(In)visible partners: people, algorithms, and business models in online dating

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A confluence of personal, technical and business factors renders priorities, practices, and desires visible – and invisible -- when people use online dating sites to look for partners. Based on a review of websites, interviews with dating site designer/developers, and interviews with would-be daters about their online experiences and their first dates, we offer some insights into the entanglement between daters, site implementers, and business models that is part and parcel of getting 'matched' via the Internet. We also examine the role of the website interface and match algorithms in the expression of the "real me" and the search for "the one" – and then how processes of self-presentation and partner imagination play into the planning, expectation-setting and experience of the first date. Finally, we reflect on issues raised for design and for strategic technology development. This study of online-offline encounters is an example of using detailed qualitative analyses to deliver deeper understandings of people's experiences, offering a complement to large-scale, aggregated data summaries based on website activity logs and surveys.

"I just want them to see me for who I really am."
Female online dater, aged 34.

"… there is an omission in those sites, in the regular sites. Nobody talks about sex, it's just not brought up. Or it is not allowed, and you get censored, kicked off. Which is silly."
Female online dater, aged 48.

"There is a lot of stuff we think we could do. But you know, we have to prioritize, to choose between things. There has to be a good reason…something that is good for our market, for our customers. And there's stuff that puts people off. No sense in driving people away."
Site designer, aged 32

INTRODUCTION

Romance, love and sex are big business. Unlike many other forms of online socializing, where business models, or what is known as "monetization," are unclear (Lunn, 2008), servicing the pursuit of sex, romance and partnership has always been profitable.

Today, online dating is far and away the most socially acceptable face of coupling services. By 2006, sixteen million Americans had used an online dating website (Madden and Lenhart, 2006). Nielsen Online estimates that 25.8 million people visited online dating sites from the United States between February 2007 and 2008, with 18.9 million people visiting

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from other countries it tracks in the European Union[1] (Neilsen, 2008). The dating/matchmaking industry in the United States has been valued at $1 billion per year, with online activities (including subscription fees and activities such as "winking", or sending virtual gifts) making up 50% of that total (US Dating Services Market, 2006).

Yet there are signs that the industry is in trouble. Some have been suggesting growth slowdown since 2005 (Pasha, 2005). More recently, analysts point to "saturation" of the market, and warn that additional market growth will require the design of new for-pay services for existing customers, and the recruitment of new types of customers (Elliott, 2007). This study emerges from a partnership between Yahoo! Research and Yahoo! Personals aimed at identifying strategic directions for growth through a better understanding the relationship between online dating, in-person meetings, and the website that lies between them.

Online dating has recently emerged as a concern not just in industry but also in academia. Recent research has focused predominantly on behavior online, falling into two main areas: *attractiveness,* and its counterpart, *self-presentation.*

Attractiveness Studies of attractiveness identify qualities desirable in mates, and the representation of those qualities online as a starting point for understanding how people pick mates – which is, after all, the goal of online dating. Hitsch et al (2006) derived patterns of preference in the logged communication activities of 22,000 users of an online dating service using economic "marriage market" models. More recently, Fiore and colleagues (2008) used online dating profiles to quantitatively model predictive relationships between perceived attractiveness of individual profile elements (i.e., images and free text) and the whole profile.

Self-presentation Creating a self-portrait in the form of a user profile is one of the first actions an online dater must take. These profiles, which the dater can alter anytime, are a rich site for inquiry. However, there is little published work on the process of making and revising profiles. One notable exception is Ellison, Heino, and Gibbs' (2006) extensive interviews with online daters. They use online dating as a lens on computer-mediated processes of interpersonal communication and impression management. Perhaps in response to widespread stories of dishonesty in online self-description (for early research see Donath, 1998), some researchers have estimated the actual extent of dishonesty in self-presentation (Brym and Lenton, 2001; Hitsch et al, 2006; Hancock et al, 2007), its effects on relationships (Gibbs et al, 2006), and how online daters enact "honesty" itself (Ellison et al, 2006).

