Names of Our Lives

Benjamin M. Gross

Graduate School of Library and Information Science University of Illinois Urbana-Champaign Email: bgross@acm.org

Abstract—Identifiers are an essential component of online communication. My research focuses on the ways that social, technical and policy factors affect people's behavior with online identifiers. For example, my research demonstrates that people separate both business and professional roles by communicating with separate identifiers. People may have different identifiers for technical reasons, such as difficulties in configuring settings. In addition, corporate security policies place restrictions on people's communications which influences the way people manage identifiers. I conducted a series of in-depth interviews with two groups sampled from different populations.

I. INTRODUCTION

"Properly speaking, a man has as many social selves as there are individuals who recognize him and carry an image of him in their mind." [1, 294] — *The Principles of Psychology*, William James

This paper examines the everyday use multiple identifiers online. Although this behavior is common, we know little about the motivations leading to maintaining multiple online identifiers, the effects caused by this behavior, or the complex ways individuals use multiple identifiers in everyday online communication to negotiate multiple domains. Examining individuals' use of multiple online identifiers such as electronic mail addresses and instant messenger usernames provides compelling examples of how they use strategies that include both segmentation and integration. By better understanding the multiple functions of online identifiers, we can inform the design and implementation of technical infrastructure to support those functions and the policies and regulations that govern them.

In everyday life, people segment their lives to manage their time, impressions, and relationships. For example, individuals commonly segment their lives into distinct domains such as home and work [2] [3]. Erving Goffman wrote, "The individual in ordinary work situations presents himself and his activity to others, the ways in which he guides and controls the impression they form of him and the kinds of things he may and may not do while sustaining his performance before them" [4, p. 77]. Home and work are only two of a variety of contexts. People segment and integrate aspects of their lives including family, friends, school, professional organizations, and social organizations. These are networks that overlap in time, location, and context.

II. BACKGROUND

Much of modern electronic communication hinges on digital identifiers meaning that identifiers are increasingly relevant in people's everyday lives. These identifiers include email addresses, instant messenger IDs, usernames, domain names, URLs, phone numbers, and social network IDs. Many of these identifiers are effectively globally unique—meaning that exactly one person on the planet is able to make use of that identifier, a relatively rare historical occurrence until recently. In addition, the Internet is rapidly absorbing traditional telephony functions, resulting in even more identifiers, such as Skype IDs, SIP URIs for VoIP calls, and ENUM registries that link phone numbers to IP addresses. As the number of online communications channels grows, so do the number of identifiers that we must maintain, along with the overhead required to manage them.

According to the Pew Internet & American Life Project, email remains the dominant form of online communication—91 percent American's use email, 38 percent send instant messages and 35 percent use social networking sites. [5] Pew also reports that 53 percent of working adults maintain both personal and work email accounts, and more than half of these check their personal accounts at work. [6]. All of these tools require user identifiers such as usernames, account numbers, email address, and passwords.

We only partially influence how our identifiers are constructed, even though identifiers are so critical they they affect who we connect with and who connects with us [7]. My research demonstrates that people often use multiple online identifiers online to project a certain image of themselves to different audiences.

Individuals often chose identifiers they find to be meaningful and memorable. Interviewees were proud of having usernames that "have no numbers." They viewed numbers in usernames as less desirable as they both clearly indicated secondary choices in the name selection, and were harder to remember and communicate to others. When services have highly saturated "namespaces", users have difficulty obtaining an identifier that is meaningful and memorable. For example, I found that users were more likely to remember their password than the username, because they faced far fewer restrictions when selecting the password.

There were many reasons causing individuals to create multiple identities that supported their everyday roles and activities. In my research, I found that people use multiple identifiers to maintain focus of attention and to limit interruptions. Several individuals maintained "private" addresses for their mobile devices to reduce the volume of email received on the device. Some used different identifiers to separate known

and trusted content from the unknown and untrusted. For example, if people did not trust a company's motives for collecting an email address, they would provide an address they check very infrequently, if ever. People continually changed their identifiers and created new ones to match life changes. Marriage, divorce, or a change in Internet Service Provider (ISP) are some of the events resulting in users obtaining new identifiers.

