Learning by Seeing: Photo Viewing in the Workplace

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ABSTRACT
In this paper, we focus on the role that photo viewing plays within a large distributed enterprise. We describe the results of an analysis of users’ viewing behavior through log activity and semi-structured interviews with respect to a photo sharing application embedded within an internal social networking site. Specifically, we investigate how these forms of expression can assist in the transmission of the norms and values associated with the culture of the organization through impression formation. We conclude by discussing how photos might act as a resource for newcomers to learn about the various aspects of the organizational culture and offer design suggestions for photo viewing systems within organizations.

Author Keywords
Photo viewing, social software, organizational culture, acculturation

ACM Classification Keywords
H5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

INTRODUCTION
Whether family portraits or vacation snapshots, photographs lend themselves to sharing with others. The shift to a digital format has only broadened the ways in which photos can be broadcast via channels such as the Internet or mobile phones. The rationale for sharing photos can be social in nature, from stimulating conversation with others [2], provoking memories of commonly experienced events [3] and managing one’s outward-facing identity [19]. Typically, photo sharers recognize that their posted snapshots reach an audience who will then interpret these images in some manner.

Less understood, however, are the behaviors of this audience, the viewers of shared photos. Previous research has differentiated the audience for shared photos along dimensions of social closeness. For example, photos are shared in the home through displays meant to reach a well-defined intimate audience, mainly close family and friends [28,35,5]. On the other end of the spectrum, large photo sharing sites, such as Flickr, have allowed for the possibility for one’s photos to be viewed by a largely anonymous audience [19,27].

Social networking sites provide another dimension for photo viewing -- one that is defined by known contacts who range in closeness from strong to weak ties. While personal use of Facebook by college students focuses on previously known friends and acquaintances [25], uptake of such systems within work-based networks changes the character of the likely audience for viewing photos [9]. Within a large enterprise organization, photo viewers may have not met face to face, yet there may be common ground through shared group membership or an expectation that viewers may meet at some future time.

How then might the particular motivations of an audience of photo viewers within a workplace be described? Since photos are shared in an attempt to manage others’ impressions of the photo sharer, how are these images being interpreted by those viewing them, particularly in the context of one’s professional environment? We propose that the answers to these questions are important in the context of the enterprise, particularly as photos may serve to transmit messages about the norms and values of the organization. As a result, photo viewing may serve an educational function, where newcomers might be able to make sense of the tacit knowledge that characterizes one as a valuable member of the organization.

In this paper, we report the results of a study of photo viewing functionality embedded within a social networking system deployed within in a large global enterprise. We examine viewing activity through close examination of activity log files, the photo artifacts themselves and semi-structured interviews with active photo viewers and then describe how members of an organization view and interpret photos.

RELATED WORK
Organizing, sharing, and browsing
With the advent of digital photography, HCI researchers have largely focused on the issues surrounding the design of systems supporting the organization and sharing of
photographs. [27,31,24], for example, examined the strategies by which users manage their collections of digital photos. In the case of [31,24], browsing and viewing of photographers are discussed in the context of preparing one’s own photos for sharing with others or for self-categorization for organization’s sake.

Shared photos as a stimulus for communication and as a referent for storytelling, as described in [5]’s work on amateur photography, is a consistent theme in much of the related literature in HCI and CSCW. [2,7,12] observed that photo sharing stimulates conversation and collaboration around artifacts of shared meaning [2,7] and allows for the maintenance of social presence between group members [6]. Photo sharing can also center on commonly remembered events that elicit further storytelling for a prolonged period of time after the fact [3,13].

The systems by which photos are shared have also received attention, primarily with respect to large online aggregators such as Flickr and mobile capture and sharing through cameraphones. In the case of Flickr, issues of identity management and relationship maintenance emerged as photo sharers remain aware of an audience of viewers, whether known or unknown [19,27]. Cameraphone images are shared with an intimate circle of familiars, either via asynchronous means (e.g. multimedia messaging) or face to face with involved parties physically viewing the phone’s screen [23].

