

User-Generated Content as Art: The Information Ground of Flickr and Why We Love It

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ABSTRACT

A call to consider “new, more opaque IB phenomena” by Fisher, Naumer, Durrance, Stromski and Christiansen (2005) suggests that research into online applications of information ground theory is needed.

The creative, communal possibilities of producing art on the Internet have led to a flowering of online collaborative visual communities. How do the characteristics of these online information grounds differ when participants communicate exclusively in a virtual environment, rather than meeting face-to-face? This chapter will apply Fisher, Landry and Naumer’s people-place-information trichotomy to an online information ground (<http://www.flickr.com>) in order to compare the virtual experience of an online information ground to the reported experience of a physical information ground.

INTRODUCTION

Information scientists have described an **information ground** as an "environment temporarily created when people come together for a singular purpose but from whose behavior emerges a social atmosphere that fosters the spontaneous and serendipitous sharing of information." (Pettigrew, 1999).

Information grounds are forming continuously in prosaic daily environments such as pharmacies, airports, and wedding receptions. People go to a dog park or a children's story time in a library to participate in the obvious activity offered, but the spontaneous act of sharing information among participants on unrelated subjects may provide the most valuable asset of such settings.

The human urge to share information translates directly to the Web and is magnified by the participatory nature of online collaborative visual communities such as Flickr. People originally visit online collaborative visual communities to either post or view personal photographs, but a percentage of members become increasingly involved with image manipulation, community activities and collaborative projects unrelated to the original purpose of their first visit (to post or view their personal photos.)

The creative, communal possibilities of producing virtual visual art have given rise to a range of active online collaborative visual communities. (Kolbitsch, 2006). Table 1 provides site statistics for several of the larger active online collaborative visual communities in 2009.

Defining characteristics of online collaborative visual communities

"Online" defines these groups as web-based. The visual art produced by each member is provided to the community as a digital file. The community does not meet physically. The visual art produced is designed to be displayed and distributed online rather than in physical gallery spaces.

"Collaborative" means the activity of the users provides the content of the site. These groups and their art exist only because users participate, supporting the community by sharing original visual content. There is usually no authority making decisions about the site content, aside from technical limitations imposed on all members (such as file size restrictions.) Contests and competitions are common but other members are the judges. Work is usually for sale but the sites are not focused on advertising.

"Visual" limits the site's existence to displays of visual material. Users visit the site to post their visual art and generally do not include other **collaborative technologies** such as audio files or text-based documents. Some sites allow multi-media projects and some users create additional areas within the sites to include blogs, but the emphasis is on the creation and sharing of visual art, rather than other creative formats such as music, poetry or journaling.

"Community" by definition suggests an interacting population of various kinds of individuals in a common location. Additionally, online collaborative visual communities provide the same range of activities that traditional information grounds provide including socializing, obtaining personal services, shopping, research, communication, and finding employment.

The online collaborative visual communities considered for this study did not include those exclusively producing pornography or other materials aimed at a single commercial market. The distinction between commercial art production online and collaborative virtual art-making is a central defining point of the information grounds being examined. While a study of online pornographic image production could yield interesting data related to the exchange of highly commodified information, this project is focused on

non-commercial materials produced by individuals for creative expression, specifically *not* limited to one topic or audience.

TABLE 1. - Examples of online collaborative visual communities in 2009:

Site title	Site URL	Site statistics
deviantArt	http://www.deviantart.com/	As of August 2008, the site consists of over 8 million members, over 62 million submissions, and receives around 80,000 submissions per day. The domain deviantart.com attracted 36 million visitors annually by 2008 according to a Compete.com study. (Statistics taken from described web site)
Worth1000	http://www.worth1000.com/	Worth1000 hosts over 340,000 unique images made in theme contests and has served more than 5.5 million distinct visitors since September 2004. (Statistics taken from described web site)
GFXartist	http://www.gfxartist.com/about/about_gfx	GFXartist has approximately 44,000 registered accounts with 41,000 gallery entries. (Statistics taken from described web site)
Flickr	http://www.flickr.com/about/	In 2009, Flickr estimates member content at roughly 3 billion digital images. (Statistics taken from described web site)

Why Flickr?

Flickr was selected to exemplify online collaborative visual communities in this project based on longevity, image count and widening influence.

Flickr (<http://www.flickr.com>) was launched in 2004 and was acquired by Yahoo Corp in 2005. The original purpose of the site was to allow members to post photos online and then designate them as either public or private. By March of 2005, more than 80 percent of the 5.5 million photos were public (Stone 2005).

The ground-breaking aspect of Flickr which began attracting visual artists to the community in 2006 was its early adoption of **folksonomy** tagging. Images were classified by user-selected labels (“**tags**”) which allowed all images sharing that particular tag to be located and explored as a group. Millions of images were indexed by their creators, forming a colloquial **social network** of visual art. Members did not adhere to any designated vocabulary in assigning tags, but viewed other images already in the collection and adapted existing tags or created new ones to suit the occasion. Flickr tagging became “do-it-yourself” **electronic collaboration**.

