

Social Networks Research Report

This report is the result of an in depth analysis on social networks for a web community project at Wildbit. The report aimed to discover how to attract members, define structure, influence participation, and manage the community in order to design the web site prototypes. The progress of this project will be posted occasionally on our blog.

Please feel free to distribute this report as long as the credits to Wildbit remain attached. For questions, comments, or corrections please email Chris Nagele at cn@wildbit.com.

This report can be downloaded on our blog at

<http://tidbit.wildbit.com>



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0 Relevant Resources

Entertainment Networks:

| | |
|-----------------|--|
| MeetUp.com | Meetup.com is a networking site almost entirely devoted to arranging meetings for communities with like-minded interests. Unlike most other social networks, where the focus is towards user profiles and the networks of personal friends or associates, Meetup organizes local interest groups that meet monthly at local cafes and establishments. Meetup earns money from establishments that pay to be listed as possible venues for these meetings, and also from services such as text advertising and its advanced MeetupPlus functionality. |
| evite.com | Almost the same as MeetUp. Allows users to create invitations for events, send them to friends, set up places to meet, and coordinate the event. |
| Ryze.com | Ryze was originally an online business networking site, but members have also been using the site to communicate with other members for dating and other social networking purposes through the use of photos in each member's profile. It is a free service, but members can also subscribe to gold membership, which is a paid service that enables members to perform advanced searches. The Ryze site also organizes events for people offline. Ryze profiles contain guest books for other members to leave messages or e-mails for other users. It also lists a section for classifieds which members can post to. The site currently contains about 250,000 profiles. |
| Friendster.com | Friendster is primarily a site for social connections: for dating through one's own friends and their friends; for making new friends; and for helping friends to meet new people. A member's photo and profile are only shown to people in their personal network and messages can only be sent and received from those with a mutual network of friends. Size of the Friendster network is about 17 million profiles. |
| Orkut.com | Orkut has attracted a lot of attention because of its ties with Google, for whom the site developer works for. Primarily a social site, Orkut has a relatively low user base as it requires an invitation to join. Communities are created under thirty or so general category headings and contain usual message forums and events listings. Orkut has been criticized for its poor privacy policy, which has recently been revised. |
| LiveJournal.com | LiveJournal is basically a blogging service, but the members can add other members as friends, thus getting a summary blog line of their blog entries. |
| MySpace.com | MySpace is another network with a slightly blurred target, but mostly friend oriented. MySpace is becoming popular among teens and young people. One interesting feature is that musical artists are allowed to create their own profiles and are given the option to post streaming MP3s of their songs to build up larger fan bases. Some bands even allow the MP3s to be downloaded. Size: 14.5 million profiles. |

| | |
|-----------|---|
| Tribe.net | Tribe aims to keep its services to members free of charge by deriving revenue from job postings and featured listings. While Tribe is primarily used for social purposes, for example if someone moves to a new area and they are looking for information on accommodation or restaurants or concerts, the site does include professional elements such as job postings. As well as each user having a defined set of friends, Tribe contains many categories of communities where each community is termed a tribe, and a message forum and events listing is associated with that tribe. Messages from forums are also made available in RSS format for use in desktop news aggregating applications. |
| WhoAt.com | WhoAt is a social networking and dating site designed for mobile phones. You tell it where you are and it tells you where your friends and nearby potential friends are. WhoAt works via mobile phone browsers, SMS, and standard web browsers. |

Business Networks:

| | |
|--------------|---|
| LinkedIn.Com | LinkedIn looks like the most professional looking of all the social networking services, and is very oriented toward your professional network and not your broader personal network. In fact, unlike almost all the other sites, LinkedIn doesn't allow for you to add a photo to your profile page. LinkedIn allows members to look for jobs, seeking out experts in a particular area, or to make contact with other professionals through a chain of trusted connections. LinkedIn is probably the site with the least potential for social purposes. Size of the LinkedIn network is about 2.5 million profiles. |
| Ecademy.com | Ecademy is a business networking site built up of a network of trusted business connections for people to share contacts and business opportunities. It is free to join, however membership can be upgraded to power networker. It has a list of Ecademy clubs that its members can join, as well as listings of meetings and when they will be taking place. It also contains a list of networking regions globally for arranging meetings and events offline. |
| OpenBC.com | "The European Version of LinkedIn". Initially free, but has a golden membership, which gives access to extending features. |
| Spoke.com | Spoke is a professional networking site that helps people build their business network connections online. Spoke helps its members to increase their prospects for opportunities, and in helping to find a job it also enables members to obtain referrals through people they already know. |

1 General guidelines of community design

Communities are not created; they evolve. The growth of an online community takes time and effort. Relationships must be initiated based on trust, and then carefully cultivated. Organizations must identify a sequence of steps to increase a constituent's level of involvement and offer a variety of participation options that work to engage different components of their audience. To build a vibrant online community, organizations need more than an individual's donation or membership application — they need ongoing interaction opportunities that will keep a constituent engaged and developing into a lifelong supporter. In addition to defining a set of interactions, goals must be clearly articulated. Organizations must ask themselves fundamental questions about the nature of the online community that they are building.

General guidelines are listed below and are provided in depth in the next sections of the document:

Communicate the purpose of the community and provide guidance for new members (Section 2)

Provide valuable content and encourage members to contribute their own (Section 4)

Help members to establish trustful relationships and strong emotional ties (Section 3)

Provide possibilities of growth, self-identification and individual recognition to members (Section 4)

Stimulate interaction between members; cultivate cyclic rhythms for events and communications (Section 5)

2 Attracting new members

2.1 Methods of persuasion of a potential user

In order to facilitate the potential user's decision to enter a community, i.e. to register, the community web-site should clearly show its benefits to a visitor. Practically all online network sites have it on their start pages.

One of the great examples is **LinkedIn**:

| | | |
|---|---|---|
|  |  |  |
| Find People Clients, partners, sales leads and experts | Find Jobs Top jobs and the most reputable candidates | Find Services Recommended services and new customers |

MeetUp, whose goal is to organize offline meetings of people based on interests, shows what users can do using real examples (on the left).

Join over a million people who:

| | |
|---|--|
| Learn something  French Speakers in Seattle, WA | Do something  Scrapbookers in Singapore |
| Share something  Pug Owners in Boulder, CO | Change something  Voters in San Bernardino, CA |

Do you want to:

- ◆ Send online invitations?
- ◆ Find your friends' favorite bars and restaurants?
- ◆ See what's happening in your area?
- ◆ Connect with guests from past events?