More related to our current study, [29] describe the user appropriation of Zurfer, a mobile application designed for easy browsing of one’s own Flickr photos and those of their contacts as well as providing access to the larger available collection through metrics such as the viewer’s preferences. The researchers observed that image browsing was more of an information-seeking task, where users maintained awareness of their contacts’ activities or indulged personal curiosity by looking at specific places or receiving feeds of photos tagged with terms of interest. In addition, users reported a desire to create filters that would allow for customized views of the photos of close friends and family or specific social groups.

Impression formation in online environments

People, when anticipating social interaction, use the information that is available to them to form impressions of their social partners [17]. In a distributed organization where co-workers and teammates are remote, online interactions are the main channels of communication. The nature of online photo-viewing, however, is complex and under considerably less control than in a collocated context.

For example, seeing a photo of one’s partner in a collaborative computer-mediated task encourages attribution of affection, intimacy and social attractiveness in short-term, unacquainted pairs [39]. However, for partners who have gotten to know each online over a period of time, the introduction of a photo actually dampens the affection and attraction felt by the viewers of the photos. Similarly, online gamers used photos posted on online profiles as a filter to eliminate potential gaming partners [30]. In the case of Facebook, however, the more attractive one’s friends are as displayed on an individual’s profile, the more attractive the profile’s owner is perceived to be [40]. The social context in which photos are presented and then viewed plays a role in the judgments that viewers make about those who share photos.

Media consumption within organizations

While little work on photo viewing within the enterprise has been conducted, other forms of media consumption have been studied with respect to the practices of an organization. [37] focus on music sharing through iTunes to observe that members of the organization formed impressions of others while managing their own identity through their playlists and libraries. Shared collections of digital media can also serve a historical function, in allowing new members of an organization to learn about its past and its evolution into its current incarnation [34].

Predominantly textual media within social software systems have been well studied by HCI and CSCW researchers. For example, corporate blogs have been observed to transmit high-level information about a company’s goals and missions [21], allow employees to easily broadcast their dedication to their work [10], and assist members of the organization in assessing whether or not co-workers have knowledge in a certain topic [20]. Users of enterprise social tagging systems can subscribe to feeds of the tagged artifacts of prominent figures within the organization in order to keep abreast of upcoming strategies or changes in direction [36]. Personal shared lists stimulate informal communication and increased sociability as readers leave comments [15].

However, we propose that photos as a visual, non-verbal medium may hold a unique potential for photo viewers to make sense of the different aspects of an organization, particularly with forms of tacit knowledge. For example, [22,11] observe photos in the context of social networking sites encourage repeat and more frequent visits to these systems, suggesting that users are already highly interested in viewing such content. In addition, photos as imagery offer unique communicative properties, such as providing a low-fidelity awareness of activity or indication of local conventions [38].

More importantly, the non-verbal nature of photos allows for a level of ambiguity that allows for expressive opportunities that feel less socially acceptable when denoted in text [14,4,1]. There may be instances where an employee may not feel comfortable in directly questioning a co-worker but instead turns to less explicit, face-saving strategies to learn more about tacit aspects of the organization. Photo viewing may well provide a suitable channel for such forms of implicit communication.
PHOTO VIEWING IN AN ENTERPRISE

We observed photo viewing and sharing practices in a global firm with over 300K employees that provides a broad range of IT services (e.g., software, hardware and consulting). This firm has a long history of innovation and internal experimentation with new technology, including emerging forms of enterprise social software (e.g., blogs, wikis and social bookmarking). We studied the photo viewing and sharing activities that were embedded in a larger social networking service, which included personal profiles, friend connections, status updates, lists, events and photos. For a more detailed description of the general service, see [8].

