ABSTRACT
This paper will discuss hybrid communities that connect users online with the intention of facilitating offline interaction. These electronic-to-face (e2f) communities provide social benefits to members through the unique interaction of their online and offline components. They offer members the opportunity to pursue new offline experiences, increase social capital and develop weak-tie relationships. To develop an environment that encourages members to participate online and offline, the physical design of e2f systems should include functionality that encourages a sense of community, trust and generalized reciprocity.

Following a set of e2f development guidelines proposed by the author, a new e2f system called Mix It Up was created. It aims to provide the social benefits of an increased social circle by enabling users to connect online with the purpose of meeting people to organize and enjoy activity-driven offline experiences. By engaging in an online community, members can be exposed to new offline opportunities that are not currently available in their limited offline social realms. Utilizing user research, this community was evaluated in reference to suggested conceptual points of departure for the creation of e2f communities.

1 INTRODUCTION
Internet usage has had a heavy impact on the way people connect socially. There is substantial evidence supporting the view that the Internet is able to provide social benefits [3]. Among these are its ability to help users maintain existing friendships and create new ones [39].

Following the popularity of online social-networking sites (SNS) like Facebook, Twitter and LinkedIn, in recent years a hybrid online/offline community model has emerged. Previously identified by the term electronic-to-face (e2f) communities [40], they are online communities that are developed with the purpose of facilitating offline interaction. While it is known that online meetings and communication can lead to offline interaction [29, 32], e2f communities are unique in that their specific purpose is to encourage offline contact between members [40]. E2f members join these communities to arrange face-to-face meetings with other members, creating a unique social interaction model. With offline interaction being the goal of e2f communities, the online portion serves as a communication platform on which users can connect and plan offline experiences that often occur between members who have not previously met offline. By providing an atmosphere that promotes members who do not know each other to connect in real life, e2fs support the development of new social relationships.

In keeping with a view of the online world and offline world being closely connected [43], e2f communities aim to integrate the virtual and physical, providing an opportunity for members to reap
social benefits - such as increased social capital, creation of weak tie relationship and exposure to new social opportunities - and both offline and online. By seeking offline social interaction with other members, e2f members are able to integrate the online and offline social experience. Through this interaction they can create new offline relationships and experiences that enrich their lives and prove socially beneficial.

Though there has been widespread research on SNSs, the literature on e2f communities is limited. In an effort to cultivate interest and shed light on the distinctive qualities of e2f communities, I will argue that offline member interaction strengthens e2f communities and contributes to an community in which members have the opportunity to reap social benefits. It will also argue that there are distinct design considerations and elements that enable e2f communities to successfully develop into an environment that successfully encourages offline interaction.

First the social and personal benefits e2f communities provide and the design elements that enable them to successfully develop will be discussed. Based on these factors a set of considerations that should help guide the creation of new e2f communities will be recommended, followed by the introduction of Mix It Up, a new e2f community developed according to the proposed guidelines. User-centered evaluation techniques that guided the development process will be presented along with prototype evaluation methods and results. Finally, the paper will conclude with a critical discussion of Mix It Up and its ability to address users’ needs.

2 BACKGROUND
The emergence of e2f communities follows the widespread popularity of social sharing on the Internet [10]. Photosharing sites like Flickr, blogging services like Wordpress and video networks like YouTube offer signs that sharing practices on the Internet are becoming more personal. By posting our own pictures, videos and personal thoughts on the Internet we are, in essence opening more of our offline lives to the online community.

In a study about social interactions across media, Baym, Zhang and Lin found a positive relationship between online and offline sociability and Internet use [4]. Furthermore, there is ample evidence supporting the ability for online-based social relationships to lead to in-person meetings [29, 32]. The combination of an elevated desire to share our offline selves and common online sharing [10] provides insight into the driving forces of e2f communities. They are platforms that provide members with an opportunity to share both online and offline. Member interaction in both of these realms strengthens the community, thereby encouraging community growth and the continuation of the benefits of membership.

2.1 Couchsurfing and Meetup: Two successful e2f communities
Two prominent e2f communities will be discussed in this paper and therefore warrant an introduction. The first is Couchsurfing, an e2f community started in 2004 that connects travelers or ‘surfers’ with hosts who provide free accommodation. With nearly 4 million members who have engaged in a combined total of over 4 million hosting experiences [9], Couchsurfing has enjoyed success due to its ability to solve a practical problem: that of users’ need to save money through inexpensive lodging while traveling. The benefits for a traveler who stand to save money are clear. However, in order to elicit interest in being a host, Couchsurfing relies heavily on a deep sense of community that will be further discussed in following sections.
The second e2f that will be referenced throughout this paper is Meetup.com, an e2f website connecting members in groups centered on shared interests. These groups are created by members who organize offline meetings through the website. Providing a way for members to meet and interact with people with similar interests, Meetup has grown into a large, active community with 9.5 million members who are divided into 92 thousand location and interest based groups [28]. With 280 thousand offline “meetups” occurring monthly, the community has struck a chord with people who seek increased offline contact with other members they have something in common with.