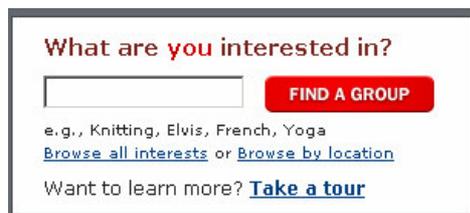
New to Evite? Register with Evite to access your Evite Network, recommendations and more!

[Register](#)

Not less important is to clearly show that membership is free. Usually it is shown beside the Join button:

| | | |
|--|-----------------------------------|--|
| <p>LinkedIn is free Join over 2.5 million other professionals now</p> | <p>Join Today</p> | <p>join now It's free!</p> |
|--|-----------------------------------|--|

Less formal networks allow users possibility "to look inside" the site and to see the existing interest groups, forum discussions and even view existing members, but the personal information stays private for unregistered users. For example **MeetUp** allows users to find groups by interest and location:



The following table summarizes the methods of persuasion in current social networking sites:

| | LinkedIn | Tribe | openBC | Ryze | MeetUp | eVite | MySpace |
|----------------------------|----------|-------|--------|------|--------|-------|---------|
| Statement of user benefits | x | x | x | x | x | x | x |
| Statement of freeness | x | x | x | x | | x | |
| Size of current network | x | | | | | | |
| Guided Tour | x | | x | | x | | x |
| Success stories | x | x | x | x | | | |
| What the press says | x | x | x | x | x | | |
| Partial access to content | | x | | x | x | x | x |

It is worth noticing that MySpace has the weakest attracting features on its web site, but still it is reported that the number of members grow. It looks like the main reason for growth is activity of current members in inviting others.

Suggestions:

Automatically make a connection between the member, who sent an invitation to join, and the user who has accepted the invitation.

2.2 Encouraging users to invite friends

Another way to attract new members is to force exiting members to invite their friends. Firstly, any network implicitly or explicitly fosters the competition on the number of one's friends: "the more connections you have, the more weight you have in the community". Though this competition should not be exaggerated, because the quality of connection is an important factor. It's of no use to have 100 contacts, if you have never met 90 of them. Usually, for new users it is important to get a minimum number of connections the first time. Further they become less active in inviting new people. The community can then offer bonuses for inviting new members.

There should be also a possibility to send link to some interesting content inside of the community to someone outside, so it can potentially awake his interests in the community.

Suggestions:

- Provide the possibility to send a link to content to someone's email address
- Offer bonuses for inviting new members
- Do not exaggerate competition on the number of friends

2.3 Entry barrier

In most cases, it should not be easy register for a community. "It's important to remember that just as a community includes some people, by definition it excludes others. The fine line between inclusion and exclusion can be referred to as the barrier to entry, and every community has one. The amount of energy you expend to join a community, the more the community means to you." [001]

This is especially true for the "serious" business networks (LinkedIn). The members of LinkedIn fill out a pretty big profile before they become visible to others. This increases quality of the community, since just-for-fun-members will not waste their time filling out the profile.

In the case of **Ryze**, they have a clunky user "home page" that you have to take time to fill out. **Tribe** is a bit easier then **Ryze**. **Friendster** is the easiest to fill out (provided you already have a decent picture) and relatively easy to find friends.

Orkut is one of the online communities that still invite-only. This is actually one of the known marketing methods, which is usually used at or before the product's launch in order to give customers a feeling of exclusiveness and to pretend the product has more value than it actually offers. As to online communities, the set of services that online community website can offer is nothing new and almost the same in all communities: profiles, forums, blogs. Thus a new community needs something unique to attract new members. Although it works well in the short term, usefulness of this method on the long run is doubtful. There is also a negative effect, if the revealed product is really nothing valuable or unique.

A second barrier of entry is that it often takes at least one person with a large existing network before many of the features of the service start being useful. With **LinkedIn**, this is particularly important, as you can't even search for people who you don't have 3rd degree connection with an existing friend. Thus it is important to provide the new user with guidance on how to find the people he knows and establish connections with them (see also 2.2).

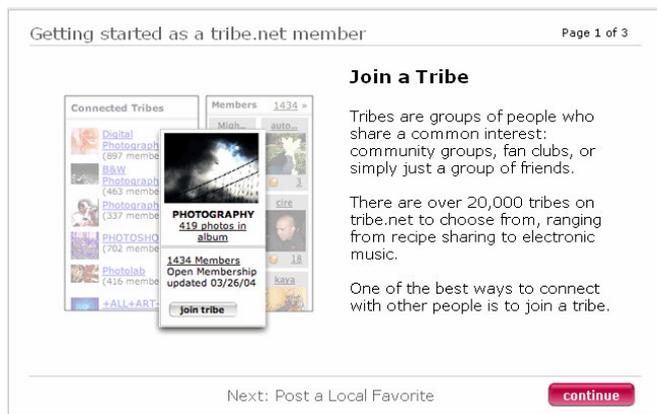
Suggestions:

- The more informal the community is, the smaller the entry barrier should be.

2.4 Guidance for new members

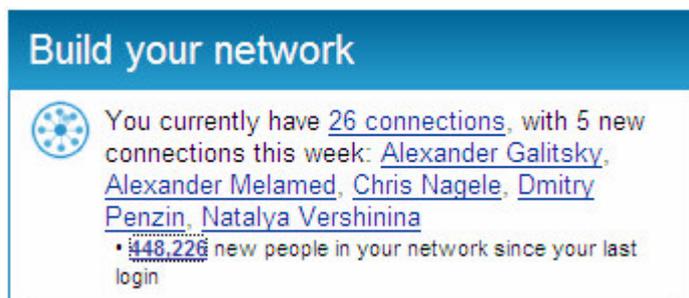
The community should clearly state its benefits for a new member and inform him about key features. Otherwise, the newly registered user may not become a real member of the community.

Tribe provides a good "Getting started guide" after registration:



Another method to speed up the involvement of the new member in the community is to provide an opportunity for existing members to get to know him. This is actually made for example in **OpenBC** by showing the newly registered members (with pictures) on the main page, with the goal that someone can discover his real-world contact. However this method becomes less effective as the size of community increases, and the number of new members per day becomes too big to be shown on one page. In this case, some subset of the new members should be selected, based on higher possibility of contact (same place, same interests). In the entertainment communities, showing the pictures of new members can lead to the contact, if one person may look appealing to another.

LinkedIn displays the number of new members in your network (people you are connected with) since your last log in. The user can even click on this link and browse those members, refining the search. It is especially helpful for the beginner in the community since he is very curious about his network.