Flickr specifically aligns itself with online collaborative visual communities on its FAQ page, stating that the way to improve organizing visual images online is “to make the process of organizing photos collaborative.” (Yahoo Flickr site FAQ, 2009).

This efficient and thriving folksonomy system allowed an immediate surge of inventive adaptations. Tagged group collections included sets honoring confusing street signs, vintage playing cards, Halloween costumes, pictures of dogs, and pictures of dogs' noses (Stone, 2005). Perhaps more importantly in terms of becoming an online collaborative visual community, Flickr members began to interact and launch categories of creative concepts that any Flickr member could collaborate on. A well-known set which triggered more than 1,000 unique submissions in 2006 was made up of images of circular objects framed within a square, originally titled “squared circle.” This set remains active as of March 2009 and has experienced 84,662 member entries, exemplifying the prolific creative collaboration common between Flickr members. (Yahoo <http://www.flickr.com/photos/tags/squaredcircle/> , 2009).

The collaborative activities taking place in Flickr can arguably be classified as an evolving segment of online **visual culture**, with community members providing elaborate examples of technical and creative prowess while delivering complex visual messages. Flickr actively encourages this involvement, hosting groups such as FlickrAddicts, IloveFlickr and various specialty communities and activities directed toward increasing the creative use of both the site tools and the images presented.

Randomly browsing the 66,205 Flickr groups tagged with “art” provides an insight to the depth and breath of creative work being shared among members. Active art groups in March 2009 include portraits executed only in pencil (725 members), vegan photographers (217 members), oil paintings of birds (304 members), Arte Religiosa: The Art of Divinity (325 members), fiber arts (385 members) Healing through Art (834 members), Mail Art (scans of art sent through the postal service with 788 members) and Street Art Maps (street art photos shown on a map so that others can locate these works and appreciate them in the wild with 388 members).

BACKGROUND

User-generated content (UGC) describes information produced by members of a community, provided as a central product of that community, publicly and prominently available, replacing highly edited, professionally packaged, “one-way” information traditionally delivered from authoritative sources. (Wunsch-Vincent, 2007).

The interactivity at the center of UGC, whether online or face-to-face, provides much of the value and magic of a fully functioning information ground. It is important to note that “real” activity occurs in online collaborative visual community sites, including Flickr. Real money is being spent, real objects are being bought and sold and real people are interacting, in contrast to virtual world environments such as Second Life in which alternative identities are encouraged. Participants in online collaborative visual communities may choose to employ avatars or alternative user identities but the generally-accepted purpose of membership in these communities is to actually produce and share visual art, rather than to create or navigate an alternative universe.

Fisher, Landry and Naumer’s people-place-information trichotomy

Over 700 University of Washington students participated in Fisher, Landry and Naumer’s information ground study funded by the Institute of Museum and Library Services in late 2004. Participants answered questions related to their current information ground and how it related to their everyday, non-school related information needs. The results of this study provided a summary of face-to-face information

ground behaviors. From this data set, Fisher, Landry and Naumer formulated fifteen categories and proposed a “people-place-information trichotomy” to describe and evaluate a specific information ground’s characteristics. (The Information School at the University of Washington , 2009).

The “people-place-information trichotomy” organizational strategy was “a first step at organizing information ground attributes for the purpose of informing system design and optimizing information ground settings.” (Fisher, Landry & Naumer, 2006).

This system allows physical information exchange to be segmented into people factors (membership size, membership type, familiarity, actor roles, social types, motivation), place factors (focal activity, conviviality, creature comforts, location/permanence, privacy, ambient noise) and information factors (significance, frequency, creation/sharing and topics.)

Comparing online with face-to-face

While Fisher, Landry and Naumer’s trichotomy provides a map of face-to-face information ground interactions, questions about online information grounds remain: Would the characteristics observed in a physical information ground appear in an online collaborative visual community like Flickr?

Each of the people-place-information factors is compared to the observed behavior in the online collaborative visual community at <http://www.flickr.com> during January and February of 2009. Table 2. displays a comparison summary of the people-place-information trichotomy as applied to physical information grounds versus the virtual information ground of Flickr

PEOPLE-RELATED INFORMATION GROUND FACTORS:

Membership size

In a physical information ground, Fisher, Landry and Naumer found that perceptions of the significance of the information provided within the information ground were influenced by the number of participants involved. “Size influences the way information is created and exchanged as it affects the degree of intimacy as well as degree of access to broad information types.” (Fisher, Landry & Naumer, 2006).

The information ground sizes identified in the student study were small (2-10 people), medium (11-25 people), large (26-50 people) and extra large (51+ people). 42.9% of the participants identified their information ground as being small (2-10 people) while 49.9% of participants found the information provided by their information ground to be very useful. This suggests a perception that a smaller number of participants provides information with greater significance.

Flickr claims 42 million worldwide visitors each month and more than 3 billion photos stored but communities within the site can be much smaller. (Yahoo, 2009). “Groups” are self-forming communities which any member can create or join, fluctuating in size from several active members to thousands of participants. Groups can be public, by invitation only or completely private. Every group has a pool for photos, a discussion board, a listing of administrators and members, a display of top contributors and a list of the top group tags.