In addition to our private desires, social, technical, and policy forces constrain our use of online identifiers. For example, regulations, and the technical ways in which they are enforced, have a major impact on the use of messaging and identifiers. These regulations originate from a variety of sources including governmental statutes and policy, institutional policy, technical enforcement of policy, industry agreements, and professional codes of ethics. These policies are then implemented in the system infrastructure and are enforced through technical mechanisms, such as email relay restrictions, firewalls, spam filters, archiving, and retention.

Institutional policies often force users to maintain multiple email addresses and instant messaging accounts. In regulated workplaces, institutions commonly block access to external mail services. This effectively forces people to either use their work account for personal communication, which is often prohibited, or to maintain a separate account for personal communication when they are not at work. To complicate matters, people often have multiple institutional affiliations and are affected by several interlocking or overlapping sets of policies. For example, consultants, contractors, and vendors may maintain email, instant messaging, and VPN services with each company they work with—each with its own series of policy restrictions. In highly restricted environments, there is a higher risk that individuals will search for "work arounds" to the system restrictions in order to regain access to the communication tools they desire. Several interviewees emphasized the effort they allocated to finding services or proxies that allowed them to use email and other services that were otherwise blocked.

III. IDENTITY AND IDENTIFIERS

"Identity" is an intimate and often contentious topic. Theories theories of identity from sociology investigate how social aspects of identity affect organizational behavior while the Social Identity Theory from social psychology investigates group membership and affiliation with groups. [8] [9] [10] One common refrain that interviewees mentioned was that those who maintained multiple online "identities" did so for deviant purposes. These initial assumptions of deviance did not match my research findings. In this work, I focus on external representations of identity, rather than internal ones. Not only do individuals have multiple identities for different public and private spheres, but they may also conduct a substantial portion of their interactions, both online and offline, within different spheres. The combinations of public, private, online, and offline are often intermixed. Nippert-Eng's "Home and Work" research primarily considers how people draw boundaries in their lives [2]. In particular, her research on the segmentation and integration between home and work is useful for understanding the individual's use of identifiers.

In his book Identity Crisis, Jim Harper provides a number of definitions that are useful for clarifying the distinctions between identity and identifiers. "Identifiers are facts that distinguish people and entities from one another. What we often call a 'characteristic' or an 'attribute' becomes an identifier when it is used for sorting and organizing people and institutions in our thoughts and records." Harper names four categories of identifiers: (1) Something you are. (2) Something you know. (3) Something you have. (4) Something you are assigned. The first three are commonly described as components of "identity." The fourth item is a useful discriminator for modern systems that keep track of identity. Harper writes, "Most people think their 'identity' and their personality are pretty much the same, and most people think it is normal to have just one. Having multiple personalities may be a psychological disorder, but it is not at all unusual to have multiple identities" [11, 14].

IV. METHODOLOGY

This dissertation compares and contrasts two populations of business users. The first population was drawn from a financial services firm, and the second, a design firm. The two populations are sufficiently disparate to be able draw distinctions with variables of interest. In this study I conducted a total of forty-four interviews lasting thirty to sixty minutes each—twenty four from the financial services population and nineteen from the design population.

The financial services population is interesting as it provides insight into the daily behaviors and constraints influencing employees working in a highly regulated communications environment. These regulations originate from a variety of sources such as governmental statutes and policy, institutional policy, technical system to enforce policy, industry agreements, and professional codes of ethics.

In contrast, design professionals are known to have a great deal of autonomy and latitude in their workplace communications. Creative problem solving is expected and employees are encouraged to examine a wide range of sources when designing customer solutions. Certain projects for customers with regulated environments may cause projects to be constrained by regulations, but these tend to be less frequent. In short, within the constraints of a modern corporation, employees of the design firm work in an environment that is effectively unregulated.

V. FINDINGS

In my study, interviewees described their preferences and behaviors surrounding creating and managing multiple identifiers along with their reasons for maintaining those identifiers preferences ranged from desiring multiple identifiers to segment different life spheres. Both the behaviors and the explanations provided included combinations of the mundane, the sophisticated, and the highly idiosyncratic. A variety of factors influenced interviewees preferences and behaviors including psychological factors, factors enforced by external forces such as software limitations, and pragmatic factors such as "this works and I'm too busy to try anything else." Four broad categories of factors emerged that enabled or constrained the use of multiple identifiers—personal social factors, external social factors, infrastructure factors, and policy factors. Some factors may not be captured by these four categories. On some occasions interviewees were unable to fully recall the original motivation for their actions.