One of the communication patterns in physical communities is a history of community. "If you look at communities in the physical world that have sustained themselves for a long time, they always have an interesting back-story or history which is communicated to new members. The act of communicating it to new members becomes part of the ritual of membership, a community building act in and of itself." [004]

There are some practical ways to do that online: one is to express the back-story through words and images right in the community and make it accessible to visitors. Or you can encourage your more experienced members to tell the back-story, providing a kind of a greeter role - a person who hangs out and looks for new members and helps them.

Suggestions:

Provide guidance for a new member, showing him what he can do here

Provide an opportunity for existing members to see the new ones

Increase the probability of the social contact between old and new members by selecting which new members to show, taking into account possible commonalities

If it's viable, assign a greeter role to the old members

 Each time a user logs in, show him two lines of photos of newly registered members since his last log-in: one for users with the same location, another for users with the same interests, preferably a rare one. Say, "gender" can be as well as in everyone's profile, but if someone new who wrote "chinese chess" in his profile has entered the community, it is very interesting for me, a chinese chess addict.

3 Structure of the community

3.1 Member profiles

The member profile represents how the individual chooses to present their identity at a specific time and with a particular understanding of one's audience. But some studies, for example on **Friendster** network [007], show that *while the audience and the individual evolve over time, one's profile is usually stuck in time*. Friend and Profile information are rarely updated and people only remove Friends when there is an explosive end to the relationship, as opposed to the more common growing apart. When the profile information gets "out of sync", there are fewer opportunities for a potential contact from another community member, based on interests.

Someone's profile needs to express the richness of who they are -- it also needs to change and grow and flow over time, so make it easy for people to annotate and grow over time. Consider asking for only a few things at first, not make the process of filling out the profile feel daunting, then after each login prompt ask them to add one small thing that is useful based on how they used the service recently.

Another problem with profiles is the different auditoriums it should serve: for example if one of the important goals of community member is to find a sexual partner, he should "optimize" his profile for this. But at the same time he must consider all of the friends and other relations that might appear on site. So finally he should present some "mean" values in his profile, which may make him less interesting for a potential contact.

Although people are willing to share a considerable amount of personal information about themselves in member profiles that can potentially be searched and viewed by others, their willingness to do so is related to a number of factors. "Specifically, participants completing profiles for online communities that facilitate close interpersonal relationships (e.g., romantic relationships) *were willing to share significantly more personal information* than those completing profiles that might merely help them find an activity partner (e.g., someone with whom to play a game or discuss a favorite hobby)." [021]

User profile information gathered by various social sites:

| | Orkut | Friendster | Tribe | MySpace |
|----------------------|-------|------------|-------|---------|
| Photo | x | x | x | x |
| Professional Details | x | | x | |
| Gender | x | x | x | x |
| Age | x | x | x | x |
| Sexual Orientation | x | | | x |
| Marital status | x | x | | x |
| Sense Of Humor | x | | | |
| Hobbies / interests | x | x | x | x |
| Favorite Music | x | x | x | x |
| Favorite TV/Music | x | x | x | x |
| Favorite Books | x | x | x | x |
| Favorite Food | x | | | |
| Location | x | x | x | x |

| | | | | |
|----------------------|---|---|---|---|
| Hometown | x | x | x | x |
| Here for ... | x | x | x | x |
| Schools | | x | x | x |
| College / University | | x | | |
| Clubs&Organizations | | | x | |
| Languages | | | x | |
| Religion | x | | | x |
| Smoking | x | x | | x |
| Drinking | x | x | | x |

Suggestions:

Provide the functionality to keep member's profile up-to-date

Do not require to fill out the whole profile at once

Remind to fill out the missing parts at relevant user behavior

The closer potential connections between community members can be, the more information is the member willing to give about himself

Allow users to select which information in their profile will be visible to others

 If the user visits a page with say an upcoming music event, ask him to fill out his musical preferences, if he has not done it yet.

 Send a notification mail after each year of membership, asking the member to check their personal profile.

 The field "intention" can be added to the user profile. If he sets in this field that he looks for music companions, he would not be interested in the "sexual preferences" part of someone's profile. Another variant is to allow a user to explicitly set in which profile sections of other users he is interested. For example if I do not like to read books, the Books section is not interesting to me.

3.2 Member connections

Social networking sites are usually based on explicit connections between members. A connection can be either binary (connected or not) or have rich properties. The choice of term for a connection can make significant impact on community.

A binary connection is used for example by **LiveJournal** and **Friendster**. "With the binary connection there is *no way to determine which metric was used or what role or weight of the relationship is*. While some people are willing to indicate anyone as Friends, and others stick to a conservative definition, most users tend to list anyone who they know and do not actively dislike. Because of this weakness in the system, the weight of a *Friend connection is often devalued because trust cannot be guaranteed*." [007]

Another consequence of the binary connection is the difference in interpretations of the used term (i.e. a friend) by members. One ethnographic survey of **LiveJournal** determines several types of "friends" [011]:

| | |
|-----------------------------------|---|
| Friendship as Content | The majority of users interviewed had built at least part of their friend lists as reading lists, just as the designers of the system had initially intended. |
| Friendship as Offline Facilitator | Another common trend was the use of LiveJournal as a convenient means of facilitating offline relationships. These users made a specific point of friending any of their offline friends who also had journals. Often, these would be people with whom face-to-face interactions occurred on an everyday basis. In this case, communication on LiveJournal sets the stage for future physical interactions, for instance by announcing a party or discussing meeting times. In other cases, friends would see each other infrequently, but use LiveJournal as a means to keep up to date with each other's lives. |
| Friendship as Online Community | Conversely to the previous trend, many users had never met the majority of their friends in person. Instead, friends were people they interacted with exclusively over LiveJournal, or through other computer mediated communications. |
| Friendship as Trust | Since only friends are able to read a user's protected journal entries, a significant minority of users sees the friend list largely as an access control mechanism. In these circumstances, a friend is "someone I trust to read my private journal." |
| Friendship as Courtesy | As mentioned, friendship is in general a one-way function, and reciprocity is not guaranteed. Furthermore, most users consider friendship without reciprocation to be indicative of an imbalance of power in the relationship. For that reason, many expect reciprocation by default, or feel that others expect it. |
| Friendship as Declaration | Almost all users see friendship, to some degree, as a declarative statement. That is, if a user includes someone else on their friend list, that user is understood to be saying something to the world about the pair's relationship. This conception holds even when it is not clear what precisely is being said. |

The same survey found that members usually have 2-4 distinct groups among their list of friends. None had a singular, unifying rationale behind their choices of friends. This diversity of connections is problematic, because they all are represented with a single term. "Thus, when someone specifies someone else as a friend, two questions arise: Does it actually mean anything, and if it does, then what? If two users call each other friends, then how do they know if they are talking about the same thing?" [011]

A different approach is used in Orkut. There the members should specify their relationship (haven't met, acquaintance, friend, good friend, best friend).



