web mimicking real world communications. When pundits wire their blogs together with cross-linking, they form a sort of virtual expert discussion panel – a group soapbox. The blog search services maintain top blog lists and have a bias towards established blogs with extensive cross links, which makes searching for fresh blogs and bloggers problematic. What's worse, blogs aren't really effective unless users master an array of complex technicalities, including blogrolls, trackback, RSS feeds, CSS, categories, tags, etc.



Blogs are great for expert repartee but they aren't the best vehicle for peer- to-peer discussions and content sharing among ordinary non-illuminati netizens. Unlike the blog-meisters, ordinary netizens doesn't often pontificate in a top-down, authoritative manner... they tend to get through the day by sharing and discussing existing published or found content with peers.

Real-world shared content discussions are a gesture of layering commentary, ideas, opinions and insights on top of existing and remixed material.

Imagine:

- ▶ A group of friends in a bar having a drink while discussing a new MP3 tune or a video clip someone just shot with their mobile phone...
- ▶ Roommates discussing a newspaper story over morning coffee...
- ▶ Co-workers around the water cooler discussing their favorite podcasts.

For the purposes of this document, "shared content discussion" is a social peer-to-peer experience that works best when the target content has been read/seen/heard by all members of the group.

Shared content discussion behaviors are extremely common in real life but are not well served by blogs, which have very weak commentary support due to the unsolved problem of comment spam and related moderation issues. From the standpoint of the average audience member, blogs are essentially one- way broadcasts without the possibility of robust two-way commentary or opinion sharing.

In lieu of something better, many users resort to email when they want to share and discuss digital content on the net. As is the case when a user emails an article, blog link or audio/video clip to several friends who look at the content and then discuss it via an exchange of messages. But with email, it's difficult to relate everyone's comments to the shared content, even in the case of quoted text... so the whole thing fizzles out fairly quickly.

A similar effect takes place in online forums, chatrooms and newsgroups, where users quote published material and link to external digital media objects. There is always a fundamental disconnect between the discussion and the thing being discussed – which is typically in another browser window or a

media player. Wikis are at first glance suitable for textual content discussions. But wikis are for group editing and revision of online documents – which is not the same as immersive group discussion of multimedia content.

So we have identified a key human communications behavior –shared content discussion– that is not well supported by the web today.

This is partly due to technology reasons. The requirements for an immersive tool are best addressed with a mature client-side asynchronous parsing engine (e.g., Flash, Ajax) that can do efficient partial screen updates combined with multimedia support, which is a fairly recent development. Also... the necessary streaming digital media content hasn't been available for easy import into the discussion environment. But that's improving gradually as well.



A tool for easy shared content discussion doesn't exist yet, but there are a few web services that give us a glimpse of this functionality. For instance, [Google's hello.com](#) lets

users share and discuss photo content in a somewhat intimate and immersive manner. The site's tag line is:

“Share pictures like you are sitting side by side.”

Content discussion at hello.com is based on several social and collaborative features, including content libraries, invitations, private groups and real-time chat that's integrated into the viewing experience. Hello.com is OK for simple photo sharing but it doesn't support a wide range of content types or a wide range of conversational gestures in a scalable well-structured architecture.

Lee Rainie on the Internet as social bonding agent

“In addition to being a bonding agent for relationships, the internet is a bridging agent for the creation and sustenance of community: **84% of internet users belong to groups that have an online dimension** – that represents close to 115 million people.