3 BENEFITS OF E2F PARTICIPATION
The unique hybrid nature of e2f communities has an advantage in fulfilling user needs and providing benefits to members. These communities elicit membership, contribution, interaction and commitment because members feel as though their participation within the network has a positive impact on their lives. By analyzing the advantages of Internet usage and SNS communication, it is possible to develop an understanding of the benefits users’ seek through their interaction with e2f communities. This section will identify particular social and personal benefits that e2f communities are able to provide and describe how the combination of online and offline interaction strengthens the opportunity for members to seek these benefits.

3.1 Pursuing Our Offline Lives
In order to understand the unique nature of e2f communities it is important to distinguish the difference between them and other SNSs. Though the online form and function may not appear to be particularly different from other online communities, it is the relationship between the online and the offline that makes them special. Neither side can be valued above the other because it is the interaction between the two elements that facilitates the original opportunities e2f communities are able to offer.

The distinctive e2f community ability to mesh the connectivity and communication benefits of online SNSs with the rich tactility of human engagement in the physical world is where they find their niche. It is through these two elements that members are able to share more of the mental and physical attributes that make up their entire being with other community members.

By opening our offline worlds to our online contacts, e2f community involvement has the ability to provide a unique brand of experience. In Designing for Homo Ludens Gaver called on the HCI community to build systems that enabled users to pursue an open form of play in the pursuit of their lives [16]. Through open-ended play, he argues, we are able to discover “new perspectives and new ways to create, new ambitions, relationships, and ideals.” E2f communities are platforms that inspire members to use online resources and connections in pursuing new social connections and experiences in their offline lives.

3.2 Building Social Capital
Defined by Lin as “resources embedded in a social structure which are accessed and/or mobilized in purposive actions,” [25] social capital has been linked to many positive benefits including indicators of psychological health, such as self-esteem and satisfaction with life [3]. With increased social capital individuals enjoy greater access to the resources mentioned by Lin. They have the opportunity to gain information, relationships or the ability to organize groups, among other benefits. Furthermore, it is commonly accepted that two different kinds of social capital exist: bonding and bridging capital. Bonding capital is associated with stronger ties that provide emotional support, while bridging capital is
based on looser ties that may be useful in connecting various networks and providing new information [30].

The relationship between the Internet and social capital has been rigorously researched. Of particular interest is the link between social capital and SNSs. Though there are conflicting views regarding the relationship between SNSs and social capital, many research projects have shown a positive correlation between the two. A study of Facebook users found “a robust connection between Facebook usage and indicators of social capital, especially of the bridging type” [13]. Another study on Facebook showed the same results, with more specific information about the kind of interaction that increase social capital. It was found that directed communication was associated with increased social capital and lower loneliness, while content consumption led to reduced bridging and bonding social capital and increased loneliness [6].

In relation to these research findings, it can be deduced that increased direct communication within e2f communities will help members build social capital both online and offline since interaction takes place within both realms. The very nature of e2f communities requires that members communicate directly with each other through private messages, forums or group pages in order to make and confirm plans in the offline world. In Couchsurfing communication plans between members are often made through dyadic direction [35]. Therefore, including these direct communication avenues in e2f communities will add to the rewards of membership.

Offline gatherings and increased social capital are also shown to correlate. These gatherings provide a platform for strengthening ties and bonding between other members, while increasing “alloy” social capital that is rooted in relationships maintained online and offline [36, 44]. By providing members ample opportunity to organize and participate in offline events, E2f sites are able to bolster members’ social capital.

3.3 Weak Tie Relationships
Closely related to bridging capital are weak tie relationships that are based on loose social connections. Weak tie relationships have been defined by Garton, Haythornwaite, & Wellman as relationships that “are generally infrequently maintained, non-intimate connections, for example, between co-workers who share no joint tasks or friendship relations” [15].

The Internet has a positive relationship to weak ties, acting as an agent that enables the building and maintaining of these ties. It has been hypothesized that SNSs are a cheap, easy way to create and maintain weak tie relationships [12]. Furthermore, Internet usage has been found to increase the chances that individuals with a weak tie relationship will meet offline [22]. The ability of Internet usage to influence the formation and continuation of weak tie relationships both offline and online supports the view that e2f communities would be able to do the same through their foundation in online communication.

Weak tie relationships present unique benefits in their ability to provide new information, opportunities and ideas not directly attainable within one’s own limited social circle [18]. Because e2f communities support the interaction of people who have not previously met, they offer an opportunity for members to form weak tie relationships thereby gaining access to information that is outside their current social
network. Consequently, acquiring new avenues through which to learn about ideas and opportunities is a primary benefit of e2f participation.