Though it sounds good theoretically, in practice *it puts additional burden on user*: as a result, less members will specify this relationship, thus decreasing the effectiveness of the whole system, which depends on the number of members participating in the specification.

Another problem with explicit specification of relationship is the *difference between publicly articulated social identity and the private articulation gathered by sociologists*. Furthermore, while sociologists have employed various techniques to categorize and weight relationships, *people are often unable to do this individually*.

In business-networks (**LinkedIn**, **OpenBC**) the problem of different interpretations of a connection is much less significant, because the existence/non-existence of a contact is the main point in the business relationships. The personal, real world contact is anyway necessary for a business. Also, business people usually have less time to manage their participation in an online community (i.e. specifying the relationships). In such networks connection is usually called *a contact*, which is more abstract term, already implying different meanings.

Suggestions:

Carefully choose the term for connections/relationships.

For the entertainment/communicating communities different types of relationship are important for members so they should be considered. However, direct specification of type seems not to be a solution. Existing realizations of rich relationship types are not proven so they should be used with care.

3.3 Adding connections

In **Ryze**, to add someone as a friend takes a single click, and you get no opportunity to say why someone should join your network. Though that makes it easier to add people, on the receiving side one can end up with a number of people who wanted to add him as a friend when he has no idea who they were.

An important strength and weakness to **LinkedIn** is that it is much more protective of your privacy. You can't add anyone to your network unless you know their name and email address, or you have to get a referral from someone who is already your friend. The person you want to have as a connection should also confirm your connection request. In LinkedIn, you can't even access members, who are further than some number (4) of connection levels away from you. This reduces the possibility of the unwanted contact, but at the same time, it reduces an opportunity for social contacts between any two members.

In another business network, **OpenBC**, you can specify a reason why you want to add a person as a contact. More importantly, your connection to this person become "serious" (i.e. are taken into account by calculation of your status) only if he or she also added you to his contacts.

In **Ryze** and **Friendster**, when you request to add someone you don't get an opportunity to include in the request message who you are and why you wanted them to join your network. **Tribe** however, does allow you to personalize your request to join.

Suggestions:

The more informal the network is, the less obstacles there should be to add a person as a contact

Provide the possibility of an optional comment to add to the request, so the user can specify why he is adding another user as friend

3.4 Member reputation

One of the challenges faced by managers of online environments is that of fostering positive interactions between members. One key way of increasing the likelihood of positive interactions is bringing the right people together. Finding the right people is especially important for new users of an online environment because a negative first experience will often be the last. Even for established members, navigating a largely anonymous membership can be difficult. A person's *reputation* is a valuable piece of information that can be used when deciding whether or not to interact with the person online.

One essential part of a member's reputation is the number of his direct connections and the related number of overall connections in his network.



LinkedIn



Tribe



OpenBC

However, don't encourage the "how many friends do my friends have" game. It sets up bad behaviors, and as you grow you don't want to have barriers of entry to new people who feel that they can't compete in that game. This means don't sort friends or groups by the number of friends they have by default -- it can be an option, but just not be default. [031]

Endorsements/testimonials (comments to a member) are a good way of presenting reputation. They are also imperfect and vulnerable to reciprocity games, however, as least you can see if two people are playing that game just by looking at the endorser and endorsee. If you find too much reciprocity you can basically ignore both players. **LinkedIn, Tribe, Friendster, Ryze** - all have possibility to leave testimonials for the members of network.

Orkut offered (now it does not have this feature anymore) people the chance to express how they feel about fellow friends and members through a rating system known as *karma points*. They are rated through a system of karma points whether people are thought of as sexy, cool or how trustworthy they are. This is a way for people to get feedback on other members creating an interest in members and in their social network and a curiosity as to who is rated amongst their friends so highly and the reasons why. Members can rate each friend individually based on how they perceive them making their profile more interesting with hearts, ice cubes and stars, rating people and being a fan of individual members.



Suggestions:

Show the number of member's connections

Do not present member lists sorted by the number of connections

Testimonials are a good method for providing member reputation

3.5 Paid membership

Whereas participation in online social networks is mostly free, many of them offer "an extended membership" which charges the user with a fee (usually small) and gives access to "extended" features. This is done because of several reasons:

| | |
|--|--|
| To anticipate user personal preferences | People like to customize the world around them according to their preferences, so they are ready to give out some small amount of money in order to be able to do it. For example, LiveJournal allows users with a paid account to freely customize the look and layout of their journal |
| To provide opportunity for growth | Those members, who become addicted to the community, are ready to pay in order to extend their participation. For example, LiveJournal limits search possibilities in the basic membership (i.e. doesn't allow to search by location). OpenBC also allows additional contact search features (by company name) and profile management features (see who has viewed my profile) in extended membership. |
| To anticipate desire to be distinguished from others | Alone the fact of having an extended membership already increases the status of a person in the community. |
| To anticipate leadership | MeetUp provides a role of "group organizer" which is a paid option. This potentially attracts people who would like to carry responsibility. |

3.6 Fake members

In the virtual world of online communities it is hard to prevent someone from creating a fake personality. The initial argument against such fake members is that they collapse the network, devaluing the meaning of connections between people on the system, so they are usually not approved by owners of the community. This argument assumes that the network's value is in trusted links and that a friend of a fake person is going to be less trustworthy or compatible than the real, but virtually unknown, acquaintance of a friend.

Yet a study of Friendster [007] observers, that "by and large, most people love the fake characters. They become little hidden treasures in the network and people go seeking out the most creative ones."

3.7 Lurkers

In general, the existence of participants called lurkers, who post very few or no messages in an online community, is widely known. It is stated that lurkers might have a negative influence on an online community because many people regard them as free riders. On the other hand, some researchers have argued that lurkers play an important and necessary role. For example this can be merely a stage of membership shift (stranger, passer-by, lurker, participant, and regular member).

"Active lurkers propagate information or knowledge gained from the online community to others outside it or use information or knowledge in their own or organizational activities. Even if lurkers do not propagate or use information or knowledge gained from an online community, their thoughts can be changed by it. These

actions or mental changes of lurkers lead to an increase in the strength and extent of the influence of in-house online communities on the outside environment” [019]

4 Encouraging user participation

Content is extremely important for an online community. Without content the users will have nothing to discuss, no possible intersection points, thus there will be no social interaction, relationships will not emerge. The best content is what the members themselves can contribute, so the community should permanently motivate its members to contribute.