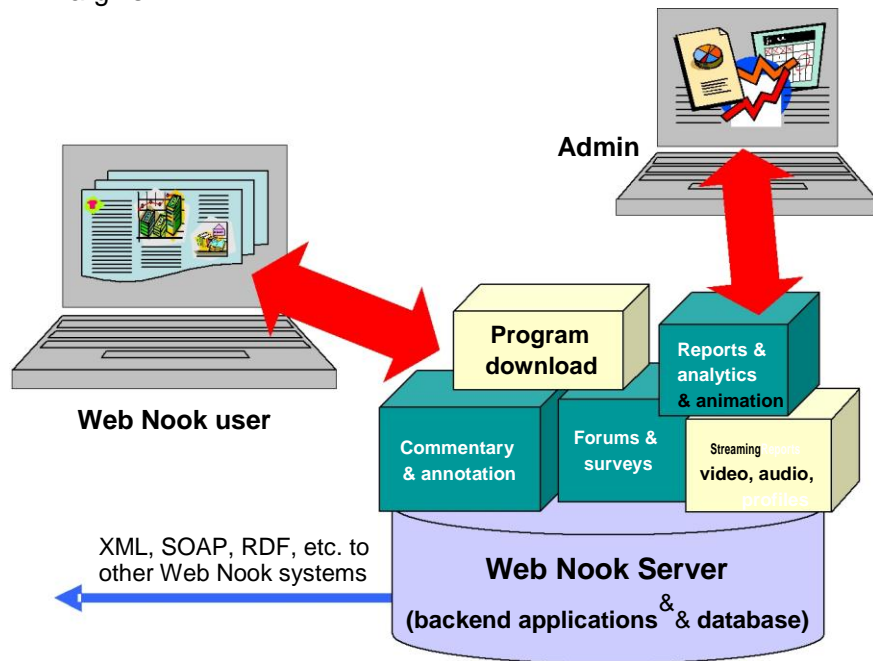
We are soon going to be releasing findings that show how the **internet helps people expand their social networks** and benefit from them when they want to solve problems or need assistance...” –Lee Rainie, PEW Research Center, 2005

Web nooks arrive

Given the evident need for a general-purpose digital content discussion vehicle, the author predicts that software companies and publishers will soon incorporate new and better peer discussion functionality into their online offerings. Web nooks are presented as just one example of the advanced discussion and info sharing tools that will emerge in the near future.

In basic terms, the web nook is an online service that lets users bring content into an interactive Flash/Ajax environment and then invite others to discuss this content in real time or asynchronously. Unlike blogs and other methods that marginalize quotes and comments, web nook discussions are *seamlessly interfaced with the original piece of content* in a usage metaphor that maintains the user's “content appreciation state” persistently throughout the discussion session.

To create a web nook, a user simply... **1)** chooses an online article, blog or audio/video clip for discussion... **2)** clicks **WEB NOOKS** on the browser toolbar... **3)** uses the web nook start page to enter email/IM addresses of one or more friends. At this point the web nook system automatically sends out invitations to all members of the discussion group. The person who initiates a web nook is the “moderator.” This user generally seeds the nook with introductory notes and perhaps some provocative questions or comments that show up as sticky notes in the content margins.



When the moderator’s friends or colleagues receive a web nook invitation in email or IM message, they click on a link in the message that lets them log in to the application. Once they have entered the nook, members use a simple, intuitive interface to add commentary, have text conversations, ask questions, create snap polls, add pointers to relevant external URLs, etc. Commentary can be kept within the nook or

released for public view (c.f., MyWeb2 private/group/public sharing).

Web nooks are *synchronous or asynchronous* which means that members can interact with each other in real time or in a delayed manner, like email. Commentary and user content is stored in a backend database for ongoing access. Web nooks are intentionally a narrowcast experience with limited membership size, typically less than 20. The invited nature of this approach eliminates anonymous lurkers, flamers and spammers who are so prevalent in unprotected internet discussions today. The web nook is a general purpose discussion tool that can support virtually any type of digital content, including:

- News stories, feature articles, white papers
- Blogs, wikis, RSS feeds
- Text written by nook users themselves
- Multimedia video, audio, animation
- Podcasts and v-blog clips
- Polling, surveys, round-tables, focus groups
- Advertorials, brochures, sales literature

Web nooks can be extremely transient (i.e., for one discussion) or they can be *permanent communities of interest* that discuss articles and media content on a regular basis.

Examples of interest groups that can convene in a web nook:

- Friends and family
- Sports and hobby enthusiasts
- School, civic, church and support groups
- Focus groups and research projects
- Workgroups in professional settings: PR, law firms, lobbyists, trade associations, consultants
- Various corporate departments (investor relations, business intelligence units, market analysts, etc.)
- Teams that subscribe to news and clipping services

Web nooks are designed for maximum ease-of-use so they can be thought of as “blogging for the rest of us.” Today’s social bookmarking and blogging services require moderate to high levels of technical aptitude and it’s a considerable effort to keep up with social tools. It may be awhile before these practices make it out of the tech savvy communities and into the mainstream. Web nooks in contrast can enable social methods for large publishing readerships and grassroots web user populations with a fairly rapid adoption curve.