4 CONCEPTUAL POINTS OF DEPARTURE IN E2F DESIGN
Creating a thriving e2f website requires designers to understand the qualities, concepts and functionality that best serve its creation. E2f interaction design must be conscious of creating an atmosphere that addresses and affirms the concepts that provide a basis for e2f community success. A thorough analysis of e2f community merits and the way the offline component contributes to this social interaction model was the first step in constructing an outline for the development of future e2f systems. However, because the online functionality and interaction design provide an atmosphere in which these qualities can develop, they are equally important to e2f community health. This section will present concepts that are common to thriving e2f communities, provide background on the reasons these attributes contribute to their success and discuss design choices that encourage these characteristics.

4.1 Fostering Sense of Community

As in any offline or online community, it is vital to create a strong sense of community among e2f members. Strengthening a members’ connection to the community motivates their desire to remain in and, thus, participate in the community [5, 34]. This, in turn, contributes to the health and success of the community as a whole. An understanding of how communities are developed and maintained gives insight into how e2f communities can be created online in order to thrive both online and offline.

According to Gusfield [19], communities can be constructed in two different ways. First, there are traditional geographically centered communities, which are based on a physical space with defined borders, such as a town or neighborhood. Second, are communities that are constructed according to relational ties. Based on human relationships, they build around common purposes, goals or other bonding methods. In the case of e2f communities it is important for the central concept and physical design to emphasize the relational and physical bonds that members’ share.

The creation of an e2f website that allows people to connect based on shared interests or values can encourage a sense of community between members. In the case of Couchsurfing, the site aims to attract people who all identify with a mission statement that is based on the open exchange of experience. Meetup, on the other hand, facilitates the creation of groups that share an interest, goal or hobby. These similarities of purpose encourage a sense of belonging, bringing members closer to the community as a whole [20] and thus closer to other users.

While the examples provided above emphasize the importance of relational ties, online communities can show characteristics of both relational and physical communities [21]. Some are based on existing offline communities that meet online, while others are created and developed online without being confined to physical boundaries. Because e2f communities aim to bring together people who were not previously acquainted in the physical world, relying upon relational bonds to initially attract membership is an important part of the development process. However, elements of a physically-based community may emerge in e2f sites as they develop and enable the creation of groups that gather offline, made up of members who are within close physical proximity [35]. Though Couchsurfing initially connects hosts and guests who have not previously met, physically defined groups eventually formed. Still, the primary purpose of these groups remained the same: to organize offline events and meetings for members to
attend. Meetup on the other hand, creates sub-communities based on physical and relational ties. Meetup members join interest groups that organize and meet in their geographic region.

In their study of online community structure Herberger et al. [20] emphasize the importance of a members’ sense of belonging to the community. They argue that emotional and physical security, sense of belonging, a high level of participation and a common symbol system help foster membership within communities. Therefore an e2f design that addresses these elements is important in supporting community health. The following sections will discuss the four elements listed above as they are they are related to e2f properties and design.

4.1.1 Emotional and Physical Security
For e2f communities creating an environment in which members feel secure is paramount to their survival. Members who do not feel secure will be less likely to meet with others offline, thereby eliminating the e2f purpose. Various design elements can encourage a sense of emotional and physical security and are utilized in e2f construction. Reputation systems (further discussed in Section 4.2.1) that provide valuable context information are useful in building trust between members and consequently a sense of security [7]. Couchsurfing also builds member confidence with positive member testimonials that reinforce a feeling of safety. It also includes functionality that allows members to report the wrongdoing of others that can also help create a secure environment by enabling site managers to curtail membership of those with less than honorable intentions. The combination of these design elements and functionality help reinforce a sense of security among members, impacting their willingness to engage in offline activities with others.

4.1.2 Sense of Belonging
In e2f communities the inherent offline interaction between members can help strengthen a member’s bond to the community and sense of belonging. Face-to-face interaction between online community members has been found to reinforce their connection to the group and their desire to stay active within the group [26]. In a study of 1094 Couchsurfing members, it was found that members who had communicated with other users face-to-face, whether at a group gathering or by hosting another member, felt a higher sense of belonging within the community [35]. These findings help explain the importance of encouraging successful offline gatherings within e2f communities. Though these sites are conceived and created in the virtual by bringing people with similar interests together, it is offline activity that helps them grow stronger and thrive.

4.1.3 High Level of Participation
Creating a thriving e2f requires member participation both online and offline. In e2f communities, offline interaction with other members is a vital method of participation that helps deepen ties to the community [20]. To encourage high levels of offline participation the physical design of Meetup and Couchsurfing both include multiple communication tools and the open ability for members to host offline gatherings. Members can communicate with each other through private messaging, discussion boards and on group pages in both systems. By providing multiple avenues member communication it is easy to be involved in the community by participating in online discourse.