The photo viewing and sharing functionality of the site allows end-users to upload photos to the site or to import photos from one of the popular online photo services (e.g., Flickr). Photos posted for viewing can have the following pieces of information attached: title, short description and tags. Viewing access controls specify whether everyone in the network or only specified connections can see the photo. Persistent comments can be added to any photo and often document a multi-person conversation about a particular photo. The social network service also provides an events feature in which photos can be viewed in the context of an online gathering or discussion.

There are five distinct photo browsing/discovery mechanisms supported by the application. Top-level menus enable end users to explore the photo collection by time (most recent), frequency (most viewed) or by friends (within my network). When selected, these menus return a page containing 25 photo thumbnails. A mouse rollover reveals the title of the photo and the data added.

Email notifications about photo activity (e.g., new photos added or comments made on a photo) are sent at a configurable frequency and provide links with direct access to photos. The email notification includes the name of the person who has uploaded the photo, as well as the title of the photo. A third pathway to view photos is through personal profile pages. Each user’s personal profile displays up to 10 thumbnail photo images and clicking on any thumbnail will navigate to the photo details page. A fourth way to view photos is by viewing the site activity newsfeed, where new photos or photo commenting activity is highlighted. And finally, photos can be accessed via links provided in ATOM feeds.

METHODS

Our understanding of photo viewing behavior in this large enterprise is informed by three sources of data. First, to get a sense of general end-user behavior we have examined the activity logs (date, time, username, action, etc). Second, we examined the 500 most viewed photos posters, as well as the associated annotations and user comments from the over 50,000 photos shared on the site.

Lastly, we conducted semi-structured phone interviews, lasting approximately 60 minutes each, with 17 active photo viewers (9 M, 8 F), sampled by observed activity in the log files (e.g. active commenters on photos, frequency of photo views, general site activity over different periods of time, length of membership). Open-ended questions were included about job role and general photo viewing and sharing activities, followed by directed activities in which participants were asked to select a photo to view in several of the areas of the system that supported photo viewing. The data was coded iteratively in a grounded-theory influenced manner where emergent themes were identified and then refined [16].

Participants, reflective of the geographical adoption of the system, were predominantly from the United States and Canada with a smaller number from Europe and one from India. Job roles consisted of software engineers, project managers, consultants and business and accounting employees. The majority of the participants (13) worked remotely from home offices, meaning that the rest of their immediate teams were dispersed geographically.

UNDERSTANDING PHOTO CONSUMPTION

During the first 16 months of service, over half (57.6%) of the 44K registered users have viewed at least one photo. As mentioned above, there are a number of different pathways to view photos within this social network application. The most common path to photos is through the top-level menus, with 49.5% of photo views originating from the most recent menu item and 3.8% from the most viewed menu. Person-centric browsing of photos was the next most common path to photos. Profile pages serve as the photo launch for 26% photo viewing sessions. Almost 20% of photo viewing was initiated as a result of one of the notification mechanisms. Email notifications account for 11.2% of photo traffic, while activity news feeds account for another 8.3%. The atom feeds account for less than 1% of photo views.

There has been considerable geographic variety in the use of photo viewing and photo sharing. In all, employees from 69 countries have viewed photos on this site. The largest group of photo viewers are based in the US (45%) followed by significant numbers of viewers from diverse parts of the globe: India (11%), Germany (7%), Canada (5%), UK (4%), and Brazil (3%). There is a similar pattern of photo sharing activity. There appears to be slightly higher percentage of users sharing (posting) versus viewing photos from the US, and the opposite result for participants from India.

As mentioned above, photos could also be posted to events providing a specific context for a collection of photos. To date, the most frequently viewed photos have been thematic collections (e.g., pets, sunsets, winter mountain photos). Other highly viewed photo collections include large work gatherings (e.g., technical leaders’ conference and an industry conference). A final frequently viewed collection included photos that were used as part of a photo discovery game.
Our examination of the 500 most viewed images provided a sense of general audience interest. A majority of images were photos (94%), but also small numbers of screen shots, logos, avatar images, illustrations, and cartoons. Consistent with [8], we found a majority of photos (84%) were personal (nonwork), and included family vacation and hobbies such as photography and games. We also found a smaller number of business-related photos (16%) that included photos of work-related travel, and photos of technology, often of company-related products.