A user's contribution to community is categorized as a so called *public good*, which has the following consequences: Social psychologists found, that *people exert less effort on a collective task than they do on a comparable individual task*. [009]

4.1 Using uniqueness

It has been found that participation in community can be increased by providing members with information about the uniqueness of their contribution. "Community members liked receiving information about the unique perspective they brought to the group participated more because of it." [023]

Suggestions:

To increase a members' contributions to, and satisfaction with, a community, tell them how they are special with respect to the group and its purpose



One possibility is to send a notification email to the members, who has rated or wrote a review of a bar/restaurant that is being reviewed rarely.



Sometimes there is no review of the resource the user is currently interested in. In this situation if he has time to wait a little, he can leave an "Review request" on this item in catalog, so that another member, who sees this request and who has something to say about this place can leave a review.

4.2 Using controversy

One work suggests that people are more drawn to controversy than cooperation in conversation [023]. In communication, participants seek to hold the attention of the other conversant, so scandalous or controversial topics are effective tools for doing so. "We recognize some online groups are dominated by flame wars between people who disagree with each other, and such exchanges shed more heat than light. When disagreement is permissible, however, it promises to encourage discussion." [023]

Suggestions:

In order to encourage participation, favor creating dissimilar groups in situations where disagreement can be tolerated

4.3 Using individual recognition

Leader boards, like Amazon.com's list of top reviewers, can also encourage contributions.

"Leader boards might increase motivation by giving people a way to gain individual recognition, an outcome many people value. Leader boards also can demonstrate that one's effort visibly contributes to the group's performance. However, long-time participants have an advantage over newcomers, who may decide that they can never catch up and earn recognition. Newcomers might also reason that contributing a few reviews will mean nothing to the Amazon community, which has thousands of people who have written hundreds of reviews each." [006]

"In other words, leader boards might actually reduce newcomers' motivation to contribute. A leader board showing both all-time and recent top contributors might prove to be a more effective design for increasing all members' motivation." [006]

Aside from total contribution metrics, every particular member can be motivated by watching the popularity of his content. When this member logs in, the aggregate totals of page views for all of their contributed content are shown (i.e. his profile, his articles, user reviews, forum messages, etc.).

Suggestions:

Show the leaders in number of contributed material to community

Provide recognition for the contributions from new members

Show the member the popularity of his contributions using access statistic data



The "community home page" of a member should show the number of accesses to his profile. The same thing can be done with user's reviews.

4.4 By discouraging low quality contributions (moderation)

"Not all contributions to a community are valuable. Off topic conversation, newbie questions, incorrect FAQ entries, flames and trolls, spam, and content-free posts like "just testing" all represent contributions that most members would like to avoid. Too many low-quality contributions can actually drive away valuable members who decide that the cost of participating is too high." [006]

"A key component in the motivation of spammers and trolls is that by posting advertisements or inflammatory messages (*individual performance*), they get responses (*individual outcome*). Distributed moderation schemes like Slashdot's, can sever this connection by featuring valuable contributions and tucking low-quality contributions away into a dusty corner of the interface. The collective effort model predicts that reducing the link between posting a message and getting responses should reduce spammers' and trolls' motivation to make low-quality contributions." [006]

Oversight may also encourage contributions. Distributed moderation leads more people to read valuable comments. *The collective effort model predicts that high-quality posters will be more motivated if they know they will have more readers.* The research in [006] found no differences between peer and expert oversight in quality or quantity of contributions.

There are generally considered to be four major (rough) categories of post-level (rather than user-level) moderation systems operating on the Internet today. [032]

Pre-moderation Some sites and mailing lists operate on the principle that every piece of user-generated content that could go up onto a site should be checked by a moderator before it goes live. As a rule, this method of moderation is the death of an online community but there are times when: it's the best way of handling user-generated content that either isn't specifically community-based (for example Amazon's product reviews and IMDB's film reviews), or it is simply too dangerous to use any other kind of moderation scheme The costs of pre-moderation are also high.

Post-moderation The immediacy that people want when they press their submit button is fundamental to all online communities and most sites based around user-generated-content. That's where post-moderation comes in. Post-moderation is based again on the assumption that - for security, legal reasons or behavioral problems - every piece of user-generated content needs to be checked, but rather than checking them all before they go live they are instead checked as soon as possibly afterwards.

It's not as secure an approach as pre-moderation - after all dubious content will be live on your site - but it does give communities a space to breathe and users the instant feedback they need when they want to put something online. It's worth remembering, however, that every post still has to be read and checked - and that's still profoundly time-consuming and expensive.

Reactive-moderation Reactive moderation is based on the assumption that if something bad is happening on a site, then the users will spot it quickly and can alert the moderators. This is becoming by far the most common form of moderation for message boards in particular, because the cost of maintaining pre- or post-moderation is so extreme and because the legal situation seems increasingly to be based around the responsibilities of community moderators to remove dubious content, rather than to prevent it being posted in the first place.

It can also be more responsive than post-moderation as well, because only the trouble-generating content needs to be checked and because your community can direct you straight to the problematic areas. You are - however - relying on that group of people who you want to see abusive content least to tell you when they've found it - and not all organizations are comfortable with that.

Distributed-moderation Distributed moderation relies on principle, that a community can self-moderate and collectively decide what's appropriate and inappropriate behavior for themselves. Prime examples of this kind of distributed rating system are Slashdot and Kuro5hin. Distributed moderation seems to be the best case for online communities, however this theme is not well researched yet, so there are no

guidelines and rules on that.

Slashdot has a remarkable “democratic” distributed moderation model [017]. In Slashdot, posts are not deleted, though they may not be shown to all readers. The site creators mandated that anonymous posting be allowed, because sometimes people have important information they want to post, but are afraid to do it if they can be linked to it. Slashdot provides an existence proof that the basic idea of distributed moderation is sound.

Each posted comment has a current score, from -1 to $+5$. Initial scores range from -1 to $+2$, with the default set at $+1$. Posts from anonymous users start at 0 . Users achieve reputation, or “karma”, through a number of activities, including moderating comments, reading comments and posting comments that get high or low scores. Comments from users with especially high karma can start with a score of $+2$, and comments from users with especially low karma can start at 0 or -1 .