The literature of attraction and self-presentation in online dating is mostly quantitative. It leverages the large number of actual and potential dating service participants and substantial amounts of logged activity data. As well, most of the research seems to conceive of dating as a "marriage market," where online communication tools operate as more or less

[1] The other countries tracked include Germany (5.6 million), France (4.7 million), United Kingdom (3.6 million), Italy (2.7 million), and Spain (2.3 million).

effective instrumentalist connectors, facilitators of a commodity exchange in which people strive to sell themselves to others by listing their own winning qualities (Illouz, 2007). None of these studies treat the online dating service itself as an actor that shapes how people interact online and what they expectat from the first in-person meeting and beyond. Closest to this kind of analysis are Jones and Ortleib's (2006) critique of profiles as lacking support for the creation of an online, personal 'place' for social action with others, and the work of Frost, Norton and Ariely (2006) who suggest use of a virtual environment for first "dates" online.

Embodiment Unlike pornography and other forms of remote sexual stimulation such as 'teledildonics,' seeking romantic partners online generally requires a move from mediated to face-to-face interactions. Hardey (2002) and Illouz (2007) relate conventional actions of 'online dating' such as looking at and creating profiles, to characteristics of attraction, attractiveness and self-presentation in everyday (non-dating) life. These analyses claim that online interactions cannot – and indeed should not – be divorced from cultural and political aspects of everyday life. Our own work documents how date planning, location selection, route planning and physical wayfinding to the first date can modulate assessments of the relative attractiveness of the other (Goodman and Churchill, 2007).

SERVICES AND PARTNERS IN ONLINE DATING

Our work focuses on the design of satisfying and profitable services "along the way" to finding the perfect mate, and as part of this on understanding the role of a site or service in the emotional experience of daters (including hope, excitement, anxiety and disappointment). With the exception of Frost, Norton and Ariely (2006) and Jones and Ortleib (2006), we found little previous work that explicitly addressed possibilities for new applications, services or business models. Therefore, our work, and this paper, differs in both subject and method while drawing on other work in self-presentation. We have used interviews and observation to understand the work of profile generation and interpretation *and* the business processes of customer targeting and market segmentation. Our interest is in identifying some points of disjuncture between the expectations and actions of the different stakeholders or partners in the process of finding a matched mate. In particular, we address the relationship between corporate design decisions and daters' workarounds for revealing desires and establishing romantic compatibility.

Study Details

We carried out semi-structured interviews with three site designers/developers (from two different online dating sites), a dating site product manager and with online daters. Following a screening survey of 200 potential interviewees, we interviewed 22 current and past online daters; interviews took place between January and July 2007. All our interviewees reside in California's Bay Area and all are interested in finding long-term partners, rather than short term "hook-ups" and/or one-night stands. We selected daters for diversity of experience, not for statistical resemblance to the larger population of online daters. Our

sample was gender-balanced, and included a range of income levels – from a substitute teacher to a financial analyst. Four of our sample considered themselves "highly technical" and "computer "savvy"; all felt "very comfortable" using the Internet. Our interview sample was largely white, with few extremes of either wealth or poverty. All our interviewees considered themselves culturally American. The participants' median age was 37, making them unusual: only 11% of Americans aged 30–39 have dated online (Madden and Lenhart, 2006). However, we view this diversion from the statistical norm positively. Given the decreasing stigma of online dating and the increase in divorce, there is likely to be an increasing number of 30+ daters online in years to come.

Our interviews were conversational; our interview protocol semi-structured. All interviews were audio and/or video recorded. We asked developer/designers about design choices: the development and implementation of recommendation algorithms, the design of profile pages and other parts of the website. We also discussed business roadmaps and customer service issues of satisfaction and safety. We asked daters how they began online dating, their participation within and activity on online dating sites, and how they moved from online communication to in-person contact — including aligning schedules, selecting locations to meet, navigating unfamiliar neighborhoods, and self-presentation in person. By meeting with daters mostly in their homes, we got an intimate perspective on the spaces in which they browsed profiles, answered emails, and dressed themselves for meetings. Alternately, we tried to meet in the type of locations they might choose for first dates. In particular, we collected anecdotes of dates, with a focus on the embodied experience of romantic mobility: distance traveled, modes of transport, navigation technologies and techniques, and assessments of meeting places. We shadowed one dater as she prepared for a first date, and then interviewed her on her return.