Broken Newsgroups

“Somewhere along the line, **those newsgroups broke**. I don’t know what the hell it’s going to take to fix them. Something massive, I’m sure.” –Russ Allbery, Newsgroup administrator, Stanford University, commenting on unreadable online discussion groups

Scaling online discussions

Without attentive human moderators, online discussions don’t scale well and are prone to spam and chaos. Some very visible examples: ▶ Usenet discussion forums that have broken down under relentless pressure from spam and off-topic posts. (A new version of newsgroups, Usenet II, is underway but it’s not clear that the architects have solved the “unmoderated public discussion” riddle.) ▶ The LA Times innovative reader-edited “Wiki editorial,” which was shut down due to a flood of obscene posts and inappropriate material. ▶ The ill-fated Abuzz online information sharing project at the New York Times, a heavily moderated discussion environment that would not scale viably and so it was closed. ▶ In the new Yahoo My Web v2 social search engine there have already been instances of pornography. ▶ Spam in blog comment areas has made some bloggers lose faith in blogs as a viable two-way communications tool.

These failures of public information sharing are one reason why online social networking sites are growing so rapidly. Business and personal interest groups are being supported by a plethora of social network sites, including Ryze.com, Tribe.net, Google Orkut, Multiply.com, Yahoo 360 and LinkedIn.com. Members fill out a profile of interests and demographic details that enable information sharing and referral. Profiles can be searched to find people with similar interests. Members interact through a trusted referral network that passes requests and invitations from friend to friend, an approach that can control spam and unwanted communications.

Organic, bottom-up communities of interest

Although it’s a flawed platform, MySpace.com is an example of the self-regulation that can occur when large discussion forums are moderated by small invited peer groups. MySpace hosts approx. 250,000 groups with over 60 million forum posts. Forums often start small when a user creates a social group and invites several friends to an online topic-oriented discussion. Over time, with care and feeding, MySpace discussion forums can grow very large... in some cases to thousands of members.

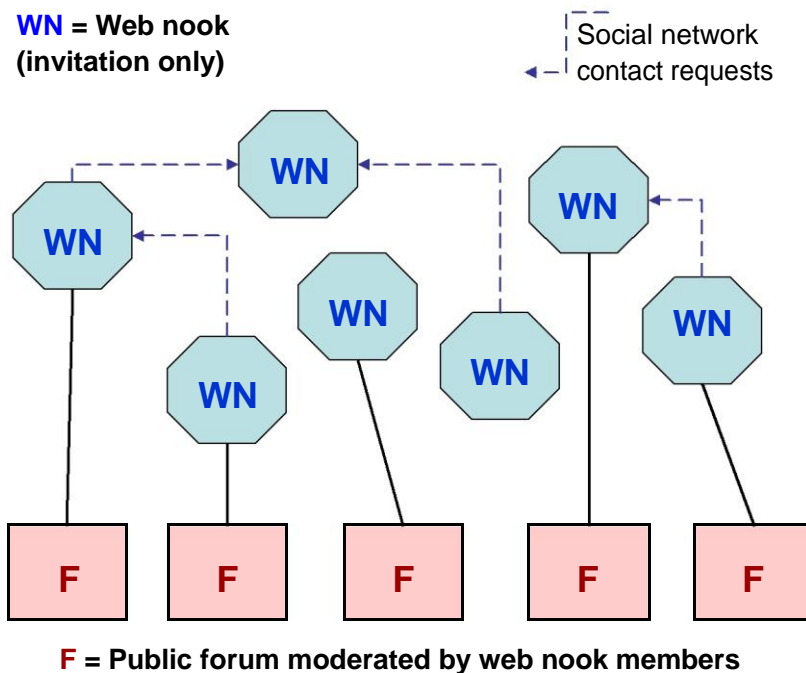


MySpace forums have not completely wiped out spam but they are largely self-regulating because users care about the quality of the discussion. They watched their forums grow from small cliques to large assemblies, so there is a sense of ownership that encourages close attention. *By allowing cohesive invited peer groups to extend themselves with public but moderated forums, MySpace scales communities of interest* whereas many other forums, newsgroups and public discussion venues have failed.

Social network features for web nooks

Web nooks are available to anyone who wants to discuss digital content. The system will accommodate ad hoc, spontaneous and occasional content discussion, and it will also support permanent nooks. (In this case, the system remembers nook member email/IM/SMS addresses, to facilitate invites and alerts.) Web nook members are encouraged to invite their friends and colleagues to these permanent “reading circle” content sharing groups.