A moderator reads as he or she normally would but can click to moderate any comment up or down from its current score. A moderator chooses from a list of descriptors for the comments, such as “Offtopic”, “Troll”, “Insightful”, “Funny”, or “Overrated”, each corresponding to a -1 or $+1$ moderation. The official guidelines encourage moderators to “concentrate more on promoting, rather than on demoting.”

Slashdot users achieve moderator eligibility by having high karma. A moderator is given five moderation points at a time, to be used within three days. Slashdot assigns moderation points based on the number of comments in the system, so there is some scarcity of moderation points available and not all comments can end up with $+5$ scores. Paid staff editors have an unlimited number of moderation points.

To remove bad moderators from the eligibility pool and reward good moderators with more delicious mod points, Slashdot developed a meta moderation system. Meta-moderators are presented with a set of moderations that they then rate as either “fair” or “unfair”. For each moderation, the meta-moderator sees the original comment and the reason assigned by the moderator and the meta-moderator can click to see the context of comments surrounding the one that was moderated. Readers can use the scores associated with comments to guide their reading in several ways, including sorting and filtering.

Suggestions:

Provide a moderation model in order to increase the quality of content

Inform users about the presence of moderation

Distributed moderation model can be very effective in qualifying the content in a community

In the distributed model, individual moderators should have limited impact on any particular comment

Contributions should be moderated quickly, so that less members can see the non-moderated content

The burden on moderators should be minimized, to encourage their continued participation

4.5 Using goal setting

"The designers of online communities rarely provide participants specific descriptions of the type and amount of contribution that is expected of them. Many researches since the 1960s show that providing people with

specific, high-challenge goals stimulates higher task performance than easy or “do your best” goals. This phenomenon is among the most robust psychological findings on human motivation. The straightforward design recommendation from the goal-setting literature for online communities is that these communities should set specific and challenging contribution goals for their members. Our research showed that specific goals led to higher contribution rates than non-specific ones" [009]

"This study also is among the first to suggest high performance goals have upper limits, and beyond those limits, performance may drop. We suspect that a less attainable goal might have more clearly demonstrated a reduced motivational effect." [009]

Suggestions:

Provide specific, high-challenge contribution goals for community members

Do not make goals too difficult to achieve

 Time after time a rating campaign can be held, in order to increase the quality/quantity of ratings. Members of the community should be motivated to do this, because it increases the probability of finding of useful review of some restaurant when they need it themselves. Users can be notified by email about the campaign. In order to be specific, the "tasks" for users should have some specific conditions: a time limit (say, a week) and a definite number of categories. This can cause the members to actually go to that place. Also, members can be motivated by offering a rebate during such campaigns: when you make a review, you get a coupon or discount.

4.6 Using E-Mail notifications

E-mail notifications are a very effective motivation mechanism, because *they can motivate people in an online community simply by reminding them of an opportunity to contribute*. From the other side, too many mails or periodical messages with no new information can start to look like a spam for the user, so he would pay less attention to them.

Suggestions:

Use e-mail notifications to motivate members

4.7 By showing the activity of community

"It was found, that in order to increase the number of contributions made to a community, we should seek to increase a user's motivation to make contributions to their community. One way to increase a user's motivation to make contributions is to increase the salience of other community members, making the communication feel more like face-to-face communication. This is done by making communications more synchronous, which has the effect of increasing the social presence of the members of the user's community. Increasing social presence has the direct benefit of increasing the number of contributions made by the user." [012]

Suggestions:

Show the user what happens in the whole community, in his groups, with his friends.

Show the user last messages in the groups he is member of.

Show the user how frequently his contributions have been seen by others

Synchronous indication (just in time) is more effective than asynchronous



If the user has written reviews, his “home page” in the community can show how many times his reviews have been viewed.



Since the user is interested in what his friends are doing, show him the last contributions (reviews, comments) on the profile page of his friends.



More synchronous communication can be implemented on AJAX. Take standard dynamic scenarios of discussion forums, which are normally available only after page refresh and show them directly in time, thus giving currently logged in user more feeling of reality. For example: list of his friends that are online, list of current users that read particular discussion forum, new blog entries appearing just in time, new posts in forums.



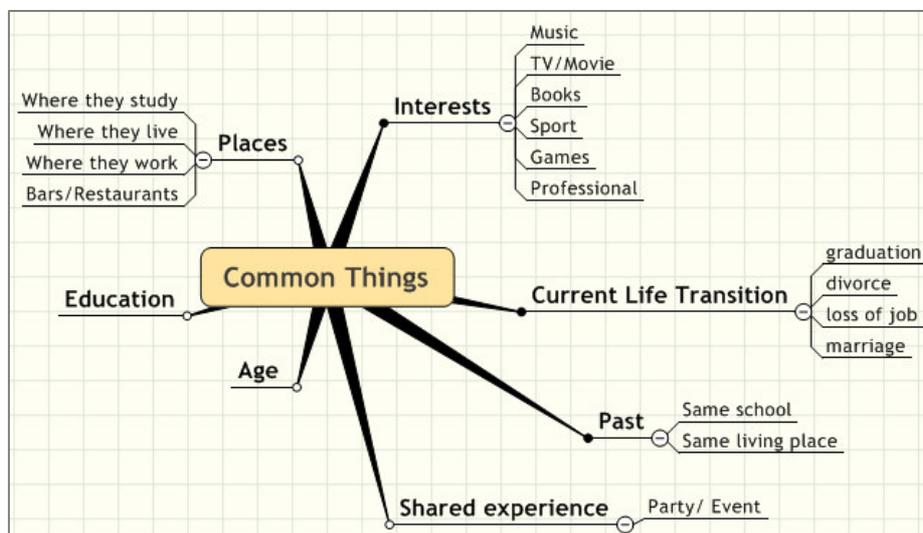
Whereas some communities show the presence of the other members online, user can hardly make use of this information. In addition to simply showing the online presence, provide a combination of chat/email/instant messenger. Basically, the members can send short messages to each other. If the recipient is not online, he will see his incoming messages next time he logs in. When he is online, he will see indication of new message immediately, it doesn't matter on which page he currently is on. This can be done with AJAX. Thus, we increase probability of users stepping into communication with each other.

5 Stimulating Social Interactions

Social interaction between members is what makes a community “a community.” The more possibilities for a social contact the community provides, the bigger the chances are that people will establish a relationship to each other. The word "community" itself is derived from the word "common" that underlines the basic principle of social organizations: groups of people can be called as community, *if they have at least something in common*.

“Behavioral science studies show that in everyday life, people choose friends with similar age, income, gender, marital status, and/or ethnicity, and that similarity of interests is an important factor in liking others.” [013]

There are a lot of things that can be common for people. Here is the overview and each thing will be discussed in details:



5.1 By common Interests

Listing of interests is also one of essential features of any online community. In business-oriented communities, personal interests play secondary role, in the entertainment communities they are one of the major opportunities to find a similar person.