Findings: Practicalities, practices and consequences of visibility and invisibility

Invisible work and managed emotions The rhetoric of "sign up and find love" promoted by most dating sites in their advertising and branding renders invisible the practical and emotional work of dating (see Figure 1). A typical round of dating activities might look like this: selecting a promising site, filling out (perhaps iteratively editing) a profile form, conducting mediated conversations (through IM, email, on the phone), location and activity planning (often including the sharing of digital resources), preparing for the date (including making clothing purchases and selections), getting to the date (often requiring careful scheduling and traveling), meeting and managing the in-person conduct, leavetaking, and a decision as to how one should (or should not) follow-up.

> I come home from work and the dating work starts. Nobody told me it was going to be this much work! It all looked so easy when I started. (Heterosexual female dater, aged 34.)

Figure 1. Front pages of three online dating sites: one for a general population, one specializing in horse lovers and one specializing in those who are interested in a 'green' lifestyle

All interviewed had used more than one dating site, compounding their efforts. Further, contrary to the advertised smooth linear move from profile to selection to happiness, people reported cycles of excitement, anxiety, disappointment and cynicism. Most interviewees reported periods of active partner seeking followed by "not really bothering", "dropping the subscription", "being in stealth mode", "making my profile invisible" and "turning the profile off." Daters also felt they needed to effect a detached "front," by actively hiding emotions (anxiety or excitement) from potential partners in mediated and during first dates.

> You don't want to sound too keen. That puts people off. Makes you seem desperate. (Heterosexual female dater, aged 42)

Visualizing the self Decisions to meet in person usually rely on what is visible through the profile and on mediated conversations prior to meetings. A plethora of books and websites aim to teach dating profile literacy, advising daters on how to appear interesting and attractive to others online (e.g., Katz, 2003; Silverstein and Laskey, 2004). All our interviewees talked about constructing profiles to "send the right message" or attract the "right" responses. Profiles are games of selective visibility: to be noticed by the "right"

people, our interviewees had to write profiles with potential algorithmic "matches" in mind while risking encounters with the "wrong" people. The technology, and the business model are actively involved in the creation and the parsing of profiles, and thus in self-presentation online. People learned to craft profiles within certain genres, attempting to appear distinctive *but not deviant* in the context of specific audiences and sites. Profiles thus required the creation of 'factions' – part fact, part fiction – tailored to particular genres and norms.

However, such tailoring is related to deception. Our interviewees found nuances in profile creation and deception that differ from the simple differentiation of good "truth" and bad "lies" upon which much previous research relies. Conscious misrepresentation – such as misleading photographs, and textual lies about age, physical appearance or favorite pastimes – is just one part of a spectrum of 'dishonest' practices. Such intentional deception was often explained as a 'foot in the door' belief: "once they meet me, I am sure they will overlook these things, see the real me" (Gay male dater, aged 49, describing the attitude of a date who had lied to him). However, beliefs about matching algorithms could also motivate inaccuracies. Believing that a dating site "unfairly" discriminated against people over 50, one older woman misstated her age to ensure visibility in search results. We also saw acceptance of misrepresentation if the qualities at stake seemed *mutable* and as such inconsequential.

> I don't smile, and I don't wear my glasses [on profile pictures]. These things are changeable. You can fix those things. I could change those. (Heterosexual female dater, aged 48)

Yet concealing those "changeable" qualities requires special efforts, and can be stressful:

> … I always go somewhere that I've memorized the menu. You don't have to reveal you wear glasses. [*Interviewer: What about recognizing the person you are meeting?*] … I just wait around till someone comes over, or starts getting up as I walk past.