Beyond the discussions inside transient or permanent nooks, there is also the ability to let web nook members interact with users in other nooks via forums and extended social networks.



When a reader becomes a member of a web nook social network, their personal profile (interests, skills, demographics) can be made searchable throughout the system. In the web nook social network, a member’s closest circle of friends is connected to them by just *one degree of separation*. Friends of these friends are connected via two degrees of separation and so on up to 4, 5, 6 or more degrees. Since web nooks are an invited medium, they are generally a first degree phenomena (strong ties), but public forums and social networking allows discussion and content sharing with people who don’t know each other directly (weak ties). If a nook member wishes to find someone outside their first degree group who has hands-on expertise or local knowledge in a specific topic area, they can search the entire nook network for a profile that matches their interest and use the network to make contact and set up a nook conversation.

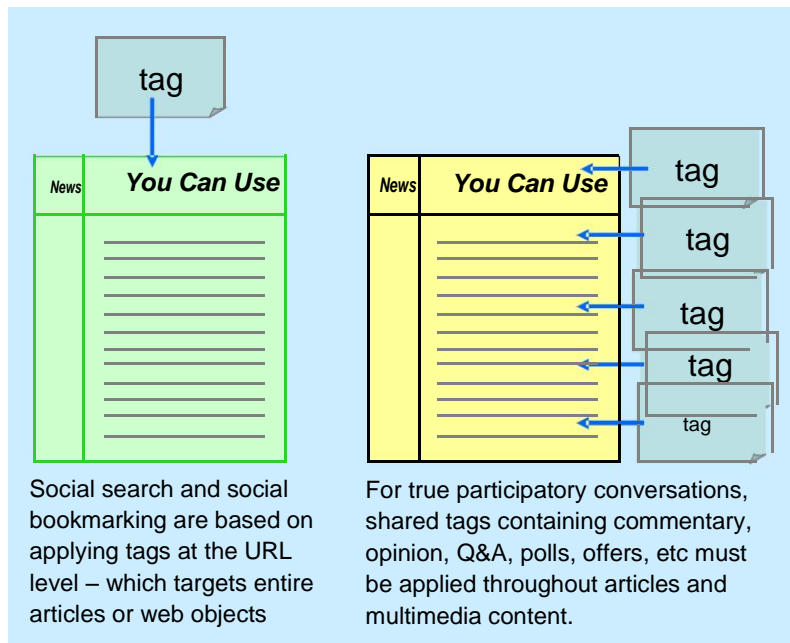
Until we have AI for figuring out what’s real commentary and what’s spam/abuse... the most viable approach to robust online conversations is self regulation... concerned user communities that moderate and regulate themselves. Within the web nook social network topology, *moderated public discussion forums are supported* by the system’s backend forums (see diagram). Each forum is sponsored and moderated by a specific nook – which eliminates the problems of uncontrolled spam/abuse in traditional newsgroups.

Internally, web nooks achieve high levels of spam and chaos control because they are an explicitly invited environment – a viable social unit. All members of a web nook are known to the moderator and have some vested interest in the nook’s topics. Externally any public forum discussions hosted by a nook are moderated by the nook team. As with real world social networks, it’s expected that nook nets will grow and multiply into a branching topology of loosely coupled affinity units.

Granular tagging

Also relevant to web nooks: social bookmarking (i.e., shared URL tagging) that takes place on such sites as del.icio.us, furl.com, shadows.com, blinklist.com, Yahoo MyWeb, blogmarks.com and many others. Social bookmark sites are often broad in scope but some of them focus on specific interest groups: science (Connotea), academics (CiteUlike), restaurant rating (Dinnerbuzz). Technorati.com currently searches millions of shared web page tags and it tracked over 25 million tagged blog posts in the first half of this year.

Social bookmark services target URLs and various web objects (files, photos, blogs) *but they don't tag the actual internal content of pages*. Tags containing annotations, ratings, etc. are applied to the entire web page or web object, and not to the granular paragraphs, sentences, headings or words within articles.



In the web nook model, users can share and discuss articles with tags and commentary that are more granular than the URL level. Users can apply tags *inside the context of the content itself* (e.g., tag = tagname + username + URL+ annotation + place anchor + action + format). In general, granularity is the direction that tagging is headed and there is already work in the micro format community on interoperability and standards for granular tagging and semantic markup. The ability to locate tags “inside” content allows readers to use the topics and issues of an article as a framework for back and forth discussions that more closely parallel real world conversation gestures.