List of interests can be non-structured, as for example on **LiveJournal**:

Interests [Music](#), [psy trance](#), [ambient](#), [downtempo](#), [chillout](#), [art](#), [nature](#), [hiking](#), [animals](#), [travel](#), [dreams](#), [dreaming](#), [dream work](#), [yoga](#), [meditation](#), [philosophy](#), [consciousness](#)

This approach simplifies filling out a form, because usually a user can enter his interests as a comma-separated free text of keywords. However, as the number of keywords grows, it is easier for a reader to lose an overview and it becomes harder to separate one type of interest (e.g. music) from others. Since the profile is viewed more frequently than it's filled, it is more effective to separate types of interests in advance, providing special sections for them in the profile. That is how it's done on other sites (see section 3.1 for details).

In many communities, the list of interests serves also as a search mechanism for the members with the same interests. The approach is useful but it has two major shortcomings: Firstly, as the number of members in the community increases, such a search could lead to a list with hundreds and thousands member profiles which is not usable. At second, only one keyword tells too little about the person. Therefore there should be a search that takes into account all keywords.

Suggestions:

Separate the "interests" field in the member profile into sections.

Provide an easy way of entering the interests in each section as the list of keywords

Provide a search for members with the same interest (useful for rare unique interests)

Provide a search for members with the similar group of interests



If the user has specified the names of local bands of the kinds of musical styles he likes in his profile, send him a notification when the corresponding band is making a performance.



The "relevance of interests" can be easily calculated by comparing the keywords in profiles. This makes it possible to provide a "fuzzy match" which will show a list of members, in the order of their relevance by all interests at the same time. Additionally, the user must have a possibility to limit this list by the members only from his location.

Aside from search, it would be useful to show the relevance of some member to another on his profile, expressed in some number, and possibly with a visual indicator (icons).

5.3 By common current life transitions

One source states that "nobody is yet doing a good job of targeting people going through life transitions: graduation, marriage, having a baby, changing jobs, retiring. People who are in those positions need lots of information and shared wisdom quickly and throughout the transition period. They are also in a place where they have to buy a lot of things to enable or facilitate the transition process, so *there's a built-in business model*. The tricky part with this one is finding a way to keep members active and involved in helping others through the transition after they've made their own transition. You might have to encourage them in some way to do so." [003]

A particular example of life transition is moving to a new city. Social networking sites make it easier to join and connect to new people or communities within a similar geographical area, and to share common interests.

Suggestions:

Community should help its members in going through their life transitions



The community can trigger different actions when the user changes the location information in his profile. For example: sending him email with information about his new location. Show him the community members that live in the neighborhood. And opposite, introduce him to community members in that neighborhood.

5.4 By shared experience

Time spent together or a shared experience is a very valuable source for further social relations. Examples of shared experience are parties, events, concerts, and group meetings. After the event, the participants have a natural desire to discuss what happened, exchange opinions, photos etc. This is also a good time to ask participants for a rating/review of the event or place where it happened.

This time period after an event is not long. Research results [030] "... showed that the "mental lifetime" of an informal event does not appear to be more than a few days to one week. Thus, of utmost importance is providing users with connections to the people from an event as quickly as possible after the event."

It is not necessary that people met each other during these happenings, simply the fact that another person experienced the same event is a good reason for a contact. Recent research [030] "... results indicated that connections were made between people who did not interact at the event. This means that close range peer-to-peer systems may not suffice."

Suggestions:

Provide a possibility for community members to discuss the event

Provide content for discussion: photos, reviews, opinions of other members

Notify participants about the availability of "after-content" (i.e. by email)

Send notification on the next day or within a week

Provide participants the possibility to rate an event or write a review

Provide participants quick access to the list of all participants



Members that were at a party/event are always interested in discussing it with each other afterwards, and especially see the pictures from that event. So pictures from the event are very

attractive, so many members will be doing it. Usually there is only an indicator of how many users have viewed particular pictures already, but it tells users absolutely nothing. A member of the community is much more interested in which pictures were interesting for his friends (community connections). So instead, record *who* has viewed what and show the avatars/names of someone's friends beside the photo. The ability to leave comments to the pictures is also a good thing.



Another variant: if someone sees an interesting picture, he can notify his friends, eventually with his comment. Next time one of his friends logs in, he will see this notification.



After login, the member should see the new content, related to the event he recently participated in (if he was somehow signed up for it), or simply the list of all recent events in his local area (may be he was there, but he wasn't signed up).

5.5 By shared education

MySpace provides a possibility for former classmates to find each other. All those who had entered their school into the system were automatically assembled into a homepage for each school or college that they were. Members could now search for classmates with much ease.

Suggestions:

Provide the "school" field in the profile

Allow users to search on this field

Organize community for the former schoolmates of the same school

5.6 By showing the distance

In the social network explicit connections from one member to another automatically provides a characteristic of "distance" or the "number of degree" between members. This information is always useful for the community member because it provides more information about that person and if the number of degrees is small, and the person seems to be interesting, the user may try to make contact.

OpenBC network has a great way to show whom you are linked with any given person. Since usually there are many different connections possible, it can even show all of them so the user can select the more appropriate one.



Suggestions:

- Show the distance to another user in his profile
- Show the connection chain from the selected user

5.7 By service: Photo Albums

Some sites like **Friendster**, **Orkut** and **Ryze** use photos for browsing (Friendster uses the term “gallery” for viewing individuals). People are curious and voyeuristic, they tend to browse through these photos searching for people they find attractive. Orkut actively encourages this by its hot list or crush list section where members can also send a teaser to the member they find attractive. In other communities it is usually called “photo album”.

| | Orkut | Friendster | Tribe | MySpace |
|-------------|-------|------------|-------|---------|
| Photo album | x | x | x | x |

Suggestions:

- Provide the possibility for members to add their own photos to the profile

5.8 By service: Profile watching

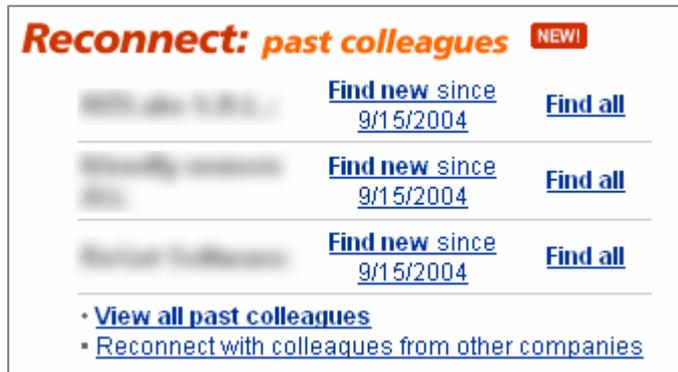
OpenBC network has an interesting feature (although for paid accounts only): users can see who has seen their profile. This can potentially lead to an interesting contact, because the person that has viewed your profile is probably interested in you. But, if your profile contains not only static information, but some content you provide (blog entries, reviews), your friends will be visiting your profile constantly, thus seeing the visits of your friends will bring you less information. Therefore there should be some way to separate friend visits and visits of strangers.