The ability for all members to organize offline activities is also important to e2f growth, as it allows every member to contribute to the perpetuation of offline activity. Members do not need to wait for others to start groups and plan offline gatherings; they are able to do it themselves, making it easier to participate as an organizer.
4.1.4 Common Symbol System

A symbol has been defined as “a thing the value or meaning of which is bestowed upon it by those who use it” [42]. Common symbols such as rites of passage, language, or dress can be used by groups to create a sense of solidarity and separate the members from nonmembers [27].

Both Couchsurfing and Meetup have robust common symbol systems that are recognized and understood by community members. The language used to define both communities is an important part of these systems. “Couchsurf” is a term that existed before the organization and is defined as, “sleeping on the couch or extra bed of an acquaintance when traveling or between permanent lodging places, especially to save money” [11]. This term was repurposed by Couchsurfing and is understood by members as the experience of a traveling member staying for free with a host they contacted through Couchsurfing.org. The terms “couch surfers” or “surfers” are subsequently used by the community to refer to travelers who stay with hosts and “CouchSearch” defines the act of searching for a place to stay through the site. Meetup redefined offline gatherings by calling them “meetups”, a common language symbol utilized by community members. Each Meetup group uses a specific term that refers to the members. For example, in a food group, the members may be referred to as “foodies.” These language symbols are very powerful in creating a common vocabulary among members.

Couchsurfing also utilizes custom icons on profile pages to communicate member information. Variations of a couch icon indicate “if a member is excited to host, able to host, sometimes able to host, can't host, can't host but wants to meet, or currently traveling” [8]. A “hands” icon shows if a member has been vouched for, a “flag” icon indicates that a member is a “Couchsurfing Ambassador” who is influential in maintaining the tight-knit community and a map icon is used to symbolize a “Pioneer” member who was part of the Couchsurfing in its earliest days. These common symbols are recognized and understood by members of the community, giving them an influential role in communicating the group’s vision and building a sense of community.

4.2 Encourage Trust to Enhance Offline Participation

In order to encourage offline interaction between e2f members, a sense of trust must exist between members. Trust has been defined as a two-part concept, requiring not only the belief that a person will act in a certain way that will lead to a positive outcome, but using that belief as the foundation of a particular action [6]. Within online communities these two components of trust can be seen when one member contacts another based on the belief that they will be able to have a positive exchange with the person they have contacted. In order to be willing to meet with another member offline, particularly someone they have not previously met, an E2f community member must believe that the meeting will result in a positive outcome and proceed with the meeting based on that belief. Consequently, trust must exist in order for members to connect with each other, thus creating a need for trust between online community members in order for the community to function [14].

Encouraging e2f members’ belief that their offline interaction with others will provide positive experiences is contingent on a number of factors. Because overall similarity between people has been shown to contribute to trust [45], the nature of relational communities is a solid foundation for the establishment of trust. As previously discussed, the central principal of relational communities is a common purpose between members, providing a sense of similarity and therefore, trust, between members. Consequently, basing e2f communities on relational ties is an important step in ensuring the trust between members that will be the basis of their decision whether or not to meet offline.
The sense of belonging that is paramount to a community also has a positive effect on trust [33]. This view was supported by the Couchsurfing study, as members who reported a strong sense of belonging experienced an elevated level trust [35]. These results emphasize the intertwined relationship between a members’ connection to the community, sense of belonging and feelings of trust, highlighting the necessity for all three to exist in order to create a healthy e2f community in which members feel comfortable participating.

The belief that participating within an e2f community will lead to positive interactions grows as members engage in offline activity. In an analysis of social exchanges that included online as well as offline components, it was found that more trust existed [26]. This was again supported by the Couchsurfing study that found members felt more trust towards other members if they had previously acted as a host, therefore meeting with them in person [35]. Because the e2f offline component plays a strong role in the accumulation of trust towards the community and other members, real world interaction deepens member bonds, thereby strengthening and encouraging the growth of the community.

4.2.1 Reputation Systems
Reputation systems are provided within online communities as a means of encouraging trust between members. These systems attempt to develop a members’ reputation through reports of information based on their past behavior [1]. This can help guide online communication between members, encouraging responsible, confident exchanges.

Though all reputation systems share the common goal of promoting trust and responsible behavior within the community, they operate at varying degrees of effectiveness. To be most effective and accurate, information reported within reputation systems needs to be based in a significant context, with attention to the source. Recommendation reporting based solely on the quantity of recommendations does not provide valuable feedback [7]. Rather, systems that require the source of the recommendation and the relationship between members to be reported provide valuable context and validity, promoting confidence in the system as well as the community. Successful reputation systems will not only allow users to judge members based on reputable accounts of their behavior, they encourage users to be honest and well-behaved within the community, as a bad reputation will curtail other members from wanting to interact with them [31].

