

Representations of Digital Identity

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INTRODUCTION

Presentation of self in everyday life is a constant process of negotiation. From the perspective of Goffman's dramaturgical metaphor, humans "perform" themselves in an embodied response to their world watching them. Using physical and verbal cues, the audience constructs their own readings of the actor's intentional – and unintentional – messages based on what the actor gives and gives off. The performance of self becomes a feedback loop that creates socially legible relationships within the context of a larger community.

In computer-mediated communication (CMC), the performance of identity occurs primarily not through direct experience of the body but within the constraints of digital representations constructed by interactive systems. To compensate for the loss of physical presence, people have had to create new ways of reading the signals presented by others, and new ways to present themselves. In response, an important research question must be considered: should we be privileging embodied interaction as the ideal way to communicate? If so, how can we use the body in a mediated world? If not, how can we promote rich modes of interaction that do not rely on the illusion of physical presence? There are two different parts of communication at stake – 1) how we represent ourselves; 2) how we read the representations of others.

Social Scenarios

The body operates as a rich site for information. As we pass through the world, we give off information about cultural identity (ethnicity, sex, age, etc), social class, individual personality (through dress or physical alterations) and psychological state (through movement and tone of voice). These cues help others determine the appropriate modes of interaction with us.

As a representation of an individual, the body also operates as a cue for memory. While others may build mental models of people, the body often operates as the connection between that mental model and the individual, allowing the others to remember past interactions. An individual's reputation may be stored in one's memory and connected with the mental model of that individual, but the physical appearance of the body connects the individual to the reputation.

Consider a physical social setting such as a pub. In the United States, the bouncer must check a legal identifying document to confirm that the potential patron is over 21

years of age. Once inside, the individual never produces this document again. Instead, other patrons use the individual's appearance and behavior to determine what information is relevant for social engagement. Interaction, not verifiable documents, builds trust in a social setting. In this environment, any request for persistent social identifiers – such as a telephone number or a last name – may be met with deception as a protective strategy. However, unacceptable behavior usually stays within socially agreed limits. While better judgment may be impaired in the pub, most people do not try to provoke or intimidate others for fear of reprisal.

Consider how some interactive systems design similar social settings. You may be asked to provide information such as your name, location, sex and age, or your eligibility may be verified via a credit card. Quite frequently, you create a user profile that stands in for the kind of information you would hope an observant audience would glean from your appearance and behavior: your height and weight, your educational background, your excellent taste in music and love of long walks on the beach.

But without visual and audible feedback, gauging conversational nuance becomes more difficult. Misinterpretations are more common, and conversations often spiral down into rancor. But unlike the physical world, accountability is not located in a vulnerable body. Since aggressive parties are only infrequently co-located, intimidation rarely results in a physical attack. Typically, online communities battle socially inappropriate verbal aggression with a minimal level of accountability, usually enforced by confirmation of email address.

The difference between physical and digital social settings is intimately connected with the differences strategies for representation of self and the kinds of social discernment they afford. Looking at current social practices on and offline, we can see some social functions of self-representation important to both physical and CMC social interaction:

- boundary management (the bouncer who checks ids / a LiveJournal friend list)
- social legibility (general appearance / a graphic avatar)
- shield (false phone numbers / bogus emails)
- source of accountability (the vulnerable physical body / the credit card number)

Physical and Digital Sites of Representation

Lacking immediate physical presence, social practices based on software-enabled visual or textual representations are used as substitutes.

Email addresses, mobile phone numbers and other CMC handles are the most widespread substitutes for the body. As with Donath's work on social assumptions based on email domain names [6], these persistent identifiers do more than enable communication. Through them, we construct social narratives about current and previous interactions with interlocutors. Likewise, the country and area code of one's mobile phone transmit information about one's choice of geographical identity. Keeping a 415 area code conveys an identification with San Francisco – even when the owner of the phone is physically located elsewhere. Even personal WiFi network names are emerging as another form of persistent identity. Network names such as 'Piss off James' and 'Phil Rules' indicate an understanding of this realm as a site for projecting identity and opinion. And yet networks set to the default 'Linksys' name may indicate ambivalence towards what is ostensibly a public channel further complicated by proximity to the user's own home, and hence body.