The social factors included behaviors that assisted in segmenting or integrating portions of the individual's life. For example, a separation between work and personal life was frequently chosen by the interviewees or externally enforced by the institution. Other common social behaviors discussed by interviewees included the desire to gain status and prestige by demonstrating affiliation with an identifier, the abandonment of obscure identifiers for others considered more meaningful and memorable, and the desire for privacy. Some individuals utilized multiple identifiers in order to help them focus on a particular task and avoid interruptions. Spam was one major source of unwanted interruption leading many to alter their behaviors.

The infrastructure that people employed often had a major influence in enabling or constraining behaviors around identifiers. The infrastructure was composed of a mix of computers, software, peripherals, network equipment, network connectivity and mobile devices. For example, a number of interviewees described switching to a web-based email service when they were unable to configure their desktop email client.

Finally, policy had a major influence on a person's use of identifiers. Policy influences typically derived from three major sources—government, institutions, and network providers. Each of these sources contained two types of policies, those that were written or stated and those that were embedded into and enforced by the infrastructure. Technical restrictions evolving out of institutional policy typically include security, archiving, retention, legal and policy restrictions. In nearly every case, social, technical and policy influences were inextricably combined resulting in a continuum of behaviors.

A. Managing Presentation of Self

Segmentation: Segmentation occurs when an individual has multiple identifiers that partition aspects of his or her life. Segmentation may be intentionally chosen such as when a person chooses to separate family communication from communication with friends. Segmentation may be implicitly forced such as when an individual has multiple instant messenger identifiers allowing access different instant messaging networks. In addition, segmentation may also be unintentional and forced such as when an employer explicitly restricts the use of personal email with employer email accounts, but also block access to external email accounts.

Mark, the president of the design firm, describes his thoughts on segmenting the personal from the professional.

...I'm a member of a professional association [organization]. I use [domain name] for that, because it's a personal endeavor. Right, it's not something that I get work time or work credit for, or anything like that. And I like to just remind myself that it's a personal choice that I'm involved with. So that's the fundamental split is personal and work.

One particularly interesting point in Mark's quote is that he refers to a separation of personal and work, however the personal he refers to is a professional sphere that he distinguishes from the work he does at his workplace.

Role: In a chapter titled "Role Distance," Erving Goffman metaphorically defines role [12].

We do not take on items of conduct one at a time but rather a whole harness load of them and may anticipatorily learn to be a horse even while being pulled like a wagon. Role, then, is the basic unit of socialization. It is through roles that tasks in society are allocated and arrangements made to enforce their performance.

In my sample, individuals maintained multiple identifiers to segment roles they assume in their daily lives. For example, many explained that they maintained multiple email addresses to help them differentiate roles. I define a role as a life role—a doctor, student, professor, or member of a professional organization. These roles do not always map to specific email addresses. Within the context of email, role and identity are often conflated. Individuals tie their identities to roles that are, in turn, tied to an email address or other identifier. There is guarantee of transitivity between roles, identities, and identifiers—you cannot rely on an address to map to a particular role or identity or vice versa [4].

Harold, an interaction design intern at the design firm, exemplified this concept of transitivity with his use of a "support" role account for his personal consulting practice.

...I mean, some business things that I will send out as depending on what I want it to look like ...So for my clients, cause I have my own company, so but I also acted like the technical support for one of my clients. And I'll send an email and make it look like it's coming from a support team. When it's just me. And that - so that's not really my account. I'm just faking it.

Role conflict: Many interviewees considered it important to create a separation between certain life roles and associated email addresses. For example, interviewees consistently reported feeling embarrassed to email a professional contact with a personal address, particularly when the username of that address was not sufficiently "professional." Goffman refers to this unwanted overlap of professional and personal roles as "role conflict" [4]. Interviewees who experienced a single case of role conflict often altered their behavior to prevent the situation from repeating.

One interviewee used her professional email address to purchase and sell items on eBay. It is noteworthy that once a transaction is finalized on eBay interviewees gain access to each other's email address. A buyer was able to to search on her email address and contact her about other details he discovered online. Because of this role conflict, she now maintains an independent address for her eBay email, separating her shopping role from her work role.