**EMERGENT THEMES**

We observed five themes emerging from our analysis that both describe how viewers first choose to look at photos and then how they interpret the messages transmitted by the images. First, photo viewers within an organization do not perceive shared affiliation as sufficient criteria of closeness and will tend to only view personal photos of those that they know. Second, photo viewers form impressions of individual employees, which then become interpreted into impressions regarding the organization. Third, photo viewers perceive their organization as a global one as a result of the diversity of images available for viewing. Fourth, photo viewers have the opportunity to appropriate commenting features to express dissatisfaction with the organization. Finally, photo viewers gain a sense of history through looking at archival images, which then has the potential to reinforce a sense of pride in the organization.

We now present in more detail each of these themes drawn from the data collected through the semi-structured interviews and the comments associated with displayed photos, which we treat as an additional residue of viewing behavior.

**Attending to ties and ignoring strangers**

Unsurprisingly, we observed that participants attended to only a selection of photos, while finding the great majority of the available images distracting. Photos from close friends prompted more viewing, as did photo events with topics that were of interest to the viewer. On the other hand, non-work-related, personal photos from unfamiliar co-workers often ignored, even if they did share organizational affiliation as employees at the same enterprise. Thirteen of our participants were interested in looking at images of families, friends, and pets of only a few employees, which then become interpreted into impressions of those who shared the photos. We also observe that participants sought out this category of photo so it is likely that there are various types of audience viewing roles, much like in the case of media sharing [36]. Second, users might be more inclined to view this category of photo in the proper context, that is, in an easily accessible central place or in a known community where the participants of the event are not necessarily strangers anymore because of the common ground formed through common interests.

**Getting to know you, getting to know the organization**

Through the interviews, we observed that photo viewers interpreted the content of the photos as a way to form judgments and impressions of those who shared the photos consistent with [40]. Next, we suggest that impression formation is an integral component to the process of people sensemaking [8], where photo viewers use the information transmitted by the imagery to make judgments about individuals to humanize the workplace through forming social connections. We also extend this concept further to

Simultaneously, participants who indicated that they did not look at personal photos of families or friends recognized the value of the existence of this category of photo, particularly for the photo sharer. We also observe that participants spoke to the importance of these photos as integral to social health of the system itself and as we discuss later, indicative of the type of company at which they were employed. But, when displayed out of social context, these images contributed to a distracting viewing experience, in light of the large percentage of personal photos posted, and became a convenient heuristic in the decision to avoid viewing.

*I mean, it's good to be able to have a place where you can interject your personal life or your personal interest, but I guess, you know, what other people want to see...it's so different for everybody...*(interview, KB, female, software test engineer)

*You know, I love that it's there, I do, and I want people to be posting their photos of their kid's first day of school, so you can take a break and look at the face of your kid and, you know, it's...that's for you. Nobody else cares. Nobody else is going to appreciate the photo of your daughter and how cute she is the way you do.*

*(interview, KC, female, intranet editor)*

*However, one of the most active events in the system is one that invites people to post photos of their pets. As of September 2008, there are 111 people attending the event with 166 photos shared and 4497 total views since the event’s creation in March 2008. We offer two possible explanations with respect to the above findings. First, from our interviews, we did observe that 3 participants indicated that they sought out this category of photo so it is likely that there are various types of audience viewing roles, much like in the case of media sharing [36]. Second, users might be more inclined to view this category of photo in the proper context; that is, in an easily accessible central place or in a known community where the participants of the event are not necessarily strangers anymore because of the common ground formed through common interests.*

*The reason is because a lot of the other ones are people's children I see or just portraits of people. And if I don't know those people, then, to be honest, I'm not really interested in, you know, seeing their kids or just their portrait.*

*(interview, D, male database analyst)*

*Well, for pictures of people obviously, you know, these are important people to the individuals in my network, so I...you know, I make it my business to know what's important, to my friends so that I can be a good friend, I would know what's going on with them and not go, duh, I should have known you had a kid, you know what I mean? (interview, D, male database analyst)*
observe that photo viewers also form impressions about the organization as a whole.