In more detailed forms of self-representation, people go to great efforts to construct textual or visual portraits that reveal carefully chosen aspects of their identity. Graphic avatars are used within online games and chatrooms to act out the intentions of their creators. With the increased popularity of online dating services, form-based profiles have emerged as another site of representation. Additionally, people create elaborate homepages in order to broadcast information about their interests, values and activities [16][17].

As constantly updated revelations of self, journals and blogs move beyond homepages to create a portrait of the creators' interests and social relationships over time. Through LiveJournal friend lists, blogrolls, and linked lists of friends on sites such as Friendster, digital representations of self are affected by the placement of the creator within a social network [3]. Mobile devices such as PDAs and telephones suggest a new kind of contextual self-representation that combines social networks with location-based data [13].

Collections of behavior aggregated externally to their creation provide a less consciously constructed representation of self. The list of links provided by search engine results constructs an image of a person – or people – associated with the search string. The net art project Tracenoizer¹ is designed to undermine any assumptions of search reliability by using visitors' names to generate plausible – but false – homepages for them. By using more reliable data, the Author Profile on MSR's Netscan²

analyzes engagement in Usenet discussion groups to produce a means to evaluate the worth of individual posts.

A digitally mediated world requires that we project our identity through mediating layers of software design in order to reach our audience. These "layers" are not mutually exclusive; the same person may dynamically use any or all across different social contexts. One attempt to ensure trust and consistency is to introduce biometrics – to literally translate bodily identity into digital terms. But in most cases, it is not a literal representation of our body that is being projected, but a different representative form that substitutes for the body – but cannot replace it.

Theoretical Questions

From these practices, we can draw out some questions that can inform design strategies for future work

Physical/Digital. What are the differences between digitally constructed presentations of self and the projection of self through the body? What does the digital form say about how the body is used to project identity?

Interaction. How does interacting through a mediator, such as a handle or profile, affect the quality of the interaction it enables? How do people negotiate this mediator in order to convey subtleties about identity? What is lost/gained?

Behavior/Articulation. What are the differences between a behavior-driven representation and one that is explicitly articulated by the owner?

Control. Mediated expression of identity does not map appropriately to all contexts, i.e. between professional and social settings. The level of control we have over our physical presentation of self is compromised in the virtual realm. In what ways can/should/do users have control over their digital representation of self? How does this differ from the control that people have over their bodies?

Audience. How does an audience interpret the information conveyed in a digital representation of self? How does this differ from interpretations of the body? How does this affect the ability to interact?

Accountability. When does a representation have to link to a verifiable individual? In what ways does its accountability differ with a digital representation than with a body? What role can – or should -- biometric identity markers (such as DNA) play in grounding digital interactions in physical identities?

Temporality. Unlike biometric identities such as DNA, the way we represent ourselves to others can change drastically over time. How can persistent digital representations of self appropriately register time and its changes?

Work/Play. Identity play, as with Friendster's Fakesters, is a popular form of amusement. But maintaining a digital representation of self that closely corresponds to a verifiable social identity can be time-consuming. What kind of maintenance work on such a representation is appropriate and/or enjoyable?

¹ <http://www.tracenoizer.org>

² <http://netscan.research.microsoft.com/>

These issues become critical in designing a CMC system. Depending on the types of behavior supported, different systems will have different needs. But all systems will have to cope with the key issues of accountability, trust, belonging, and the ramifications of deception that arise with the absence of a physically present body.

PLAN FOR THE WORKSHOP

We would like to gather a balanced group of social scientists, technologists, artists, designers and thinkers engaged with the problem of digital representations of self. Our goal is to further unpack the issues addressed above, with an eye towards design.