Meaningful and memorable identifiers: The extent to which an identifier is meaningful and memorable affects how simple it is to memorize the identifier, how easy it is to communicate it to others. In my sample, the ownership of memorable and meaningful identifiers correlate with the value assigned to the identities and the frequencies with which it was used by the interviewees. Identifiers viewed less favorably were used less frequently. Interviewees often described their difficulties finding an identifier they liked that was both memorable and unique. David and Irving expressed the importance of memorable and meaningful identifiers.

David is a designer who began working at the financial services firm in 2004. When asked why he acquired a Gmail address that was his full name, he said

... it's like a domain name in many ways that if people can relate it to you or it's particularly memorable, obviously the best of both worlds is to do both, yeah, that's the best of both worlds.

Irving is an institutional administrator using email more frequently for personal use than for his job. When asked why his email address was at excite.com, a relatively archaic service and user interface, he responded

I'm still using Excite because I ... maybe I came in early and I didn't have to add a lot of numbers to my last name.

Established consumer services often have saturated namespaces, making it difficult for new subscribers to find a meaningful and memorable identifier that has not yet been allocated. Many users reported repeatedly trying to find an identifier that had not been "taken."

Liminal identifiers: A number of individuals created an identifier, had forgotten the password, and no longer had access to the email account linked with that identifier. Without access to the email account, they were not able to reset the password and wereunable to verify ownership and regain control of the identifier. These "liminal identifiers" are identifiers that were once owned or controlled by a user who has since lost control of the identifier. Nonetheless, user in this predicament continued to view the identifier as "theirs." Although the individual no longer has control of the identifier, no one else, without intervention by the service provider, will be able to control it in the future. In a sense, it is an identifier that is both owned and lost.

Mark, the president and a founder of the design firm, describes his experiences with liminal identifiers.

The only services right now that I don't have [username] on are my AOL Instant Messenger and Yahoo. AOL Instant Messenger, I'm pretty sure is because I was [username], in fact ... when I signed up on

AOL, and so I did [username]. I left AOL, you know, unsubscribed, whatever, left the service. When I got AIM, you know, I tried for [username] and it was taken and for some reason I am distinctly under the impression that it's my [username] that's still locked up in some name space there that I just can't get at, like it's just shut off now. So, on AOL and I think something similar happened with Yahoo.

Permanence and continuity: Email addresses often become an external representation of the self used in communication. At the other extreme there are people who do not consider their online identifiers to be important and make no attempt to manage it online. For some of these people, the issue of maintaining a consistent identity grows in importance and they must work to achieve consistency retroactively.

Some interviewees valuing longevity and continuity referred to "permanent" identifiers. In my sample, only email addresses and domain names were viewed, by some, as permanent. While some individuals maintained instant messenger IDs for long periods of times, none described an instant messenger ID as permanent. Permanence emerged as one factor in the individual's selection of the identifier used, and identifiers designated for long-term use were given higher status. For example, Jim, a software engineer at the financial services firm, discussed his decision-making process when giving his email address.

Yeah. See I'm looking for a house right now and I give my real estate agent my Hotmail account. Things haven't heated up enough where I'm talking daily, so it's – you know, I check it after work and if anything becomes more urgent, then I can give them my [workplace] email. But right now I don't like to give anybody really my [workplace] email, because I don't think it's permanent, you know?

Affiliation, Status, Prestige: Some users chose a particular identifier by the affiliation, status or prestige it connoted. For example, university alumni email addresses typically provide the individual with both the status and prestige of the university connection as well as the benefit of long-term institutional stability of the identifier. For example, Victor, a design researcher, discussed the status and prestige associated with his email address from the computer science department at his university.

...I remember specifically starting to use my cs, my computer science email address as my primary email address, as opposed to using the university one where everybody could be. I think I felt like it was an exclusive thing for me to use that.

In contrast, some identifiers were viewed as low in status, unprofessional or even 'throw away' identifiers. Holly, a product manager at the financial services firm, describes her frustration and the tension between using her existing unprofessional email address and the effort needed to create a new, more professional, email address.

... I'm putting up this website. And I'm going to

have this like totally unprofessional email address on there ... You know, it's going to be this professional website, with this weird personal Yahoo email address on there. It just doesn't look good, but at the same time, I can't manage more than two inboxes. It's hard enough to do two.