The volume of activity in a virtual information ground can be both appealing and staggering. Flickr displays the unending information flow through the site on the main home page “barometer”. For example, at 3:42 pm on February 3 2009, the Flickr home page noted 6,105 uploads in the last minute

with 2.6 million things geotagged between January 29 and February 3 2009. On a busy Saturday morning (February 28 2009 at 10am) the barometer measured 40,234 images uploaded between 10 am and 10:01 am.

In contrast to a physical information ground, where a limited number of members within a specific group may increase the *perception* of the level of intimacy, the amount of information shared in a virtual information ground does not seem to be adversely affected by a large membership size. Active groups tend to have expanding memberships, post information continuously and communicate with each other frequently. However, the perceived *significance* of the information *to the users* cannot be deduced by observation alone and surveys of Flickr members would be required to determine if the information in a large online group tends to be perceived as more significant than the information obtained in a smaller group.

Membership type

Fisher, Landry and Naumer refer to Putnam's (2007) bonding **social capital** and describe four levels of familiarity among the students surveyed: a strong tie (someone already known), a weak tie (someone to greet, often as part of a bigger group), someone recognizable (an unknown person associated with someone else in the common group), and complete strangers (a person met for the first time.)

These relationships rooted in the face-to-face environment translate directly into an online information ground, and can be observed via member activity related to identifying login names, participating on comment boards and leaving messages for other members. The remote aspects of an online community may allow more frequent and extended interactions than would be possible in a face-to-face setting, but decisions to respond are still influenced by membership type (whether the person is known or unknown).

Familiarity

In a physical setting, both **fleeting and anchored relationships** (Morrill & Snow, 2005) were factors in human enjoyment of an information ground. One-time events in which participants assume no future connection were preferred by some respondents, but a majority of others favored frequent, ongoing encounters within their information ground. In the Fisher, Landry and Naumer study, more than half of the students visited their information ground daily, approximately 75% participated for more than one year and members tended to know the people present at their information ground by their first names.

A differing sense of familiarity is possible within an online information ground. Fleeting relationships are encouraged by a sense of anonymity, since it is possible to maintain a “private” but active presence, even while the volume of public posting would suggest that the urge to share is more predominant than the need to hide.

The sense of control over the level of intimacy online is available because member “privacy” can be voluntarily bolstered or eliminated. Flickr members use their login names as they navigate, post and upload, so while a member can remain faceless, each person also has at least one unique identifier (their login name) within the information ground. In a physical environment, it is possible to see a person, have a discussion and never encounter that person in that setting again. This type of one-time encounter is also possible online, but the minimum investment for participation within Flickr is a user name with an email address, theoretically providing at least one additional possibility for future contact (nominally more than is provided by the memory of face without a name glimpsed in a campus coffee shop.)

Anchored relationships in Flickr can be established based on voluntary public member self-descriptions (“Your profile”) which can include gender, age, marital status, membership in public groups, and specific shared data lists. As in a face-to-face environment, Flickr members may choose to reveal more about themselves indirectly by their activities and discussions than by entering elaborate profiles.

While the information exchanged by Flickr members can appear unreliable, the information shared within a face-to-face information ground is also difficult to verify. The details provided by a new information ground member on a first visit appear to be directed at opening conversations rather than establishing credibility, whether online or face-to-face. This focus on becoming acquainted in a voluntary, random, non-threatening way seems to be a shared trait between successful information grounds, whether physical or virtual.

Actor roles and social types

Fisher, Landry and Naumer examine two blended aspects of **information behavior** performed in physical information grounds: “actor roles” and “social types”.

Actor roles “reflect the identity that participants assume.” (Fisher, Landry & Naumer, 2006). Choices the actor makes (or explicitly agrees to) essentially define that person’s activities within the information ground. Students in a physical information ground identified their actor roles within this information ground under four central divisions: customer, student, staff or member. Additionally, 18% of the students identified in ‘other ‘categories such as information giver or resident.

Actor roles are self-defining. The information ground participant wears a label they have agreed to wear, at least in terms of the activities performed in the information ground.

This self-definition would appear to increase the number of possible role choices in an online collaborative visual community since the obvious physical limitations have been removed. The roles of customer, student, staff and member are still viable choices, but because of the diversity and specificity of the information exchange in some Flickr groups, the participant can also instantly define themselves as a patient, a contributor, a teacher, a researcher, a creator, a supporter, etc. The slower, more gradual process of establishing an actor role in the physical environment has been compressed. The number of instantly recognizable actor roles within a virtual environment enlarges the variety of immediate self-definitions available. (One of Flickr's most innovative developments has been the use of **tag clouds**. Every image can be tagged, with any language the user prefers, to provide a wider context for that image within the community. These tags are one manifestation of the actor role assumed by the participant and reflect a wide and flexible set of choices being constantly updated. A participant may intend to describe themselves using a particular actor role but end the session by tagging images with language unrelated to that role.)

Social typing, in contrast, is related to complex status assignments *made by other members* of the information ground. Fisher, Landry and Naumer detail the extensive literature on this process, including categories defined as “insiders and outsiders” (Chatman, 1996), and suggest that these subtle categorizations applied by the members of the community can affect the volume and quality of **information exchange**.