Tagging textual content: If content brought into a web nook is textual, users can place annotations throughout text via a system of icons and threaded sticky notes that are layered on top of the original content. Conversation topics are suggested automatically or users can highlight any word/phrase in heading or body text. Web nook topics can be exported and exposed as folksonomy tags.

Tagging streamed content: If content brought into a web nook is an audio or video clip, users create tags, commentary, ratings, notes, Q/A, etc. on a scrolling graphical timeline that unrolls in synchronization with the streaming content.

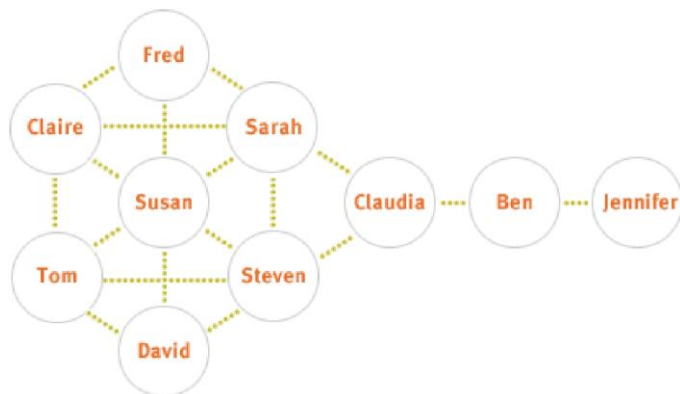
When deployed by web publishers, portals or media companies, web nooks can aggregate and publish commentary and annotations (when flagged public) via a range of possible interfaces including RSS, XML, xfolk, reitag, hreview, and other micro content and meta data formats.

As a bottom-up, peer -to-peer information sharing tool, web nooks are potentially an enabler of the Web 2.0 principles of *glocalization and peer production*, which are largely based on independent communities of practice, where users are both broadcasters and receivers... producers and consumers. Large

media companies are increasingly perceived as manufacturers of inauthentic homogenized information that's not as relevant as content generated by grass-roots net-based peer groups. With the glocalization capabilities of web nooks (e.g., peer commentary, virtual annotation layers), online publishers can potentially support a diversity of authentic local viewpoints that are integrated with the output of global news teams and professional journalists. Web nooks start small and with social network principles can scale to very large communities... but always preserving the core unit of intimate peer conversations in an immersive shared content setting.

Viral features

Web nooks are designed to support connectors, mavens, influencers and other viral players *as they share information via strong and weak ties*. Web nooks primarily support discussion in very intimate inner circles, but nook members can also interact with more loosely-coupled social and professional networks. Based on the behaviors of real-world social nets, web nooks are limited to 20 members or less for any given session, and the sweet spot is probably around 7 in many cases. Above this level, moderation and group cohesiveness declines.



Viral effects are enhanced by letting readers import their Outlook/Notes/Palm/etc. contact lists into the web nook system. Once contacts are typed in or imported, users can define a number of topic-based nooks, each with a unique set of members. The web nook system remembers all membership details, which makes it very easy for users to choose who should be invited to a new piece of content.

The web nook software uses alerts, reminders and signage to explicitly encourage readers (and particularly connectors) to send out articles and multimedia content to friends, acquaintances and colleagues. Any content can be sent out with an invitation to a web nook. Or, a piece of content can be sent out with general information about web nooks. This second option is ideal for *connectors and others who wish to use content objects to keep in touch with weak tie contacts*, without necessarily creating a web nook for each item that's sent. In this case, when a user sends a content invitation to someone, the resulting message contains information about how that recipient can start their own web nook.

The system profile feature allows readers to rate themselves as mavens in their areas of expertise, and mavens are encouraged to start expert discussion groups on topics they enjoy. To further enhance the viral effects, there is a potentially large body of marketing and editorial best practices that can be used to promote topic-based nooks and incentivize moderators, connectors and mavens.