Notably, this woman's dates did not always accept these "stretches." To her annoyance, she has been accused of deception – to which she responds, "Why can't they see the potential?"

"Deception" can be a matter of perspective: what is seen in, or read into, a profile is not always what the author intended. "I thought she liked sports," a male dater said of a woman who had posted a portrait of herself at the *only* baseball match she had ever attended. In fact, she had seen the photo merely as an attractive portrait, not an indicator of leisure interests. Divorced from original contexts, even the cropping of images is interpreted negatively:

> … like those pictures where they have cut someone off but you can still see part of the other person. That is weird. (Lesbian dater, aged 37.)

Mismatches between profile and in-person experience are thus more complicated than "truth" versus "lies." As suggested by accounts of the "hyperpersonal effect" in online dating (noted in Gibbs et al, 2006; and Fiore et al, 2008), we found that thin or unavailable information seemed to be a fertile ground for fantasies of an idealized partner. But fantasies can turn sour when imagined affinity runs afoul of actual dissimilarity (see also Norton, Frost and Ariely, 2007).

"Can't see the wood for the trees" Most interviewees felt they filtered long lists of superficially similar potential matches based on sparse cues. This sparseness is both a product of limited content (a few paragraphs, some photos, perhaps a video) and limited experience. Reading the expressive language of profiles is a learned skill. People did articulate clear strategies for evaluating profile validity and desirability. But the numbers of recommended profiles and requests for contact overwhelmed many would-be daters. Women especially reported hiding from others while looking through profiles.

Developers try to avoid both too many and too few search results. Both mean that "good matches" remain unseen, and hence lead to dissatisfaction with the service. One site developer linked site design to gendered patterns of site use:

> Men take a scattergun approach. They send out 200 contacts and hope one sticks. Women are more selective. And there are more men than women on the site anyway. So you do the math – women get overwhelmed and leave because they feel harassed. And men get no response so they feel like the site isn't working (Site developer, aged 32.)

(In)visible friends The profile was not the only source of attractiveness on some sites. "Friending" functionality meant that the photographs of contacts generated a "friend halo" for one's own profile:

> The more good-looking guys you have as contact, the more they get the idea of the level you are at and want. (Heterosexual female dater, aged 48.)

Yet people are not simply on the dating site – they may have multiple forms of online presence, from membership in social networking sites to work email addresses. Some sites encourage people to authenticate their identity by proving a consistent persona beyond the dating site itself; visibility beyond the site is proof of an authentic - and sincere - person.

> You get points for verifying who you are. If you can show you are the same person across different places, then you get more points [on the site]. (Heterosexual female dater, aged 48)

But despite the reduced stigma surrounding online dating, people often expressed anxiety about sharing dating with their everyday social circle. Some individuals mask or hide sexual preferences and dating practices from lovers, friends, colleagues and coworkers.

> I tend not to talk about it with my colleagues – why tell them? They are all married and settled down and it makes me feel like a loser. (Heterosexual male dater, aged 35.)

Site lines Websites actively structure dating activities. They supply tools for profile creation, and write the algorithms that sort users. They also often target niche audiences based on specific interests, leading to self-segregation of daters (Figure 1). Tailoring profiles to specific interest-based sites is complicated by the ways in which those sites render more or less visible what kind of daters *they* want. Even sexually explicit sites have their own codes:

> It's funny, on this site, you see the merchandise but not the face…People always show their bodies and when you get to know them then you see their faces. That is the part that they feel is intimate to share with you. On other sites you see their faces and lives and then you get surprised. (Heterosexual female dater, aged 48, on Adult Friend Finder.)

Norms are also enforced by other site users. That same user of Adult Friend Finder, for example, trapped between the expectations of users of sexually explicit sites *and* those of 'mainstream' sites such as Yahoo! Personals and Match.com:

> Some people get annoyed that you are on [Adult Friend Finder] and you want something other than just sex. If my profile says I am looking for a long-term thing, then I think that is fine. But I have started looking at other sites. But there is an omission in those sites, in the regular sites, nobody talks about sex, it's just not brought up which is silly. This site it's brought up and it's the total other end, the extreme.