Many of the interviewees correlated trust with permanence and continuity. Some interviewees discussed how having stable and consistent identifiers allowed them to be more available to connect with others. Some, like Victor, invest time in maintaing multiple old email addresses in order to make it easier for others to reach him.

So I guess part of that is because most of my friends have had an email address for me for a while, so I haven't had anybody change. I'm not somebody who has purposely has gone back and said, okay, start using this address for me now. Because I've managed to maintain all my old addresses, because I assume that I need to keep them working.

Much as old addresses may provide stability to old contact, it is also frequently associated with an increase in the spam receivied.

Privacy Users discussed having multiple identifiers in order to control the type and amount of personal information associated with a particular identifier. For example, many identifiers reveal the user's name, gender, workplace, or institutional affiliations. An identifier may also be used to discover and aggregate other information stored in online services under the same or similar identifiers.

Many of the interviewees reported considering their privacy, anonymity, or peudo-anonymity when selecting an identifier. Some sought to disclose their identity progressively. They provided unknown or untrusted individuals with little information making it more difficult to associate the identifier with more intimate aspects of their identity. As such, individuals were able to achieve some measure of control over the disclosure of their identity. For example, Lisa, a senior design practitioner, discussed the tension between having public identifiers and maintaining personal privacy.

It's a little more anonymous, slightly. Because at least you don't know the gender of the person. But it's still, you know, has my last name. And that's something that actually is disturbing about the whole online world is because I own property. You can look up my name and find out where I live and what house I own and, of course, since I work here now, we have this public identity. And so you can put it all together and, you know, stalkers can go for it. That freaks me out a bit.

B. Personal Branding

The presentation of self-and in particular, the separation of roles and projection of identity-was a significant factor in the selection of identifiers. Interviewees often described their identifiers with the same language used to describe the brand of a product. Some interviewees explicitly referred to managing a "personal brand," actively sculpting themselves as a product, both online and offline.

Using an identifier as a "personal brand" was particularly important for employees who engaged in independent free-lance work or had broader career ambitions. Interviewees producing creative works often used their "branded" web site as a portfolio. These individuals were generally individuals with well known professional reputations prior to their tenure at their current employment. For these individuals, professional success requires the identifiability of their professional product—a self that is extended beyond the spheres of 'home' or 'work.' In addition to managing the multiple facets of a single persona and separating private life from the workplace, individuals concerned with personal branding were maintaining the continuity of their own professional persona as separate and distinct from their workplace persona.

Several interviewees clearly spent time privately contemplating the topic of personal branding. These individuals focused on the degree to which their identifier was unique and easily found. Furthermore, they focused on the percentage of the identifiers they "owned" or controlled in various online namespaces. Scott, a director of experience design, discussed the issue of personal branding and making a conscious effort to brand himself over time.

I have recently tried to switch now that I've become a little more professionally known, speaking and things like that. So I've tried to make my typical usernames now just my name, which is [full name]. Just so that when people see it, they can identify with me.

Personal branding was frequently associated with the commingle of personal and i workplace identities. When choosing which identifier to utilize in a particular communication, interviewees distinguished between activities viewed as broadly professional and those that were solely linked to their workplace. Scott described his considerations when segmenting work, professional and personal aspects of his life.

I went from being an independent consultant to working for the organization and so for a long time I was giving out the [address]@yahoo, because I didn't have like an organization ... I would like, if it's a personal contact, someone who I wouldn't do business with - you know, you have to do that evaluation as to who you're talking to and what audience and what's having a Yahoo account say about me. What's having my own domain say about me. Is it professional enough? Is it too ridiculous for a consultant to have their own domain.

The concept of personal branding integrates various aspects of the "presentation of self". Many interviewees were strongly attached to their identifiers, as they exerted substantial effort in their own branding exercise. Often this "branded" identifier was chosen because it was "meaningful and memorable", easy to communicate to others and easy for others to recall. None

reported a personally branded identifier that included a number and the presence of punctuation was rare. In addition to being meaningful and memorable, the personally branded identifier typically had a degree of permanence as the individuals expected the identifier would exist and be used by them for a long period of time.

VI. CONCLUSIONS

Identifiers are an essential component of online communication. Email addresses and instant messenger screen names are two of the most common online identifiers. Individuals maintain multiple identifiers to negotiate multiple domains—using strategies that include both segmentation and integration. Although this behavior is widespread, there is minimal research on why and how people maintain multiple identifiers, or the effects caused by this behavior.