One such example in which these processes occur is within organized photo challenge events. In these events, one person (usually the winner of the previous challenge) posts a photo of difficult-to-identify content and participants must then guess what is depicted. The participants and the initial poster then use the commenting feature to exchange questions, clues, hints and guesses. Six of our participants were active in the photo challenge community and each reported that the game offered an opportunity to learn about someone by viewing the types of photos posted within the photo challenges.

You get to learn about people's likes and dislikes and a lot about their personal life and hobbies. So it's going back some of the socialization, really get to know people on a personal level. The photo challenges tend to be more personal than business. (interview, A, male consultant)

Additionally, those who viewed photos via the photo challenge events formed impressions of their fellow participants’ skill sets and talents by making judgments regarding the difficulty and quality of imagery chosen for the challenges. The most cited attributes in these cases were problem solving and creativity, which might then predispose participants to collaborate on a work-related project in the future.

I think that it pushes them to the top... to say these are people that know how to deconstruct problems because they have to be able to deconstruct the person's viewpoint who is looking at the picture trying to solve it in order for them to be a good picture poster, you know what I'm saying? They're clever, good people that know how to solve problems. (interview, B, male technical writer)

Outside of these events, the shared photos also allow viewers to form impressions of the organization by first attributing certain qualities (e.g. problem solving aptitude) to individual employees and then extending those judgments to the company as a result of hiring people with those characteristics. More generally, the mere existence of a viewing and sharing application for personal photos within a corporate firewall allowed users to ascribe positive qualities to the organization as one that recognizes employees’ social needs.

At the same time people will post pictures of their dream cars that are like the sort of gas guzzling expensive things. But for the most part it seems as though [this] is a company that tends to employ people who are globally minded, who recognize their individual responsibility, who are not, you know, glutinous wasteful looking to get rich materialistic. But....this particular picture [of a Smart Car] does feel very typical of the kind of car posting you find.... (interview, KC, female intranet editor)

What it reflects is the recognition that its employees are people and have all those needs as opposed to the other message we get through the e-mails of you know locking everything down and being automatons you know. But to me, [the social networking site] and the photos represent an admission [by the company] that we're people. (interview, B, male technical writer)

We also observed that impressions formed about high-level executives were re-interpreted into impressions about the organization. Of the most viewed photos, the top ten are a mix of family and work-related photos (e.g. ribbon cuttings, invited talks) that have been posted by a high-level executive. In addition, there are a number of executives who are participants in the photo challenge events.

Yes, yes, so it's actually it tells me that...all the way up to [the CEO], all of the management is very open with the rest of their employees. I mean, they're friendly, they'll talk to them, they'll take pictures with them, then, you know, that tells me that they're, you know, concerned with their employees. Not like they're off and hiding somewhere or they consider themselves too good for us lowly, you know, IT people. (interview, D, male database analyst)

The mere presence of these executive-level members of the organization within the photo application allows the photo viewers to perceive a flattening of the corporate hierarchy. At the same time, however, viewing photos that depict invitation-only events also draws attention to the hierarchical configuration of the organization and might reinforce a completely opposing view of the existing power dynamic.

For certain lucky folks, they get to go to nice conferences. I'm a little envious that I don't get to go to these. So going back a couple of months, there was a [technical] event in Orlando, a worldwide one. So a lot of people posted their pictures of being in Orlando for about a week or so and they posted pictures of being in front of Mickey or whatever. So when you don't get to go to those things, it doesn't sit too well with some of us. (interview, W, male software engineer)

Our data suggest that these photos are successfully transmitting implicit messages about the structure of the company and consistent with [39], we find that viewers are forming impressions that are both positive and negative in nature.