The partially visible algorithm The number of profiles puts the matchmaking authority in the hands of a matching algorithm. Some websites – notably, eHarmony -- base their marketing and their fees on the promise of an algorithm that can determine emotional compatibility. Much faith is placed in the power of the algorithm by would-be daters:

> Yahoo! says we are a perfect match. She was not interested in me. But then wrote back to me several weeks later, and said Yahoo! still thinks we are a prefect match, so we started dating. (Lesbian female dater, aged 54)

Algorithms use textual data, and interfaces like those shown in Figure 2 are developed specifically to produce algorithm-appropriate inputs. We can see efforts to "tweak" the profiles as attempts to make them more broadly visible – that is, searchable and findable to matching engines. Profiles are therefore designed to get attention in the vast pool of daters, to render oneself visible both to people *and* software.

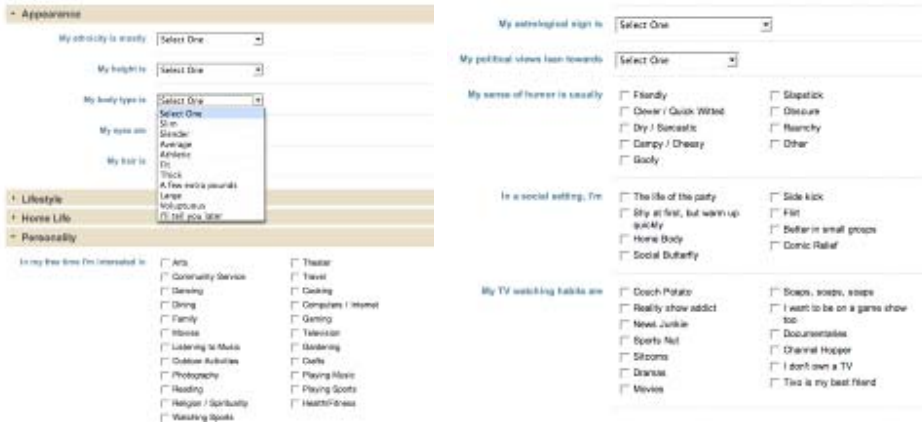

Figure 2 Standard online dating site profile page with drop-down selection boxes and checkboxes for physical and personality presentation. Items are "objective" (e.g., height) and "subjective" (e.g., "In a social setting I am …."). Personality continues with items about preferred habits Items in Lifestyle and Home Life include marital status (single, separated, divorced), parental status (kids, no-kids), occupation and income bracket.

When attempting to attract the broadest possible range of customers, dating sites paradoxically delineate some clienteles as unacceptable. As illustrated by the third quote at the beginning of this paper, services themselves impose invisibilities, rendering certain subscribers invisible through business and cultural requirements. Sites signal the niche they serve through imagery and targeting (Figure 1). Profile checkboxes and communication content monitoring also clearly signal acceptable behaviors or at least the assumed foundations of successful partnerships (Figure 2). Our interviewees, especially those with particular tastes, told us they felt "invisible" on "vanilla sites." One 30-year dominatrix stated "there is no category for me" and "my preferred images would not be acceptable." Many profiles do not have categories for certain proclivities, and many surveys render invisible unknown or unacceptable sexual preferences. Paradoxically, these elisions result in fewer data points for the process of algorithmic match.

> You can't talk about sex openly. But it's stupid we all just use codes for different preferences. You get it, but the filters don't … yes and my pictures get taken down too … not naked pictures, pictures of me in latex. Some sites just don't like you to be wearing anything they think is kinky. So they take down the pictures. (Heterosexual female dater, aged 30.)

> I'd like to know more about health you know. It matters whether someone is [HIV] positive or not. You don't have to surface that information, make it public but I'd prefer to filter on that. (Gay male dater, aged 49.)

Business practicalities – invisible to daters – can result in people being blocked and removed or banned from the site. Other daters can feel confusion and annoyance at inexplained disappearances, and perhaps begin to wonder if the site developers behind the scenes are actively surveilling on-site activities. Some develop workarounds to counter the sites' actions.