A reputation system’s context and visibility are important design elements as they have been found to affect the ratings that users give each other [38]. A study of Couchsurfing rating practices found that publicly reported ratings that allowed for reciprocity tended to be more positively inflated than the privately reported trust rating [38]. By utilizing both methods, the site is able to offer a more thorough understanding of a members’ reputation within the community. The Couchsurfing system also provides context by requiring all friends who write publically viewed positive or negative reports to explain how they know the member they are rating. This offers members a deeper view into the information they are receiving, enabling them to better discern which individuals they choose to interact with.

These quality reputation systems are of particular importance in e2f communities because there must be a lot of trust and accountability between members to bond the community and embolden members to leave the safety of a virtual environment to interact in the physical world. Providing context and both public and private reputation reporting can help strengthen members’ confidence in the rating system and ultimately in the community.
4.4 Encouraging generalized reciprocity
Generalized reciprocity occurs when a person does something of value for you “without expecting anything immediately in return and perhaps without even knowing you, confident that down the road you or someone else will return the favor” [30]. Described as a “pool of goodwill”, generalized reciprocity is associated with communities of practice where members contribute to the community with the trust that they too will benefit in the future [41]. They act with the knowledge that strengthening the value of the community is to the benefit of all members. This alignment with community strength and contribution is associated with building trust and cohesion within communities [2]. Consequently, it is an important factor in promoting e2f community health.

Systems that report user activity are one way of encouraging general reciprocity, as members will eventually stop providing benefits to members who do not contribute to the community. In a study on community exchange practices, members who took from the community without giving back were identified as ‘free loaders’ who developed a poor reputation within the community [17]. In reputation systems, generalized reciprocity can be encouraged as members who are active participants in community exchange are rewarded with positive feedback [23], making other members more likely to interact with them.

There is also evidence that a greater sense of connectivity with the community may encourage generalized reciprocity [37]. This view is supported by evidence from a study on Couchsurfing which found that members who have participated in more than 10 offline experiences through the site have both surfed and hosted [24]. Because these members have participated in many offline activities we can consider them active members who are likely to have a strong sense of belonging to the community. This would increase their interest in strengthening the shared community value by offering to host other members. This drives the core purpose of Couchsurfing, creating an environment in which people are willing to host others because they believe that through the generalized reciprocity of the community, they too will reap benefits in the future.

5 GUIDELINES FOR NEW E2F SYSTEM
After a thorough discussion of the concepts, functionality and motivating factors that drive e2f success, a set of guidelines will be suggested that should be considered when creating new e2f systems. They are based on the components that have been found to strengthen online communities and inspire participation online and offline. The guidelines are as follows:

1. Provides opportunities to pursue offline experiences
2. Fosters community and sense of belonging
3. Provides environment for increasing social capital
4. Provides weak tie relationship building development opportunities
5. Encourages trust between members
6. Encourages generalized reciprocity

6 DEVELOPMENT OF NEW E2F CONCEPT
To evaluate the guidelines a new e2f system was designed following the 6 principles listed above. A prototype was produced that could be evaluated in order to gather valuable feedback on the guidelines’s validity.
Designing the new e2f community required a system concept that could be adapted to the e2f community model. This section will outline the e2f concept, called *Mix It Up*, as it relates to the design considerations and describe the user-centered evaluation techniques employed in the development process of this concept. The resulting prototype will then be presented.

6.1 MIX IT UP CONCEPT

*Mix It Up* is a site that would connect members so they could plan and meet for activity-based offline experiences. Because people are often socially constrained to the activities and interests they share with those in their social circle, it can be difficult to explore new interests and activities. Time, monetary, family, and social constraints can make it difficult to explore new activities and hobbies. The proposed community provides an opportunity for members to try activities that they are not easily exposed to within their current social network. It encourages the development of new weak tie relationships through which members can learn about and explore new interests.

The concept is based on the exchange of expertise, as it encourages members to share their unique interests with the community by inviting others to join in on an activity or hobby. Others are then able to accept these invitations and experience activities with the guidance of a knowledgeable host. As members connect with people outside of their social circle in this spirit of exchange, they are given access to new activities and gain the opportunity to teach and share their interests with others.

By following the e2f community guidelines outlined above, the *Mix It Up* concept aims to provide the benefits discussed in Section 3. It offers direct communication with others as well as offline interaction, thereby facilitating the accumulation of social capital. Members are also able to satisfy the social need for weak tie relationships that introduce new information and opportunities [18]. Through these contacts and experiences, the system ultimately aims to provide an environment that helps users pursue their lives in the offline world.

Though the concept was initially conceived to address the needs of young adults who are frequent travelers, it is a platform that can be used by anyone who wishes for an avenue through which to find activities and partners to do them with. It is an explorative environment where relationships between activity experts and novices are formed. This concept is designed for individuals who would be likely to both host and join in on activities. Because members are encouraged to be hosts and guests, the concept is meant to appeal to people who are passionate about their interests and curious about discovering new ones.