Connecting with weak ties

"Weak ties –of acquaintanceship, of colleagues who are not friends –provide non-redundant information and contribute to innovation because **they tend to serve as bridges between disconnected social groups...**"

- Stanford Business School Study

Social and viral analytics

Web nook social network reporting lets publishers and marketers view and analyze social and viral network activity in their online audiences. The system keeps an (anonymous) log of interactions between members of each web nook. These interactions may form significant patterns that can be exposed in the form of social network analysis (SNA) network diagrams, usage charts, histories, degrees of separation, viral fan-out and various visualization aids. For instance, a publisher or aggregator can view a color-coded network map showing propagation of invitations across the entire web nook network. SNA maps can be viewed for all nooks, selected nooks, or a specific topic area. Potential reporting and analytical features:

- Show topic interest areas of nooks
- Identify key authorities and connectors
- Identify viral quality content
- Show propagation patterns of invitations
- Correlate viral/SNA to external events, environment
- Correlate web nook patterns with macro trends
- Shed light on the editorial and info needs of readers

Connectors as opinion makers

"E-fluentials are a small segment of online adults, about 11 million people, who reach 155 million consumers by spreading the word."
—RoperASW Study, 2005.

Marketing and ad serving

Targeted ad serving is an optional aspect of the web nook system. It's well understood that advertising effectiveness is

strongly affected by the **context** that ads are viewed in. By enabling intimate and satisfying social engagements, web nooks create a quality experience that supports effective ad serving.

And because web nooks are topic-based, they enable another key dimension of online marketing: **relevancy**. Ads can be tied to the specific topics or content that a nook is discussing. This targeting can be very granular, and it can be based on reading patterns, concepts and key words in commentary, questions, polls, etc. Beyond display ads, there are a number of opportunities for using web nooks in conjunction with branding, contests, promotions, co-marketing, call centers, ecommerce and other customer service and sales channel resources.

Increased audiences and increased page/object views are a **quantitative** metric for web nooks... but the **qualitative** metrics are perhaps more important. In general, the marketing benefits of web nooks include:

- Relevant ad-serving in a quality context
- Support for IAB standard online ad units, DART and various PPC/PPI ad servers in the web nook client
- Additional loyalty and stickiness as readers return to web nooks repeatedly for social interaction and sharing of information
- Platform for wide range of PR and integrated marketing campaigns
- Reporting on how content is shared and discussed within topic communities and between topic communities
- The possibility of catching trends, buzz and early mentions in a deterministic manner

Editorial opportunities

For online publishers, the web nook system can be used to support in-depth connections between readers and editorial content. Web nooks can potentially drive a diversity of editorial projects that make published content more sticky and engaging:

System generated content. When an article is shared by a nook, the system can automatically search for other relevant and related material, and make this additional content available to the nook via alerts or RSS feeds.

Roundtables. Journalists or editors can invite select groups of readers (chosen by profile or promotion, etc.) to take part in a roundtable where an article or other content is thrown open to reader commentary, questions, insights, debate, etc.

Roundtables potentially can be presented to very large public audiences. *In this case the web nook can be made “read only” for the public,* so the article annotations and commentary comes from round table members, but all can view.

Maven and celebrity nooks. Web nooks support the creation of “celebrity” discussion circles where a select group of users chat with a world-class expert, author, sports figure, corporate executive, Hollywood personality, etc.

Polls and surveys. With the built-in polling and survey capabilities, web nooks let publishers take the pulse of readers within the context of an article or video clip. Results of polls and surveys are available in real time via the admin interface.

Multimedia content. Because this is a flash or DHTML environment, “lean-back” multimedia content can be offered to discussion groups. This content could include video/audio/multimedia material from editors, marketers or readers themselves.

Thinking Together

“...when people know each other well, **they create an implicit joint memory system** – a transactive memory system – which is based on an understanding about who is best suited to remember what kinds of things.” - Tipping Point

Murdoch: Virtual communities for readers

“... we at News Corporation will continue to invest in our printed papers so they remain an important part of our reader’s daily lives. But our internet versions can do even more, **especially in providing virtual communities for our readers to be linked to other sources of information, other opinions, other like-minded people.**” –Rupert Murdoch, ASNE Speech, 2005

Summary of Web Nook Benefits

1. Easy-to-use and elegant in its learning curve
2. Supports natural discussion patterns that take place in grassroots affinity/interest groups
3. Allows bottom-up peer-to-peer conversations that don’t require an authority, position or rank for participation
4. Self moderating and self regulating, so as to eliminate spam and abuse without stringent controls, external moderators, etc.
5. Supports a wide range of digital content types: news, articles, pictures, papers, blogs, audio, video, etc.
6. Supports searching, categories and tagging at a granular “semantic mark-up” level
7. Built-in metrics for measurement, analysis, understanding and encouragement of grassroots topic communities
8. Scalable and interoperable through micro formats, RDF, XML, soap, etc.