Reinforcing a sense of the global

The enterprise studied in this paper is a large international organization with employees working in offices distributed across the globe. As reflected in the number of interview participants who belong to remote teams, this organization notably also allows employees to work from home offices. A number of our participants reported that the online social
software systems provided by the organization helped to alleviate the isolation that they occasionally experienced. In particular though, we observed that viewing photos of the different locales (e.g. office spaces or campus buildings) within the organization helped to mitigate the insularity associated with working literally on one’s home turf and reinforced a general sense that the organization is a global one.

I put them as connections, the India team. I kind of played around and would go in to some of their photos and then jump across to another one of their connections just to kind of see some of the...like I saw the cafeteria in Bangalore where they hang out and things like that.(interview, P, female human resource trainer)

Again, it shows again the global scope of the company...I mean, pictures are from completely different places...people who work at [company] have different interests and they're involved in different things and living in different parts of the country and the world. And the pictures just make that reality. They bring it up front to you. (interview, J, female software engineer)

This category of photos also allowed viewers to make judgments about the differences between the various geographic locales of the organization and perhaps provide an informal way to educate newcomers about the various locations of the organization. These judgments were not always positive, for example, in terms of what constituted acceptable professional behavior between national cultures. More subtle differences, such as local variations in dress code, were also conveyed to participants through viewing such images. In some cases, these images helped to confirm impressions that had been previously formed in prior encounters with these locales or with the employees from that particular geography.

And it's also like sometimes I'll go in and check the people out and it's just kind of fun to see what people, especially from other countries, what they say and I've kind of been a little shocked at...not really, I guess, because I know they're different there...but like the United Kingdom, they'll like show all kinds of things like

what they did, like going to the bars and all this. And I don't really think that people in the U.S. are as free with what they say. (interview, M, female technical support manager)

Other than maybe it took place in the east[ern United States]...Because of all the [neck]ties. I have noticed that when I have to travel east on business I see more ties than out here in Colorado and the Rocky Mountains, Arizona, you don't see very much ties. (interview, P, male technical solution architect)

We suggest that this particular viewing-related outcome is somewhat of a double bind. On one hand, the photos reinforce the diversity in geographies and cultures found within the organization, which helps to encourage a global outlook. Conversely, though, the emergence of stereotyping through the formation of faulty impressions may also occur, to the detriment of the organization.

Awareness of public dissent

Members of the organization have also appropriated the photo viewing application as a space to communicate dissatisfaction with various aspects of the organization by using the commenting functionality to annotate images that interpreted as ringing true to their experience. For example, a few interview participants mentioned that they had viewed and then commented on images of workplace-related comics relating to boredom or bureaucracy. While it is not surprising that a lightweight broadcast platform would enable and encourage such expressions, we observed that the norm with respect to the tone of the dissent was usually humorous in nature.

In our analysis of comments left by photo viewers, we observed some specific examples that recounted and retold the story of the introduction of the ABC Monster. The ABC Monster was introduced in the summer of 2007 as a marketing accompaniment to a yearly self-assessment report that employees were required to complete. Immediately after its first appearance on the official corporate intranet, the ABC Monster proved to be controversial with his merits as a mascot representing the

1 The name has been changed to preserve anonymity.
assessment process first being debated on an internal blogging site.

However, images of the ABC Monster in various non-official situations (Fig. 1) soon appeared in the system, which drew a number of viewer comments on its appearance. We observed that the posted photos allowed viewers an opportunity to informally air grievances. Some of this imagery is quite pointed (e.g. a beheaded ABC Monster) but we propose that the more ambiguous nature of photos helped to encourage a more lightweight communication of a strongly critical message and frames the ensuing conversation within the body of comments describing the photo as humorous.

Yes, we all have days like this. But even when things get hectic, please don’t lose your head!

Hahaha, Nice Picture [photo poster]!

There are only three ABC monsters in the world and they’re doing photo shoots!

I love this!!!! :-) I might have to link to this in an upcoming career development story!