Suggestions:

- Show a list of members who have viewed one's profile
- Separate friends and non-friends in this list

5.9 By service: Reconnect

One of the recent features of LinkedIn is "Reconnect": the site reminds the member to periodically check, if their colleagues from the past jobs have become members of LinkedIn, in order to add them as contacts.



The same principle is true for informal networks, too: all networks are expanding over time, so there is a possibility that someone you know became a member, which in turn could be a new contact for you.

Suggestions:

Provide a possibility to periodically browse for new members, related to some information in user's profile

5.10 By service: Groups by interests

Organizing particular members of communities in groups, based on interests, themes and locations, is very natural and a frequently used method of stimulating social interactions. Usually such groups imply existence of some discussion place, a kind of online forum or blog, where they can read, discuss and contribute to different topics. After the members know each other online they can start to meet in the real world.

In **Tribe** such groups are called "tribes". A member of the community can become a member of any tribe. Any community member may also start a new tribe. A tribe has a description of related topics, which allows the other members to find interesting tribes. The same is true for **LiveJournal**, except the tribes are called "communities." **OpenBC** and **Orkut** have simple forums instead of interest groups.

LinkedIn and **Friendster** do not have member groups, but they are criticized for that [031].

| | Orkut | Friendster | Tribe | MySpace |
|----------------------|-------|------------|-------|---------|
| Groups / Communities | x | | x | x |

Suggestions:

Offering interest groups is essential

Interest group implies having some discussion place, where the members can interact online

Provide a keyword of interests for a group

Provide a search for group by keywords

Allow users (may be not everyone, but some with special status/paid account) to create own groups

Allow member to easily join and leave the group

Show the user activity of communities he participates in

Provide a picture for each group for better visual identification



After each login, randomly show user groups that have similar interest keywords as in the member's profile.



Exactly like with members' interests, the relevance of a group to a member's profile can be calculated (fuzzy match). So the user can be presented with a list of all groups, sorted by relevance (and limited by location).

5.11 By service: content rating

Reputation systems can be divided into ranking systems, rating systems and collaborative filtering systems:

| | |
|---------------------------------|--|
| Ranking systems | Use quantifiable measures of users' behavior (implicit information) to generate a rating. Some examples of this type of reputation system are high-score lists, information about the length of membership, frequency of visits etc. These reputation systems typically only provide information about what kind of pattern users follow, and reveal little or no personally relevant information. |
| Rating systems | Use explicit evaluations given by users. These evaluations are used to generate a weighted average for each object of interest. While these systems provide more personally relevant information than ranking systems, they treat the population as a single homogenous group. |
| Collaborative filtering systems | Weight explicit or implicit evaluations by how much the rater and the user have concurred on other items. If ratings from users and a reviewer show a high degree of agreement (i.e., their ratings are similar for most items), the system assumes that the user will find this reviewer's evaluations relevant. Reviewers are thus matched to the |

users based on the similarity of past ratings. These systems are also the most expensive to build, populate, maintain, as well as the most complicated for users to understand. While the rating itself is easy to understand, why an item was or was not recommended is not obvious.

In our physical life, the movies we watch, the things we buy and whom we are introduced to depend largely on our friends' recommendations. Peer-based recommendations (or social network based reputation systems), whether they are given explicitly or inferred through the observations of peer behavior, are a significant influence on everyday decisions. The social context provided by 'friend of a friend' recommendations should be especially important in socially-oriented situations. The more social the situation, the more important peer-based information is. [022]

In order to anticipate the real world reputation pattern, a peer-based rating system can track the behavior of a user's 'friends,' generating ratings from this data. In other words, such systems observe what a user's friends do (e.g., with whom they interact, what they look at, what they buy), and make recommendations accordingly. Potential drawbacks are the implementation costs, privacy concerns, and that such ratings might be difficult to understand for users.

Suggestions:

Provide ranking system based on visit statistic

Provide users with ability to explicitly evaluate a resource

Prioritize ratings based on relationships between members

5.12 By service: Invitations to offline-meetings

Some online networks (**MeetUp**, **Evite**) are dedicated completely to help people to organize offline meetings. **MeetUp** unites users in groups by interests and allows them to manage regularly meetings of group members. **Evite** helps to organize and manage spontaneous one-time meetings, allowing users to select the meeting place from the catalog (i.e. restaurants). **Evite** basically allows organizers to invite participants that are not members of **Evite** simply by email, which provides an opportunity for that person to become a member.

Suggestions:

Provide an ability to organize own offline-events, sending the invitations to others.

The others users may not be members of the community, so it should be possible to specify an email address of that person

The invitation can be sent to friends, interest groups, members by locality, or manually selected from a list of members

Provide a list of meeting places for these offline-meetings

5.13 By service: Blogs

Blogs are great in providing content to the community since the content is both personal and emotional. Exposure of one's thoughts and personalities facilitates communication with other people.

| | Orkut | Friendster | Tribe | MySpace |
|-------|-------|------------|-------|---------|
| Blogs | | x | | x |

Suggestions:

Provide a blog-service to the community members

5.14 By service: Polls

Quick polls provide a low-effort interaction mechanism that allows users to provide their opinions on a topic without participating in a discussion forum.



When organizing an offline-event, the person can be offered to choose between meeting places with help of the poll.

5.15 By service: Member bookmarking

Sometimes a member stumbles upon another person in community, which seems to be interesting for him at first sight. However, adding him explicitly as a friend would mean to expose his interest to others, which the user doesn't want to do if he is not sure yet. To help users in this situation several communities (**Friendster**, **Tribe**, **OpenBC**) allow its members to "bookmark" other members.

| | Orkut | Friendster | Tribe | MySpace |
|-------------|-------|------------|-------|---------|
| Bookmarking | | x | x | x |

Suggestions:

Provide the possibility to bookmark a person

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