“Insiders and outsiders’ exist within official Flickr based on a system of labels applied according to financial membership (“pro accounts”, “free accounts”) but these categories apply only to storage capacity and access to site tools, and can be changed at any time by purchasing (or failing to purchase) services from Flickr.

There is limited apparent social typing applied by Flickr members to one another, at least in a blatantly observable way within general site traffic. However, it is likely that “insiders and outsiders” are being defined within groups, based on the same judgments used in a physical information ground, including supplied data such as age, gender and appearance (based on self-produced images), use of specialized vocabulary, jargon, technical abilities, and other criteria determined by the “insiders” of that community.

Flickr members can supply “testimonials” for each other and can also add other members as contacts, favorites and friends which are displayed on each member profile. However, this public accumulation of connections to other members has become a common feature of social networking sites and does not necessarily offer any measurable marker of a participants social type.

Motivation

Fisher, Landry and Naumer conclude that homogeneity was central to the *longevity* of a physical information ground: “commonalities of interest, background and situation” seemed to be why people *continue* to participate in a information ground. (Fisher, Landry & Naumer, 2006).

Perusing other members’ profiles for common interests is one way participants use Flickr’s potential for building new **online communities**. Flickr groups exist for life-threatening medical conditions, sporting events, political positions, tourism, childrearing and art-making (among literally millions of other topics), providing perspectives and eyewitness accounts not generally available first-hand from many other sources. Issues surfacing in daily life encourage members to post photos while also forming active, information-sharing groups.

Fisher, Landry and Naumer note that Granovetter's **strength of weak ties** theory (1973) applies conspicuously to physical information grounds: communities with many similarities among members tend to strengthen their emotional relationships before focusing on their informational flow. Students in a college campus bar tend to share a physical experience of events, surroundings and people which non-students may not experience in daily life. People sharing this type of intense physical experience may center their discussions on ways they navigate in this specialized environment. This produces enriched, specialized information which may be difficult to locate in any other format, but the interactions among the members tend to be emotion-based and personal, not necessarily related to the raw data being exchanged.

The opposite effect, in which “weak tie” communities of otherwise disconnected people tend to focus on finding and sharing new information, seems to apply to online communities in particular. In the physical world, there are limited opportunities to discuss some topics in depth with informed participants (aspects of ovarian cancer treatment with a survivor, backpacking in Thailand with a person on the trail, childbirth with a couple imminently expecting twins, etc.) But in the online collaborative visual community of Flickr, locating and enjoying such conversations is central to the experience. The focus in such discussions is often information-based: what happened, what did you do, what is your opinion, how do you see the facts. Within Flickr, the process of sharing the visual images of an event or location can be a powerful magnet, even among people with no other discernable commonality, producing classic weak-tie relationships which evolve into rich information grounds. The act of literally *seeing* someone else in a shared environment or situation can be a powerful impetus to exchange data. That exchange, while perhaps somewhat impersonal to begin with, is centered on sharing information rather than necessarily creating emotional ties (although these frequently evolve as well.)

PLACE-RELATED INFORMATION GROUND FACTORS

Fisher, Landry and Naumer conclude that place-related factors play “an extremely important role in the effectiveness of an information ground, at least in the case of college students,” suggesting that location-based qualities may surpass even the perceived value of the information acquired as a central evaluation point (Fisher, Landry & Naumer, 2006).

Can an online information ground like Flickr be examined using the same criteria applied to face-to-face information grounds? Surprisingly, online collaborative visual communities seem to share more “place-related” characteristics with physical information ground environments than might be apparent at first glance.

Non- purposive, simultaneous focal activity

Fisher, Landry and Naumer refer to **purposive information seeking** based on the definition of Foster and Ford (2003) as that activity which occurs when someone *voluntarily* visits an information ground with the *purpose* of obtaining information.

In contrast, participants in a physical information ground may actually *intend* to experience an activity *other* than information-sharing when they go to their information ground. These intentional activities (referred to as “focal” in Fisher, Landry and Naumer’s study) include food and beverage consumption, socializing, obtaining personal services, shopping, employment, transportation or worship. Simultaneous activities (many non- purposive) were preferred by participants and the ability to experience several events at the same time was generally considered an advantage for a particular location.

Online collaborative visual communities like Flickr specialize in non- purposive, simultaneous focal activity for members, ranging from passive random browsing of other participants images to active image production, editing, commenting, tagging, searching, organizing, posting, socializing and shopping. As an information ground, Flickr has intentionally expanded opportunities for non- purposive, simultaneous focal activity. A category labeled as “interestingness” is applied to images and then organized into activities including calendar views of a given month, a graphical linked map of the world, a “popular tags” page and the FlickrBlog, a companion site which highlights links to activities of Flickr members.

Based on the wide use of these opportunities, simultaneous non- purposive activities appear to be preferred by many Flickr participants, mirroring the preference expressed by members of the physical information ground. Apparently, the ability to experience several events at the same time was equally valued in person or online.

Conviviality

One of the more complex factors to quantify in Fisher, Landry and Naumer’s study is the level of “conviviality” present in a physical environment. Participants described a convivial physical environment in an information grounds as having atmosphere, good company, and a festive mood fostering interaction among people.