They say when an ABC monster cuts off the head of another ABC monster, it absorbs all of its strength and powers. They call it the quickening. (comments on photo of beheaded ABC monster)

In addition, one year after the original controversy, we observed that that people who were unfamiliar with the discussion were able to inquire on its origins after viewing the leftmost photo of the ABC monster.

A: Hi ....! Can ya share the story on the creation of the...mascot? Or, can ya point me to someone who may know? I think we all need one!

B: yes, ABC = [reference to character]. his name/purpose/mission was all the buzz/rage/outrage, as it were, on [the internal blog site] and forums when this adorable little guy first popped up in a mysterious viral-esque fashion. (comments on left-most photo of ABC monster)

Through the viewing of posted photos, newcomers to the organization gain the opportunity to learn about incidents that may otherwise remain unspoken due to their controversial nature. Because of the informality and the humorous way in which the pictures are presented, the photo viewer is provided with a socially acceptable and lower stakes channel in which to ask difficult questions.

Appreciating historical reflection

Like [34], we observed that the photo application in this particular organization allowed members who express interest in its history with a platform to view and comment upon archival images, such as ones depicting company-related products at various stages of evolution throughout the years. Other examples of historic photos consisted of current employees at conferences from 20 years ago and older logos and marketing material. A number of participants indicated that learning about the organization’s past was an interest of theirs, particularly because they believed that they were part of an enterprise with a storied history.

But it's kind of a neat thing to just review them [images of old logos] and look at them. I'm like a data person and I like the news. I like things like that. So if I look at this, it's like, oh, it's nice history about the company. (interview, P11)

In addition, we observed an event in which vintage photos, much like the ones described, were aggregated for viewing. Similar to the photo challenge events, the images provided a central spot for viewers to learn something about the company’s past as well as the interests of those who post and view photos in this space. The following set of viewer comments is in response to an event photo of an early personal computer manufactured by the organization.

A: 128 KB of super computing power...and now with dual floppies!

B:....It's the XYZ PC.

C: Its [sic] a beast...super computer

D: ...Props for the vintage photo though ;)

We suggest that, beyond entertainment, these images serve as documentation that the organization is one that has always innovated while simultaneously reminding its members of how far they have come technologically. As organizations age, their culture may begin to value reflection about the company’s past in order to make sense of currently occurring changes. Beyond historic images of old equipment, photo viewing may allow employees to become attentive to past technological and social influences that are central to the values and norms of the organization.

DISCUSSION

From our analysis, we observed that photo viewing might first be described as an information-seeking task that is highly dependent on social context. For example, when viewers might be browsing photos for social reasons (e.g. staying aware of a coworker’s interests), family photos of those completely outside one’s social network are viewed as extraneous. This type of selection criteria may have something to do with the type of browsing that happens during the workplace (i.e. in the midst of a busy workday). At the same time, however, photo viewers within the workplace environment ascribe some worth to personal photos and have made favorable judgments about the character of the organization at which they are employed due to the opportunity that has been granted to view and share such photos.

Perhaps more relevant from an organizational point of view, we observed that photos viewers form impressions about the enterprise and its individual employees. These impressions range from observations regarding a
coworker’s talents to interpretations of the organization’s hierarchy as well as its globally diverse nature. Our analysis indicates that shared photos within an enterprise may be transmitting values and norms to an audience of viewers who actively interpret what they see and then form judgments about their work environment accordingly. As a result, we suggest that photo viewing within an enterprise may assist in acculturation, the process in which a newcomer makes sense of the culture that he or she has joined as a new employee [26].

The construct of culture is especially amorphous in large organizations where there are many subcultures defined by various criteria. For example, in a technology company, there might exist an engineering subculture or one specifically for those in sales or client-facing positions where functional groups share common knowledge regarding their roles and responsibilities within the organization [32]. In addition, we observed the emergence of impressions formed regarding national and regional culture, in part due to the widespread geographic reach of the organization. On a broader scale, however, an overarching organizational culture can be defined as a pattern of basic values and norms learned through engaging with the issues and everyday activity of the organization at large [33]. These values and norms can be transmitted, to some extent, in a top-down manner but are enacted and experienced by ordinary members of the organization through shared practices [18].