> This guy contacted me. He joined so he could write to me. But as I am not a paid subscriber, I can't write back, they took out his contact information. So I can't write back, and he doesn't know I didn't get his information. It was a mess. (Gay male dater, aged 49)

> The following day his profile was gone. His email was gone. His last email referenced his personal email account and his IM. I guess they shut it down. (Heterosexual female dater, aged 42)

> The site won't let you exchange personal information through email. But most of the time the men can slip their information through, but if you try to, to slip your information to them, they always catch it…..I guess they [the developers] keep track of the women's side of things. (Heterosexual female dater, aged 48.)

> If I talk about a subject on email through the site, then all of a sudden I get contacted by guys who have those interests. Is someone looking at my emails? Does the site know? Do they read this stuff? (Heterosexual female dater, aged 37)

Off stage Online dating is not merely "online." It involves a continuum of situated actions by two (or more) actors whose relatively limited contacts obscure activities happening "on the sidelines" or "in the background." One cannot separate activity "on", "inside" or through the dating site from external contingencies (Hardey, 2002; Illouz, 2007). Would-be daters juggle practical contingencies in assessing others' potential and in planning dates.

> I would never date someone that my daughter does not like. (Lesbian dater, aged 54.)

> Yes my son really matters. I don't want him getting close to someone who then leaves my life. (Heterosexual female dater, aged 34.)

> We have a calendar in the kitchen, and I block out evenings when I am going on dates. I don't put any information other than I am going to be out. Tend to be regular days. My wife knows those are the days I am on dates, but we never talk about the details. (Polyamorous male dater, aged 37).

Characters kept invisibly "off-stage" while daters are online can – and do – become visible at face-to-face meetings. Daters stage what is seen in their homes, select date

locations to avoid others, or even keep a cell phone on in case an as-yet unmentioned child should call.

> I have a calendar in my room. Guys come over and they see it, they see all the other guys names. I've told them I am seeing other people but they still get surprised. (Heterosexual female dater, aged 48.)

> I tend to choose places to meet that are not in my neighborhood and stay away from places I may see folks I know. I don't want to have to explain. (Heterosexual female dater, aged 36.)

REFLECTIONS ON (IN)VISIBILITY

The concepts of visibility and invisibility encourage us to consider issues of romantic representation outside of the narrow lens of a self, or even a relationship between two people. Rather, online dating involves multiple types of relationships, and multiple places of action and transaction:

- *Dater to themselves* How I see myself. How I want others to see me through the dating site profiles and through who is associated with me there, through other data on me that may be findable/searchable.
- *Dater and potential partner(s)* How I look for what I want. How I have been told I am seen (through my profile and in-person).
- *Dater to other (not desired) daters* How do they find me? Why are they matched with me?
- *Dater and online dating site* How I learned to present myself. How I learnt to search and select. How I got around the system. How can I get more suitable matches. How the service helped me/let me down.
- *Dater and friends/family/work networks, who may not know s/he is dating* How I hide/share my dating/dates.

In terms of the literature that addresses online dating, this broader perspective opens up the discussion and the possibility for different way to think about online dating. For our design research purposes, we see three areas that can be informed by our approach:

(1) The search algorithm is not transparent. It is an explicit part of match-making that some daters see as an actor in their relationships with the online dating service *and* with potential partners. Daters learn to "manage the system"; that is, the interface, the algorithms / recommendations to filter, and the proposed partners they review and meet.. They craft profiles to attract better matches. They imagine how the system views their correspondence and modulate their behavior accordingly. The opacity and lack of interrogability of the technical matching system, offer a fertile ground for the imagination – and for irritation. We have proposed and sketched several redesigns, features and applications: extensible/editable checkbox interfaces; mechanisms and representations for playfully surfacing match/rank/recommend rationale; a collaborative date-planning application (Churchill,

Goodman and O' Sullivan, 2008); and designs for post-date diaries. These designed interactions are ways to create a richer 'conversation' between daters and the algorithms that are working on their behalf.