Can a festive mood be measured online? An intriguing question arises about the effect of color choice, font faces and white space when establishing any sense of atmosphere (including conviviality) in an online information ground. Theory from the world of graphic design suggests that particular design

elements may produce measurable types of responses and even unintentionally dominant the tone of communication. Tufte proposes that careful use of color and font selection is particularly critical within the limited visual field of a typical computer screen, and “is not a trivial cosmetic matter, for signal enhancement through noise reduction can reduce viewer fatigue as well as improve accuracy of readings.” (Tufte 1990, pp. 62). Further study of the effects of color choice, font faces and white space in establishing atmosphere within online information grounds is needed.

However, evaluating online information grounds for atmosphere, good company and festive mood might be done if a baseline is defined for each of the given criteria.

- An online definition of “atmosphere” encompasses the dominant tone of communication throughout the site. Flickr’s official atmosphere could be described as light-hearted, casual and occasionally flippant based on the dominant tone of communications (i.e. the official language used throughout the site in rules, FAQs and help pages, and the visual formats used to present this language.) Officially-sanctioned instructions such as “Do play nice” and “Don’t be creepy” are informal and fonts used throughout the site are mixed upper and lower case sans serif, in black, with occasional bursts of pink and blue.
- “Good company” could be defined as the presence of appealing people who are available for interaction. Flickr supplies the requisite good company by encouraging “friends” (people who have already been approved as information ground participants) to leave messages directly on other members images, to form and join new groups and to create and share images together. The stated purpose of the site is “to help people make their content available to the people who matter to them.” (Yahoo, 2009).
- A “festive mood” might be measured by the level of administrative intrusion and by the characteristics of the graphical interface presented online. Flickr’s emphasis is on member images and not on the information ground itself, having maintained one basic graphical interface design since its inception: a white background, two text colors (both incorporated in the small logo) and one simple black sans serif font. A bright but neutral interaction area, minimal advertising and almost no self-promotion provides if not a festive mood, at least a neutral and inclusive one.

Creature comforts

The limits of human attention and interaction are often determined by the surrounding environment. Factors in a physical information ground such as temperature, seating arrangements and visual sight lines allow members to actively participate within an information ground for differing lengths of time. The physical experience available within an information ground was noted by Fisher, Landry and Naumer’s participants as vital: if conditions change too drastically, the purpose of the information ground is undermined. Certain levels of physical comfort determine each member’s incentive to interact with the other members.

Flickr eliminates some of the requirements and barriers inherent in a purely physical information ground. People with limited ability to move, speak or hear can communicate via their keyboards as long as they have either visual capabilities or a form of translator. Because Flickr members meet intermittently and generally without traditional time constraints (being “open” or “closed”, is not an issue, for instance), physical limitations such as illumination, heat and shelter from the elements are reduced. Each member regulates their individual comfort level, and may enter into information exchange at the most convenient time available.

Conversely, one major weakness of Flickr as an information ground environment is the emphasis on the visual. Flickr exists as a community in order to produce visual images, so members are assumed to have visual capabilities. Members may exchange concepts verbally via keyboard, download data files electronically, and both listen and watch streaming video files, but each of these activities is based on some assumed degree of visual ability. The non-sighted do not appear to be a central concern within this information ground, just as people with limited physical abilities do not appear to be the focus of the physical environments favored by many of Fisher, Landry and Naumer's students.

Location and permanence

A central aspect of a physical information ground is convenience. Do members have unencumbered access to the place? Fisher, Landry and Naumer's students cited a sense of comfort when their information ground was near to their home and also implied they were apt to visit more frequently and more consistently when the location was both permanent and easily accessible.

Fisher, Landry and Naumer note that the "life cycle" of an information ground includes location and permanence. The types of information available at information grounds of differing permanence vary and a restrictive relationship to one place can be limiting as well as supportive. Student communities studied ranged from permanent, single-location sites to transient, non-repeating locations. Information grounds based exclusively on one site (customers at a specific bar) had members who rated this permanence as an intensely valuable requirement. Information grounds with shifting locations (temporary medical clinics for a particular ailment) rated information quality as more valuable than location or permanence.

As an online information ground, Flickr is considered relatively venerable by 2009 web standards. Established in 2004, the site has retained the original URL with a consistent "look and feel" for five years. This permanence leads to the convenience of an easily remembered, reliable URL and a site design that has remained recognizable since its inception.

Is a web site always more convenient than a physical location? Comparing the pure convenience of accessing a virtual information ground with accessing a given physical information ground would appear on the surface to favor the digital environment. But an online information ground assumes that the participant has a stable, relatively fast Internet connection, a comfortable place to sit, reasonable environment controls, a realistic amount of free time and the ability to use a standard keyboard, mouse and monitor. The overall quantity of interruptions and complications when using a digital medium are probably less than those affiliated with walking a physical body around the planet and literally meeting other people, but the occasional power glitch, modem failure, ISP server outage or accidental log-off can be seen as the equivalent of bad traffic, a blizzard, a garbled meeting time or a closed restaurant..