The primary resources for acculturation are social interactions with veteran co-workers but face-to-face communication is less feasible in a global organization with distributed team members and a workforce with remote offices. From our observations, we suggest photos can informally familiarize newcomers with the tacit values and norms of the organization in the absence of collocated peers and mentors, particularly in the case of personal photos as a non-official channel of communication. We also propose that the diversity of photos, as demonstrated by our log analysis, viewed might be able to provide a varied enough sample that allows for viewers to learn about the distinctive cultures that they may encounter as they integrate into a new position or a new workgroup. In addition, the viewing of personal photos, even with respect to images deemed to be irrelevant, transmitted messages about the organization to its members, such as the value of one’s life outside work.

Lastly, through both viewing and comments left as a result of viewing, photos provide an opportunity for storytelling between members of a distributed organization. Photos, as a media type, have been successfully employed as an elicitation tool [13,41] in design research to encourage conversation and provide opportunities for the viewer to reflect on one’s experiences and learn from others’ insights. We observe that photo viewing can serve a similar function informally within an organization, such that users can appropriate systems for photo sharing for the expression of dissent and more ambiguously emotion-laden issues. In addition to allowing discussion on currently controversial topics, photo viewing may also potentially enable newcomers to become attentive to past technological and social influences that are central to the values and norms of the organization.

**IMPLICATIONS**

We offer a number of design suggestions that are specific to the photo viewing application that we studied. Our analysis shows that users navigate to photos using multiple pathways. Recent photos appear to be, by far, the most frequent access point for photo browsing, and a more prominent display of recently added photos could be added. For those photos that are accessed via one of the alerting mechanisms (email or newsfeeds) a thumbnail of the photo could be added to the title description, which would allow the user to make a more informed choice about whether to take a closer look at the photo. Second, while the event interface provides a way to group similarly themed photos together for viewing, the creation process is not particularly lightweight. Providing an easier outlet for thematic browsing (e.g. through albums generated by posters or by automatic classification via tags) may encourage more photo viewing within the system.

We also propose some design implications that more broadly impact photo viewing within an organization, particularly when the viewing behaviors occur within the context of a busy workday. Impression formation regarding individual colleagues and the organization may be less likely to happen if photo viewers find certain kinds of photos irrelevant. We suggest then that tools for displaying photo-viewing activity, beyond view counts, might help photo viewers better gauge the corpus of photos available for viewing. For example, an aggregated anonymized representation of what images viewers from certain geographies or functional groups prefer so that other viewers can choose to learn about what interests their colleagues from across the globe, if so desired.

We observed that many of the interesting collections of photos were framed in the events supported by the application. A natural design extension point would be to link the photo sharing application with other organizational meeting and event tools. It should be extremely easy to upload photos from corporate events to the photo-sharing site and then to link to the photos from meeting notes and meeting-related email.

We have suggested that photo sharing within a corporate setting may support organizational sensemaking and acculturation. Social tags, or visual markers could be used to identify historically significant photos, or photos that mark specific corporate customs (e.g., work anniversaries or celebrations). It should be easy for cohorts of new employees to share and discuss photo collections. Additional research is needed to understand how photo viewing and sharing is different in organizations of varying
CONCLUSION
In this study, we observed, through log analysis, photo viewing activity as contrasted with photo sharing within an application embedded in a social networking site deployed within an enterprise. We then detailed a range of themes, describing the interpretation of the images by those who view them, paying particular attention to their relationship to the workplace environment. Based our analysis, we provide a series of design implications for photo viewing systems for an organizational audience. Most importantly, we suggest that photo viewing in the workplace can potentially act as a resource for acculturation, the process in which an employee makes sense of the values and norms of an organization.

REFERENCES