(2) People are not *just*, or *only* daters. They are also children, spouses, and parents who may hide parts of their dating lives from those who are otherwise close to them. The online dating industry often discusses the disclosure of information such as real names and phone numbers in terms of physical safety. While protection from relative strangers is important, online dating also involves shielding oneself from family and friends. Designing for dating means designing for all kinds of non-work-safe activities: sex (transgressive and otherwise), stalking (or even just the fear of it), lying (minor and major). Designers of dating services understand this, but often sanitize it with terms like "safety" or "deception." These things are opportunities, not problems, for clever socio-technical interventions – like dynamic profiles that adapt to differing norms, or one-use phone numbers linked to your online account.

(3) Designing for online dating does not necessarily mean that a company must accommodate all forms of sexual intimacy in the web forms driving search – ie, polyamory, bondage, or one-night stands. But a prime irony of researching dating is how it makes clear that one role of research is to surface practices that a website hides, but that users would like see to made visible. We found ourselves with an unexpected number of participants who happily talked about lives for which there is no profile-page checkbox: the dominatrix looking for a boyfriend; the transgender mother of three; the polyamorous parents. While many dating websites attempt to hide these ways of life, these invisible subscribers do not go away. Instead they respond – as have other historically sanctioned groups – with coded messages. The logic of "niche" services would insist on segregation of these groups. Given that online dating sites must find new types of subscribers in order to grow, trying to excise unwelcome self-representations and desires seems both futile and counterproductive. A compromise between appropriateness, consistent branding and the disenfranchising of certain identities and behaviors is possible. As a beginning, we suggest thinking about profiles – not just search results – as mediated by an algorithms governing disclosure.

This latter point is important. Initially, we wanted to make the emotional and practical work of dating visible. But there is a paradox. One cannot discuss some of the more vivid aspects of our daters' lives without apparently reducing complex behaviors to simple categories – such as those used for behavioral targeting. By their nature, design tools like user personas are abstractions, and as such can lose the nuance and detail that is central to how online dating is lived. Many of our activity-centered stories elided the emotional reality of dating: the anxiety about unreturned phone call, the rush to get to the restaurant on time, anxieties about sexual preferences/proclivities of the other that may spell out incompatibility, and even the quest for the perfect profile. When we do not communicate these emotional states, we miss opportunities for design, such as addressing the anxiety and uncertainty that so many online daters face as they move from the website to a meeting, and then to an evaluation of that meeting and the potential for future meetings.

This turn to emotion and especially its embodiment in "the first date" is not simply a contribution to the literature of dating, or even just an interface design support. Unlike other analyses of online dating, we see the *business* of online dating as a question of careful and sensitive branding strategy. By interposing themselves between would-be couples, businesses become silent partners in the matches they make. At this emotionally charged time, matching and dating experiences can engender strong reactions, both positive and negative. Deception is a way to highlight this point. Dating websites often prominently feature glowing testimonials, but repeated lawsuits have alleged fraud and misleading practices against some of the most popular sites. Some of these cases appear to derive from over-interpretation (ie, the "hyperpersonal effect") and ensuing disappointment, rather than intentional exploitation or deception.

SUMMARY

Daters, website interfaces and algorithms, and business models together create the experience of online dating. Our detailed qualitative work complements larger scale activity log and survey data, but goes further to reveal how constraints, limitations and distortions introduced intentionally or artifactually by site implementation or by service design deem ineligible or render invisible certain daters and/or dater characteristics. Our process-focused approach not only challenges goal-oriented, "get the job done" approaches, but also can productively inform new "along the way" services. These services can positively address the anxiety and uncertainty that so many online daters face as they move from the website to a meeting. As a contribution to EPIC, our close-reading of the experience of people as social actors in situ, has shown that a taken for granted category (online dating) does not imply a person, a practice, a technology or a business model. Only by seeing the various actors in the process can we begin to see opportunities for new services and new design.

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