Privacy

A clear, continuous and complete lack of privacy explicitly becomes part of any active information ground, both as an appeal and as a danger. Sharing information between information ground participants carries potential risks and benefits for both parties, whether online or physical, and surrendering some degree of anonymity and privacy is common in both situations. People who wish to share information but hope to avoid any reduction in their privacy must either limit their participation (use an alternative name, reduce their details, blur the facts) or present themselves in such a way that other participants will accept their stated limitations. Self-definitions such as a minor, a non-native speaker, a "newbie" online or an identified official observer such as parent, spouse or employer may be enough to produce a viable sense of anonymity.

An intriguing aspect of Fisher, Landry and Naumer's physical information ground observations is that the *perceived* level of privacy is the emphasized variable, not the actual measurable level of privacy which exists. Participants enjoyed *feeling* as if their communication would be protected, as far as the agreed-upon confines of the information ground allowed, even if the physical environment did not actually provide a high level of privacy protection. Participants felt their messages were being delivered to a certain audience in a defined environment and that other people present would either be disinterested or unable to invade the members privacy on any meaningful level.

Conversely, some of the physical information ground participants enjoyed the ability to eavesdrop on other people at the physical information ground, and relished the aspect of inadvertently acquiring "private" information which might not be intended for their consumption.

A less blatant level of voyeurism exists in the online information ground, but all Flickr accounts can set the "privacy level" (who can see a members images), "usage license" (copyright restrictions), "content type" (a flag identifying photos, videos, artwork/illustrations, or screenshots) and "safety level", so other members "only see images within their specified comfort zones." Online participants simply log-off from undesired interactions, in a simpler and more private way than may be possible in a physical setting.

Some members of physical information grounds enjoyed using "private areas" of their information ground and Flickr allows this as well, on several levels. Groups may limit members and individuals may limit views of their images in a range of ways, including complete privacy in which no one but the creators may see the materials. This is perhaps the privacy equivalent in the physical information ground of members drinking alone in a back room of the information ground location.

Ambient noise

Each physical information ground has a given level of ambient noise which defines that environment and both limits and enhances the exchange of information. Background activities are sometimes desirable in physical information grounds, providing stimulus to the participants and encouraging interactions which might not occur without such "outsider" input. Fisher, Landry and Naumer include loud conversation , soft music, television broadcasts, live music and interactions with information ground support staff as common ambient noise sources.

Ambient noise online may affect Flickr members in a slightly more intrusive way. The online environment includes the ambient noise of email notifications, browser popups, application interruptions, automatic backups, virus-scanning, power interruptions, defragging events, firewall interruptions, update announcements, hardware failure, software glitches and even the activity of other Flickr members, posting or commenting. While a participant in a physical information ground may opt to move with other members to a quieter location to continue a conversation, participants online are subject to less avoidable technical intrusions, up to and including accidental disconnection. Reducing the number of technical interruptions in an online information ground may become more complex than adjusting to a noisy game on the TV in the corner but may also be more critical to the long-term enjoyment of that information ground. If a member does not have a fast enough connection or stable enough equipment for reasonable uploads and downloads, the interruptions and failures will increase until that participation in the online information ground will become impossible.

INFORMATION GROUND INFORMATION CHARACTERISTICS

Significance

Fisher, Landry and Naumer found that students assigned value to information gleaned from their functioning physical information ground as either “very useful” or “somewhat useful”. These categories are tenuous at best because assigning a measurable qualitative label to information value has been an ongoing dilemma.

Value of information when viewed from the users perspective has perhaps been most accurately served by defining **relevance**. Barry & Schamber (1998) define information relevance as the end-users' perceptions of the potential of certain information to resolve their problems in the context of their information seeking and use situations. This definition includes elements of timeliness, appropriateness and applicability, suggesting that the student perceptions centered on usefulness were, in fact, rooted in relevance. The ability of the information collected in a physical information ground to resolve a problem would support the labels “very useful” or “somewhat useful”, where information gleaned purely for amusement, entertainment or general knowledge would not support these labels.

From a relevance perspective, Flickr’s stated purpose (“ To enable new ways of organizing photos and to help people make their content available to the people who matter to them”) appears geared toward supporting relevance: Flickr is designed for resolving specific problems in given situations, not always limited to equipment, techniques, software, types of cameras used, exposures taken, cropping effects or other technical aspects of the images displayed. However, the genuine usefulness of the obtained information within the online collaborative visual community of Flickr cannot be determined by observation. The success and longevity of the site suggests that users are obtaining the information they seek, but this has not yet been quantifiably proven. Surveys of Flickr users regarding their perceptions of information relevance on the site will be required to assign more precise evaluations.

Frequency of discussion

How often specific topics are discussed has a bearing on some participants activity level in a physical information ground. Members who join an information ground to obtain answers to particular questions (students who meet to discuss an individual class, for instance) rate relevant topic frequency as more important than do members who anticipate a wider and more generic range of topic variety. Members were not generally able to individually control topic frequency within a physical information ground.

If a Flickr member is unsatisfied with the frequency of discussion on a given topic, there are myriad ways to potentially increase that frequency. The richness of the language used in Flickr tags widens the scope of the topics available online and may increase a users perception of topic frequency and relevance. Searching for a specific brand of equipment leads to member sites related to the use of that gear, reviews of that brand, examples of member images produced using the same gear and hints for working with, expanding or exchanging the requested item.