We imagine that this workshop would be relevant to a wide variety of people, including people thinking about or working on:

- Any aspect of CMC, including, but not limited to: blogging, gaming, online dating, mobile and ubiquitous social devices
- Social issues around reputation, trust, privacy and vulnerability; social networks, identity, persistent conversations, and context
- Theories of cyberspace, cyborgs and the body
- Biometrics

We expect around fifteen participants, but are willing to accommodate up to twenty people should the quality of submissions warrant expansion. Our main objective is to ensure both a good breadth as well as depth in terms of the represented disciplines and approaches. The workshop seeks to broaden people's horizons and provide an opportunity to dive deep into the critical design issues.

Application

Participants will be selected based on demonstrable interest in the topic, as seen through position papers submitted prior to the workshop. Proposals should consist of:

- A sketch, design, or other constructed representation of digital identity; alternatively, a collage of existing representations of digital identity
- A 1-page discussion of the critical issues considered in this representation and the process of producing it, situating the discussion within a scenario.
- A 1-page discussion of background, interests, current work and motivation for participating in this workshop

Goals

- Map a set of concerns that emerge in digital identity representation
- Identify design trade-offs that emerge when addressing these concerns
- Establish a framework for discussing these design issues

Workshop Activities

9:00 –9:15 Orientation & Organizer Introductions

9:15–10:15 Introductions & Discussion of Submissions
10:15-10:45 Break
10:45–11:45 Scenario generation based on submission discussion and participant interest
11:45–1:45 Lunch
1:45-2:45 Design exercise based on scenario (3 groups)
2:45-3:30 Presentation and discussion of exercises
3:30-4:00 Break
4:00-4:45 Making links: relevant social groups, theoretical connections, design strategies
4:45-6:00 Constructing a conceptual framework for design

Prior to the workshop, participants will have submitted position papers. These position papers will be provided to all participants before the workshop.

The workshop will begin with a general orientation and an introduction by the organizers. Following this, each attendee will be asked to introduce themselves in the context of their submission, briefly introducing the core goals of their research.

We will then collectively discuss a set of scenarios involved in digital identity representation, using the submissions and interests as a guideline. After the break, we will breakout into three pre-assigned groups to address a design scenario and unveil design concerns involved in digital representation. An example exercise might be to consider alternative representations of pub-like social interactions.

After lunch, we will reconvene to discuss the design exercises with the express purpose of teasing out emergent tensions. Considering various relevant social groups, we will then try to address the consequences and some strategies for addressing them.

The day will end with a collective effort to transform the tensions and constraints into a roadmap of issues involved in digital identity representation. The roadmap and all workshop brainstorming will be documented for non-attendees.

Organizers

danah boyd is a Ph.D. student with Peter Lyman at UC-Berkeley's School of Information Management and Systems (SIMS). Her research focuses on how people negotiate their identity when faced with an unknown audience and an unclear social context. Recently, she has been doing ethnographic research on Friendster and blogging. Prior to Berkeley, danah's research focused on social visualizations of faceted identity at MIT Media Lab and the effect of sex hormones in prioritizing depth cues in virtual reality at Brown University. <http://www.danah.org/>
Michele Chang is an interaction design researcher with Intel Research's People and Practices Research Group.

Committed to using ethnographic research as a means for considering user needs, Michele designs systems which address the social implications of new technologies. Her current work examines the role of identity in a persistent location-based game where social aspects are highlighted in the negotiation of online/offline experience. Past work includes an exploratory study of identity and trust in relation to community infrastructures as they relate to ubiquitous computing environments. Michele received her master's degree from the Interactive Telecommunications Program at NYU.

Elizabeth Goodman is an independent interaction designer and researcher. Her work focuses on the discovery of design opportunities for technology-mediated social interactions in public places. Most recently, she has collaborated on the design of a large-scale location-based game sponsored by Intel's People and Practices Research group as a research tool for examining urban mobility and social coordination. She has a master's degree from New York University's Interactive Telecommunications Program.

Resources

We would like to choose A/V option #2: Overhead and screen. We would also like power. We will provide all additional materials.

RELEVANT TEXTUAL MATERIALS

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17. Wynn, Eleanor and Katz, James. 1997. Hyperbole over cyberspace: Self-presentation & social boundaries in Internet home pages and discourse. *The Information Society*, 13(4): 297-328.