Call for standards thinking

Web Nooks represent a major new application opportunity for a very wide range of horizontal and vertical markets – hence the need for standards early in the adoption cycle. It is anticipated that many different media companies, portals, aggregators, agencies, etc. will deploy their own interpretation of web nooks, with their own unique feature set and branding:

Aggregators like Yahoo, MSN and Google will offer web nooks to grassroots affinity groups for sharing and discussion of syndicated content.

Publishers will make consumer and business press content available in web nooks and related social networks for publishing audiences – in much the same way there are now social nets for musicians, artists, business professionals, students, etc.

Sales groups will use web nooks to set up virtual white paper and marketing content discussions with their customers.

PR firms will brief key editors and journalists in web nooks.

Law firms and governance efforts will use web nooks to discuss briefs and reports with stakeholders who are inside and outside the firewall.

Because it's early in the adoption curve, *there is a unique opportunity to establish standards for interoperability between web nook systems and applications*. In many cases the commentary and content generated by web nooks will be open to the public and made available for searching and export.

If the standards for sharing user-generated content are worked out now, we can avoid the situation we have in the blogosphere where it's difficult to search and aggregate blogs across different systems, due to lack of accepted standards, data exchange formats, blog structures, etc. Here are a few areas where standards thinking could greatly benefit the web nook movement as a whole:

Backend-to-backend interfaces between independent web nook systems... XML, SOAP, RDF, etc.

Mircformats... currently there isn't a micro format that maps fully to the shared digital content discussion model. Aspects of xfolk, reltag, hreview, etc. could be appropriated.

Semantic markup and content structuring... web nooks are an interesting document structure challenge because they consist of commentary, discussion and annotations layered on top of original (sometimes copyrighted) pieces of content. One approach is to make the commentary exportable in full text and the original content layer available through a URL pointer.

Appendix A

Underlying social and viral concepts

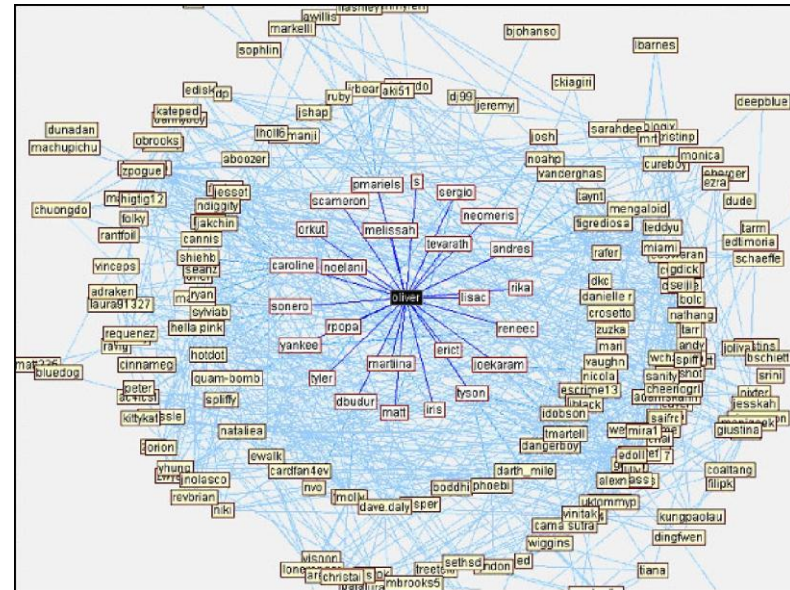
In the seminal viral networking book, *The Tipping Point*, and many formal studies as well, the social science implications of personal networks have been uncovered. Social researchers often use a model of weak and strong ties. We connect to members of our personal inner circle, including friends and family, with **strong ties**, and we connect to casual acquaintances and colleagues with **weak ties**.

Strong ties are the bonds that hold together our core social unit, which is typically based on 12 or less close friends and relatives. This inner circle or “sympathy group” is more than just a comfortable and familiar social structure: it’s how we process, distribute and analyze information. With the help of our inner circle, we can: ▶ trade knowledge, ▶ filter and reject information, ▶ decide what’s important, ▶ establish values, ▶ enforce standards (peer pressure).