Flickr also encourages participants to seek out or create more topic-specific groups than might be possible in the limitations of a single physical information ground. Although a member might begin a visit searching for a relatively focused phrase (“Nikon D300”), within several clicks, the site presents a multitude of groups considering the same topic sorted by date, “interestingness” (an algorithmic

compilation of clickthroughs, comments, tags and favorite markings), by clusters, by related tags, by links to search engine images as well as by commercial sites on this topic.

How information is created and shared

The ways in which people describe their information needs are affected by the social environment in which the information seeking occurs. This remains true for both a physical information ground and an online collaborative visual community.

Fisher, Landry and Naumer found that the students surveyed received a majority of their information randomly, via face-to-face encounters within their preferred information ground. “Of the information learned, most students believed that 50-100% of it was attained serendipitously.” (Fisher, Landry &Naumer, 2006). Conversation and passive observation were the dominant methods reported in the face-to-face information ground.

Flickr’s most serious limitations in terms of information creation and sharing are tied to the medium of the Web. Members are limited to textual or visual cues, and do not experience all of the subtleties of human conversation including tone of voice, speed of speech or physical posture which may provide additional information in a physical information ground encounter.

On the other hand, the brevity and clarity of the textual and visual cues available in Flickr appear to be conducive to effective information flow. Participants save and store interactions, instantly respond to each other if a message is unclear, elaborate extensively with support data and control future encounters efficiently. Face-to-face environments do not always allow for accurate note taking, immediate correcting of misunderstandings, instantly supplying more information or even disengaging (or avoiding future contacts) gracefully.

Topics

Fisher, Landry and Naumer found that students in the study had a wide range of interests served by their information grounds, emphasizing topics occurring locally, globally or in other people’s lives (although 3% of active information ground participants expressed no interest in obtaining any information whatsoever.) 28% of the students surveyed used their information grounds to obtain information on “Things I need to learn more about”, 19% were interested in “What’s happening in the area”, 18% focused on “What’s happening in the world” and 17% used their information ground to find out “Who is doing what.” The students classified the *types* of information acquired at information grounds as “short term information”, “knowledge”, “issues”, “events” and “opinions.”

As an online information ground, Flickr presents a repertoire of topics mirroring physical events occurring locally, globally and in people’s lives. “Hot tags” are indexed in real time and include the words most commonly applied by members to images in the last 24 hours and over the last week. “Tag clouds” reflect both local and global events as they occur, while a searchable world map produces an array of images tagged with the search terms and displayed in their current location on a real-time map.

Despite the variety of topics and tools available on Flickr, it is not possible to analyze users perceived topic preferences without surveying a wide range of members. However, the rapidly growing use of the tools which allow members to “see” events occurring locally and globally would argue that an online collaborative visual community is as intrigued by local and global news events as participants in physical information grounds tend to be.

TABLE 2. Comparison summary of the people-place-information trichotomy as applied to physical information grounds versus the virtual information ground of Flickr:

Factor	Physical information ground	Virtual information ground
Membership size	Small is preferred	Size is not critical
Membership type	Putnam's 4 categories apply: close friend/strong tie, acquaintance/weak tie, someone recognizable and complete strangers.	Login names, comment boards and messages for other members are based in Putnam's 4 categories. More frequent and extended visits are possible.
Familiarity	Intimacy is central and unregulated	Intimacy is user controlled
Actor roles & social types	Self-defined as customer, student, staff, member or other	Unlimited selection of self-definitions based on tags
Motivation	Homogeneity = longevity Strong ties = personal exchange	Weak ties = intense information exchange
Focal activity	Simultaneous events preferred	Simultaneous events preferred
Conviviality	Intangible = atmosphere, good company, festive mood	Informal language, neutral interface, minimal intrusions, "friends" available
Creature comforts	Shelter, seating, lighting, music, bathrooms, views, temperature	Visual only: other limitations are reduced
Location and permanence	Sense of comfort when near home, permanent and easily accessible	Internet provides convenience but also extra requirements
Privacy	Eavesdropping can occur	Restrictions are more thorough
Ambient noise	Ambient noise is neutral: Background activities (loud conversation, soft music, television broadcasts, live music, interactions with staff) provide stimulus and encourage interactions which might not occur without such "outsider" input	Ambient noise is technical and can be terminal: email notifications, browser popups, application interruptions, automatic backups, virus-scanning, defragging, security-triggered firewall interruptions, update announcements and activity of other Flickr members
Significance	"Useful" or "very useful" based on relevance criteria	Cannot be determined by observation alone
Frequency discussed	Importance of specific topic frequency varies by user and is not controllable within the group	Individual control is more thorough. Members can search for, join or establish groups specifically to discuss a specified topic.
How created/shared	Face-to-face conversation and passive observation	Limited to textual or visual cues, but allows more accurate notes, instant ability to correct misunderstandings/supply more information, supports graceful disengagement
Topics	"Things I need to learn more about", "What's happening in the area", "What's happening in the world" and "Who is doing what."	Cannot be determined by observation alone. Growing use of local/global tools implies interest beyond personal boundaries.