6.1.1 User Survey

At the outset of concept development, a user survey was utilized to develop an understanding of user needs the system could seek to address. The target group was initially identified as young adults aged 20-26 who would have an interest in creating new relationships based on their lifestyle choices. Avid travelers, exchange students or those living away from their country of origin were all identified as part of this group because temporary or permanent relocation away from their familiar social circle created a need for new relationships to be formed. In order to develop a more thorough understanding of the role SNS play in providing relationship building opportunities, the target group was further narrowed to active Facebook members who could provide insight into the needs that are satisfied and those that remain unaddressed by their current SNS usage.
The survey was distributed to 35 internationally located Facebook members who were identified as part of the target group based on Facebook group affiliation and received 12 responses. The qualitative survey was designed to ask participants open-ended questions about an initial site concept that would connect members who wanted to attend the same event. The survey asked about users’ history with contacts they had met online before meeting face-to-face and the factors that made them feel comfortable about offline meetings. It also requested feedback on the site’s proposed purpose and inquired after the events a user would be interested in attending with an online friend.

The majority of respondents replied favorably to the initial site concept, citing a need for contact with the person by email or phone, as well as substantial background information before feeling comfortable enough to meet offline. Respondents said they would only be interested in meeting people for activities they could not do with their current contacts.

The survey results supported the view that members would be interested in creating new weak tie relationships through e2f systems in order to be exposed to opportunities not available within their current social circles. They also provided important insight into the need for substantial communicative functionality and information availability to support e2f growth.

6.1.2 Focus Group
A focus group was held with four user survey respondents to further explore reactions to the initial site concept and to propose and discuss modification. The group was made up of three women and one man between the ages of 20 and 26. At the outset of the focus group I introduced a modified version of the site’s purpose that would encourage members to invite others to join them in pursuing their hobbies or interests. General discussion topics were addressed with answers given in an open form of discussion. Questions pertained to the likelihood of member participation in the proposed site as well as exploring features or concepts that would add to the perceived benefit of the site. A significant finding was that the group expressed a greater interest in the ability to find activities through the system, rather than a desire to share their own interests with others. This signified issues in the site concept that could lead to a lop-sided system in which more members were more interested in gaining from the community than contributing to it. It emphasized the need for the physical design to encourage generalized reciprocity between members in order to sustain a healthy balance.

The participants expressed interest in a feature that would allow members to post notices about the activities they were interested in learning about or participating in. This would give those who were already actively involved in these activities a way to find and contact them. It also alleviates the social pressure of directly “asking for an invitation” from one member and provides an added method of direct communication and connection within the site. This suggestion had strong implications for the design of a function that would provide an avenue of indirect communication.

6.1.3 Persona and Usage Scenario
A persona and basic usage scenario was created to help define and envision the Mix It Up concept and functionality. The persona is a 26-year-old female named Natalie from Hartford, Connecticut in the United States. She is a yoga instructor who holds weekly classes and she is an avid hiker. She joined Mix It Up to invite people to try a free yoga class in the hopes of ultimately recruiting paying clients and found it was a great way to meet new people and discover activities in her city. As she is also a hiker but often had a hard time finding friends who were available to hike with her, she created a Mix It Up hiking invitation and was able to find other members who wanted to join in order to discover new trails.
She also began seeking out new activities in her city by responding to invitations. She had always wanted to try sailing but did not know anyone who had a sailboat. Using *Mix It Up* she contacted Paul who was hosting a short sailing excursion and joined him and one other member on for three hours on a sailboat where Paul taught her some basic sailing skills.

Natalie’s experience with *Mix It Up* illustrates the driving forces that encourage members to be both hosts and guests.

### 7 Prototype Design

**Figure 1. Mix It Up index interface with location-based information structure**

The *Mix It Up* prototype includes functionality and features consistent with the goals of supporting community strength and member benefits by creating a community based on relational and physical ties that fosters trust and encourages generalized reciprocity.

*Mix It Up* contains characteristics associated with both relational and geographically defined communities. Built to “promote trust, openness, understanding and adventure” the site’s written content and visual structure aim to attract members whose personal values are consistent with the site’s goals.
philosophy. Identifying oneself as a person who is eager to share and discover interests is the common purpose meant to unite *Mix It Up* members. Prominent member testimonials about previous positive offline meet-up experiences further support relational-tie development, as members who relate to these emotional responses and stories would be drawn to the community. Elements of a geographically defined community are evident through the site’s place-based information structure that organizes invitations, event postings and other posts according to physical location (see Figure 1).