In this study, I attempt to extend our understanding of the ways in which identifiers shape online self-representation and communication. The interview data here described highlights the ways in which individuals' preferences regarding the creation and management tactics of identifiers conflict with external factors. These conflicts lead to frustration, arbitrary decisions and complicated ongoing management issues.

My research focuses on the manner with which social, technical and policy factors affect users' behavior and interaction with online identifiers. For example, I demonstrate how users separate both business and professional roles by communicating with separate email and IM accounts. People may have different identifiers for technical reasons, such as difficulties in configuring email settings. Corporate security policies place additional restrictions on people's communications which influences the way people manage identifiers.

A wide variety of social factors constrain how individuals select, use and manage identifiers. Common explanations included the desire to separate social or work roles, the desire to gain status and prestige through affiliation, the desire for more meaningful and memorable identifiers, and the desire for privacy. Some elect to maintain multiple identifiers in order to maintain focus and limit distraction. Spam was consistently mentioned as a major source of interruption.

Technical factors such as infrastructure used by the individual had a significant influence on the individual's use of identifiers. The particular computers, software, peripherals, network equipment, network connectivity and mobile devices utilized both enabled and constrained certain behaviors. For example, it was quite common for many to use separate applications or webmail services with separate identifiers as a "saticficing" mechanism when they were unable or unwilling to spend the time necessary to find a technical solution to integrating their accounts.

VII. FUTURE WORK

In addition to social and technical factors, policy factors also influenced individual's use of identifiers. In future work, I would like to show how policy influences typically derived from three major sources—government, institutions and network providers. Each of these sources had two types of policies, those which were written or stated and those of which were embedded as technical restrictions into and enforced by the infrastructure. The technical restrictions derived from institutional policy implementations typically included restrictions on security, archiving and retention.

Future research will follow up with discussion from individuals that clearly indicated that their ability to communicate with their preferred identifiers was important to their quality of life. Restrictions on the use of these identifiers was disruptive to both their workplace productivity and personal lives. The totality of the enforcement of the regulations and restrictions was directly related to the desire of people to work around them. Some of these workarounds, such as circumvent firewall restrictions, have serious security implications. In many ways, these behaviors of working around protections mechanisms mirrored those of populations in other environments with highly restricted internet access—such as to school or library computers or heavily filtered access.

REFERENCES

- W. James, The Principles of Psychology. Henry Holt & Co., 1918, vol. 1.
- [2] C. E. Nippert-Eng, Home and Work: Negotiating Boundaries Through Everyday Life. University of Chicago Press, 1996.
- [3] C. Nippert-Eng, "Calendars and keys: The classification of "home" and "work"," Sociological Forum, vol. 11, no. 3, pp. 563–582, September 1996
- [4] E. Goffman, Presentation of Self in Everyday Life. New York: Anchor Books, 1959.
- [5] S. Jones and S. Fox, "Generations online in 2009," The Pew Internet & American Life Project, January 2009.
- [6] M. Madden and S. Jones, "Networked workers," Pew Internet & American Life, September 2008.
- [7] B. M. Gross and E. F. Churchill, "Addressing constraints: Multiple usernames task spillage and notions of identity," in CHI '07 Extended Abstracts on Human Factors in Computing Systems. New York, NY, USA: ACM Press, 2007, pp. 2393–2398.
- [8] M. A. Hogg, D. J. Terry, and K. M. White, "A tale of two theories: A critical comparison of identity theory with social identity theory," *Social Psychology Quarterly*, pp. 255–269, 1995.
- [9] S. A. Haslam, C. Powell, and J. Turner, "Social identity, self-categorization, and work motivation: Rethinking the contribution of the group to positive and sustainable organisational outcomes," *Applied Psychology An International Review*, vol. 49, no. 3, pp. 319–339, 2000.
- [10] J. E. Stets and P. J. Burke, "A sociological approach to self and identity," Handbook of self and identity, pp. 128–152, 2003.
- [11] J. Harper, Identity Crisis: How Identification is Overused and Misunderstood. Cato Institute, 2006.
- [12] E. Goffman, Encounters: Two Studies in the Sociology of Interaction. Macmillan Pub Co, 1961.