FUTURE RESEARCH DIRECTIONS

Several questions rooted explicitly in online collaborative visual communities suggest themselves:

- How much of the perceived value of an online information ground is based on user-generation?
- Can a physical information ground morph successfully into an online collaborative community, or does this combining of the physical with electronic become yet a third form of information ground?

Research areas noted by Fisher, Landry and Naumer within physical information grounds also provide fertile research questions for online information grounds.

The “range” of a physical information ground catalogs the specific subpopulations and conditions within each unique community, examining self-defined core characteristics of members. Would the range of an online information ground be more extensive than that of a physical information ground, since physical information grounds are limited by time and space in a way an online collaborative visual community is not, allowing virtual members to create as many self-definitions as needed?

“Life cycle” examines the birth, growth and decline of a given information ground, revealing the patterns which occur in this process. Although an online information ground would be overwhelmingly influenced by technical resources, understanding the rate of membership growth and activity level by range category might provide clues to effectively deploying future online information grounds for people with severe, specific, immediate needs. The web sites which provided information about animals rescued during Hurricane Katrina are interesting examples of extreme life cycle dislocation, with membership growth and information exchange rates fluctuating hourly for several weeks, followed by rapid dissolution.

“Social exchange of information” untangles the complex patterns of social actors, change over time, participant self-perception and methods used to relay those perceptions within a community of people. Fisher, Landry and Naumer note the physical information ground examined in their study encouraged non-purposeful information behavior based in a serendipitous method of random and unplanned information exchange. Observing and capturing effective group information dissemination holds value for organizations whether physical or virtual, particularly among those serving public needs which may be urgent and life-threatening.

“Affective factors” within an information ground describe emotional responses to aspects of the environment. The purpose and immediacy of each participant's information needs determine the level of affective factor. In the student population studied, affective responses were most frequently tied to other people in the information ground, followed by physical aspects of the location. Affective factors online might be influenced by access speed, visibility, immediacy, fashionability and even a sense of self-aggrandizement.

In Fisher, Landry and Naumer's study, “nomenclature” was generally limited to the realm of human geography. Cannibalizing a more precise way to describe interactions in an information ground might provide a better map of the activities taking place. To intensify the semantic problem, nomenclature of the online collaborative visual community includes the jargon of the Internet along with slang from the art community at large. Collecting the vocabulary of an online collaborative visual community might yield an interesting profile of the ideas most highly valued in this information ground.

SOLUTIONS AND RECOMMENDATIONS

As might be expected, suggestions for change from Fisher, Landry and Naumer's students were contradictory. While 25% reported that no changes were necessary within their existing physical information ground, others suggested that information exchange could be improved within a physical information ground by adding people, increasing resources and improving technical communications.

Surveying Flickr members would be necessary to collect user suggestions for improvements to the online environment. In addition to suggestions for improving information exchange, knowing how often members visit, how many groups they actively belong to, their level of activity within each group (hourly, daily, weekly) and the types of data they have included in their profiles could provide intriguing benchmarks on information ground range and life cycles.

Shared traits

Characteristics of a physical information ground which appear to transfer directly into the online environment include the application of weak tie/strong ties among member types and a preference for simultaneous events as a focal point of activities. Both forms of information ground seem to value atmosphere, good company and a festive mood while privacy concerns are central in both environments.

How physical information grounds differ from online information grounds

The physical information ground studied had a preference for smaller numbers of members, exhibited centralized and unregulated levels of intimacy between members, and use limited self-defined actor roles. The longevity of the physical information ground is seemingly motivated by homogeneity with strong ties related to elevated personal exchanges. Value is placed on permanent locations near home which are easily accessible. The perception of privacy is more important than the actual conditions during interactions, with a percentage of members valuing the ability to eavesdrop. Ambient noise is sometimes desirable and usually neutral. Topic frequency cannot be controlled by the group and information is most frequently created and shared via face-to-face conversation and passive observation.

How online information grounds differ from physical information grounds

The online information ground studied allows intimacy levels to be controlled by the users, does not appear to discriminate based on group size, encourages unlimited selection of self-defined actor roles, eliminates many requirements related to creature comforts and produces relatively weak ties between members, resulting in intensive information exchange but often limited emotional connection. Virtual locations provide convenience but also produce new requirements, although some aspects of privacy can be more discreetly controlled online than in a physical information ground. Ambient noise is technical and frequently terminal, but topic frequency needs can be better met online, since new groups can be formed for specific topics. Information is limited to the textual and visual with improved note taking and more graceful disengagement possible.

CONCLUSION

People are driven to share the visual art they create. The creative, communal possibilities of producing visual art on the Internet have led to the flowering of online collaborative visual communities. Characteristics of these online information grounds differ when participants communicate exclusively in a virtual environment, rather than meeting face-to-face. Professionals, educators, and researchers interested in collaborative information behavior, human-computer interaction and computer-supported

cooperative work can gain a fresh perspective on the collaborative information behaviors that occur within their organizations by examining the differing roles online information grounds play in human communication.

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