![Figure 2. Mix It Up profile page interface](image)

Providing links from users’ profile pages to their interaction activity within the online community makes it possible to gather information about the nature of the users’ activity (see Figure 2). This easy way to view information can function as a method for evaluating members based on their previous activity, allowing the community to hold others accountable. Activity consistent with “free-loading” is likely to result in a bad reputation, making it more difficult for members who take advantage the system to be accepted by the community. Therefore, an expectation of exchange is developed, creating a healthy environment that encourages generalized reciprocity.
The prototype also includes a reputation system that requires context to be provided (see Figure 3). When members wish to rate another, they are asked to explain their reasoning. Others are then able to see the context behind positive and negative reputation reports to have a more informed impression of an individual’s reputation.

Member communication is supported through the inclusion of a private messaging system and a profile interface that allows users to share their personal contact information if and when they choose. Though this functionality is a primary step in encouraging communication, due to technical limitations, this version of the prototype did not include private chat, profile walls or other functionality that would have provided advanced communication support.

8 PROTOTYPE EVALUATION
The *Mix It Up* prototype was evaluated using a qualitative method to elicit feedback on the modified concept and functionality as it pertained to the proposed design considerations. The prototype evaluation was sent to the 35 Facebook members who were sent the original user survey. It was completed by eight participants made up of three men and five women, aged 24-30, from three different countries.

The evaluation asked participants to interact with the prototype for a few minutes by reading written content, viewing the user profiles and utilizing the event calendars and event creation functionality. They were instructed to sign up and create a user profile if they desired and only one respondent did so.

When they were finished interacting with the prototype they were directed to click a link to a survey to gather their reactions to the prototype. The survey asked open ended questions designed to gauge user responses within the following six areas:

1. Reaction to the site’s purpose
2. Effectiveness in promoting relational community
3. Using the system to determine trust
4. Likely methods of interaction within community
5. Likelihood of offline community involvement
6. Perceived benefits of community involvement

The evaluation aimed to elicit feedback related to the proposed e2f suggestions and functionality, with particular interest to the sites’ ability to effectively promote generalized reciprocity. In other words, it was important to measure the online environment’s ability to inspire members to contribute invitations to the site in addition to searching for activities. The survey also evaluated the issues of creating a sense of community, a system that encouraged trust and the community’s perceived ability to provide the social and personal benefits.

The following sections will provide an analysis of the survey results according to the six points explored.

8.1 Reaction to Mix It Up Purpose

All of the respondents except for one had a positive reaction to the site’s purpose. They used descriptors like “great idea,” “interesting,” “fun,” and “easy” to describe their reactions to the site. The respondent who did not express interest, cited his general disinterest in signing up for more website communities, explaining that he wished to “reduce and simplify.”

8.2 Effective Development of Relational Tie Community Indicators

Respondents feedback confirmed that techniques used to promote the community based on relational ties were effectively communicated. All of the respondents recognized Mix It Up as connecting people with similar philosophies and attitudes.

Despite organizing forums according to location within the prototype, only one respondent described the structure of the community as being geographically based. Perhaps this can be attributed to the lack of activity reaffirming the geographic structure of the community. As described in Section 3.1, traits of a physical community may emerge in an e2f community after relationally members bonded begin holding offline gatherings [36]. Before these gatherings occur, members relate to the community due to common purpose.

Though it is positive that respondents recognized the central Mix It Up concept to attract members based on relational ties, further testing would need to be conducted in order to evaluate the system’s ability to actually create a sense of community. Without member’s participating online and offline, it is impossible to tell whether a sense of community could be successfully developed.

8.3 Determining Trust

Survey responses show a positive relationship between the users and trust within Mix It Up. The presence of other successful e2f sites was one factor that contributed to respondents’ rationale for trusting Mix It Up community members. The majority of respondents said they would use the reputation system and other member feedback to determine trust, while judging others based on their previous activity and building trust through offline interaction were also mentioned. One respondent emphasized the importance of a members’ commitment to using the site for exchange and “altruistic purposes,” rather than personal gain as a factor in evaluating trustworthiness.

8.4 Likely Interaction

Respondents expressed a willingness to share with others and an interest in finding activities through others in their responses to questions regarding their likely interaction with the community.
Of those who responded that they were likely to use the system, all provided details about the interests and activities they would share with others, though they quoted different reasons. An interest in finding a “buddy” to do things with that other friends were not interested in was one rationale, relating to the e2f community’s ability to provide weak tie relationships. This can be viewed in terms of general reciprocity as both members benefit from the exchange. Others viewed sharing as an opportunity to show an outsider, such as a tourist, something new, a desire that can point to altruistic or general reciprocity based motivations.

All of the respondents except one were interested in using the site to find activities. The two respondents who were unlikely to participate in offline meetings, were still interested in using Mix It Up to find inspiration or information about activities or events. Those who would find and participate in offline activities had various motivations. One respondent expressed a desire to “make new friends with similar interests,” a statement relating to the development of strong tie relationships, though most sought new experiences through weak tie relationships. One respondent wrote, “I would not use it to make new friends, but I would use it to gain new experiences,” making a strong statement about the benefits of forming weak tie relationships that facilitate new opportunities as opposed to developing more meaningful personal connections.