Psychologists have discovered that sympathy groups have a shared memory that allows efficient communal thinking and analysis. Due to the strong interior ties of sympathy groups, if one group member receives important information, it travels quickly to the other members. Weak ties to acquaintances outside the inner circle are also important. Weak ties are often used to locate new jobs, introductions, assistance, services and knowledge that aren’t readily available in the inner circle.

Most people focus their social interactions primarily on their inner circle of friends, while paying less attention to the external world of passing acquaintances. But researchers have identified a special type of social network member, **connectors**, who have hundreds and sometimes over a thousand casual colleagues and acquaintances. The links between human connectors and their network of contacts are often via weak ties. When conditions are right, connectors can

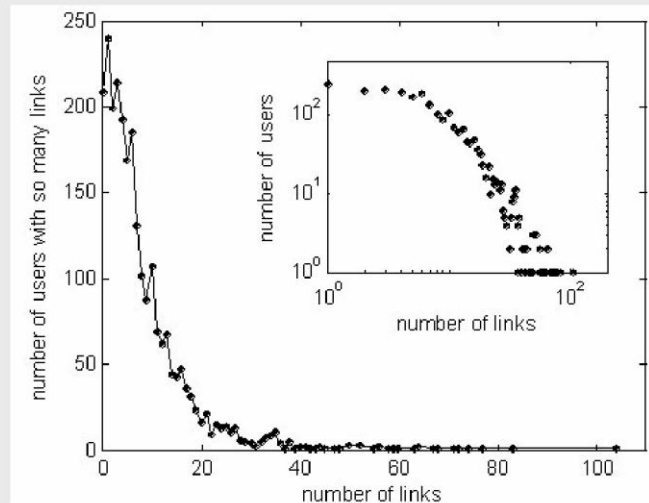
use their weak-tie networks to start viral epidemics that propagate information and ideas at a tremendous rate through large populations. Another social network member, **mavens**, specialize in collecting knowledge used to solve problems.



Like connectors, mavens can start trends and facilitate viral information sharing. Nearly everyone knows a connector or a maven. We may even know someone who plays both roles. Our inner circle of friends and our extended social network of acquaintances and colleagues when taken together can be visualized as a set of concentric circles that emanate out from each individual.

Ideally, content discussion tools will enable a combination of communications modes, including **inward looking peer group conversations (nooks)**, **inter-group conversations (nook to nook)**, and **large public dialogs (nook moderated forums)**. It is the author’s opinion that the key to all of these levels of conversation is to start from the bottom up by empowering the

dialogs of small, strong-tie affinity groups. As these groups propagate, the overall social network can expand like a large soap bubble. In this analogy, *the surface tension of the bubble is maintained by delicate social connections within and between web nooks*. When these social connections degrade, the bubble bursts and conversational chaos returns.



The graph shows the social network connections (friends) of members of the Stanford University Club Nexus experiment (typically less than 20 social links for each member – but some have over 100 links). Within a few months of its introduction, Club Nexus attracted over 2,000 undergraduates and graduates, together comprising more than 10 percent of the total student population. As part of registration, users were asked to list their friends and acquaintances at Stanford. **This viral sign-up strategy resulted in a rapid build-up of the user base.**

Sidebar:

Random Path vs Shortest Path Betweenness in Social Networks

A large web nook arcology is ripe territory for social networking methods of analysis. For instance: conventional network path analysis uses shortest path calculations to predict the influence that each network node has on information routes in the network. But a more advanced technique called *Random Path Betweenness* used matrix mathematics to analyze network flows and the influence of connecting nodes that are not necessarily on short distance paths. According to researcher M. E. J. Newman at the University of Michigan: *“News or a rumor or a message or a fad does not know the ideal route to take to get from one place to another; more likely it wanders around more randomly, encountering who it will.”*

Sidebar:

RSS feeds and web nooks

RSS links are very useful within the web nook environment, allowing readers to quickly identify topics and content they want to discuss. This feature isn't an attempt to capture all the user's RSS feeds for all parts of their lives. In the web nook context, RSS feeds target shared topics of interest that are common to the peer group. For example, if a nook discusses sports issues regularly, the moderator can place a sports RSS feed on the MyNooks start page and preview sports articles prior to sending out discussion invites. This is a very sticky proposition because it keeps readers coming back to their MyNooks page to see what they want to discuss online with their friends.