8.5 Offline Participation
All respondents who were interested in joining the community expressed a strong likelihood of offline participation. As discussed in Section 7.4, they expressed a willingness to participate in generalized reciprocity by sharing and joining activities. Though these responses imply that the site would be able to stimulate a sense of belonging, trust and generalized reciprocity, it is not possible to determine from these results whether members would actually utilize this system for its intended purpose. Because the prototype was limited to online exploration of the concept, it is difficult to accurately predict the level of offline participation that the system would elicit.

8.6 Perceived Benefits
User feedback indicated that respondents expected to gain social benefits through Mix It Up community participation. As mentioned in Section 8.4 forming weak tie relationships was a central motivation for using the site. Increased social interaction was another reason respondents were drawn to the system, indicating a wish to build social capital through the community. This was especially true in the case of respondents who linked use of the site to travel experiences. Using the site to build social capital in a new location was seen as a likely benefit.

Pursuing recreation, leisure and new experiences were central benefits quoted by all interested in joining the community. However, two respondents pointed out the ability to form partnerships that would facilitate volunteer activities, a previously overlooked usage.

9 CRITICAL DISCUSSION
The qualitative prototype evaluation based on user interaction and surveys provided positive responses to the Mix It Up community. User feedback revealed a positive relationship between the prototype design and functionality and the fulfillment of e2f goals. This initial data is supportive of the e2f design guidelines’ validity in aiding the creation of an e2f community that could attract membership and encourage offline participation while offering social and personal benefits. However, while the evaluation provides a foundation of understanding, its small scope limits its conclusiveness.
Though user feedback suggests an enhanced openness to the orchestration of offline social interaction and experiences through *Mix It Up*, it is inconclusive due to the evaluations’ spatial limitations. Participants were only exposed to the e2f concept and prototype as evaluators, not as active members. Consequently it is impossible to determine whether they would actually engage in offline activities with other members, though they have expressed an interest in it. Taking the leap from interest to action, in this case, could be perceived as a large step to many individuals, so only with further testing would it be possible to gauge the likelihood of offline action to stem from the online component of *Mix It Up*.

Despite the lack of offline data to assess the success of the *Mix It Up* system, the results of the initial user survey and prototype evaluation endorse the idea that Internet users are increasingly open to the merging of their online and offline activities. Openness to the central e2f purpose of finding offline experiences with new people through online platforms was expressed throughout user evaluations. However, this interest to the idea was not without limitations. Respondents identified a variety of conditions, such as background information and prior communication, that would need to be met before they would interact with strangers offline. Current e2f systems address these needs and include ample avenues of correspondence and reputation building and reporting. The design of future e2f’s must be conscious of users’ need to feel secure within the community and develop functionality consistent with this objective.

**10. CONCLUSIONS**

Interest in the increasingly personal climate of online exchange led to a thorough analysis of the concepts, motivators and functionality that aid in the creation and sustenance of e2f communities. Through an understanding of these factors, guidelines were born to aid in the development of future e2f communities.

These guidelines were then used to direct the development of a new e2f community in order to gather data on their effectiveness. Through the design process, user-centered evaluation techniques were employed, aiding the e2f community concept development. The resulting concept was visualized in a prototype built to embody the proposed design guidelines.

An evaluation of the resulting prototype provided basic support for the suggested guidelines and their value in creating the online portion of an e2f community, while revealing a need for more extensive research into the offline side of e2f communities. Encouraging responses to the *Mix It Up* concept suggest that the e2f community purpose and their ability to provide offline social benefits to users is accepted and appreciated.

As the internet becomes increasingly social and users become more comfortable sharing their offline selves with the digital world, e2f sites are likely to be a increasingly common resource for users who wish to broaden their social circle in order to benefit socially both online and offline. Understanding this motivation behind the use of these sites, as well as the concepts that enable their successful implementation, provides an insightful look into how and why this social interaction model can thrive.

**11. FUTURE**

To further test the validity of the proposed guidelines, a thorough analysis of their relation to a larger selection of existing e2f communities is suggested. Future testing of the *Mix It Up* concept would necessitate a “live” version of the community that enabled member interaction as specified by the site
concept and proposed functionality. A long-term analysis of community growth as well as members’ online and offline activity would provide a larger data set through which to evaluate the findings reported in this paper.

As general e2f community research remains limited, the author suggests a closer look at the role these communities play in online and offline communities, as well as further exploration of the implications this technological form has in regards to the future of online and offline interaction. E2f communities are not only interesting when considering the digital component: they provide the foundation for an interesting social interaction model that has implications about individuals’ willingness to engage socially in the digital and physical worlds. An analysis into the social and societal factors that surround this interaction model could provide insight into the needs and desires of contemporary Internet users.

12. REFERENCES


