

Sexing the Internet: Reflections on the Role of Identification in Online Communities

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Abstract

This article addresses how demographic profiling in online forums affects the creation of socially vibrant communities. Many site designers, believing that user profiles aid in community development by providing the users with a social context, encourage or require their use. Instead of offering a broader context for users to grasp the social cues normally available in the physical world, profiles dramatically affect the social behaviors, norms and cultures of online environments, most notably at the expense of less privileged groups.

I analyze the impact of systematically created profiles in online environments. In doing so, i discuss how the coarse categorizations of age, sex and location (A/S/L) – the standard formulation of identity online – do not necessarily provide deeper intuition for individuals and how the information desired alters social norms, specifically magnifying socially problematic stereotypes and automatically sexualizing the environment. In particular, i am interested in the ways that the use of 'sex' as a marker of identity has created a rigid set of social classifications online. I argue that the use of gender, in place of 'sex' would offer online participants a more fluid set of identity markers.

Keywords

Identity, demographic profiles, online communities, gender

Introduction

On June 14 2001, the *New York Times* technology section carried a review of instant messaging software options (Biersdorfer 2001). Writing about his attempts to create user IDs across five different instant messengers, the reviewer, J.D. Biersdorfer, noted that, 'Moving on to register for Yahoo Messenger, I found myself asked to fill in fields marked gender and occupation before I could advance to the software downloading area. I tried to blow by but was hit with a stern error message: "Gender is a required value. Occupation is a required value." (I am sure there is a paper on contemporary American socialization or a post-postmodernism riff in there somewhere.)' This is that paper.

I came of age in America at a time when identity politics dominated most academic discourse, and carried over into popular culture and politics. At that same time, the PC was moving home, and the Internet, in its embryonic forms, gained acceptance beyond research environments. Without even realizing it, i learned to perform my identity simultaneously in digital, as well as physical, environments. As a precocious teenager, the multiple personalities of my online identity proved a terrific staging ground for learning about myself, and the world around me. While attending graduate school, i have been able to reexamine those experiences through an analytical lens, and to contextualize them more broadly. As a participant in online communities for almost a decade, i have been witness to, and agent in, remarkable shifts in online social norms. In what follows, i draw on my experiences and interactions with others, as well as a few targeted conversations, in order to understand the impact of current practices on the online community.

In this paper, i examine how demographic profiles can and do affect online social interactions. This paper begins with a review of the utopian ideals of online communities and the ways those ideals have been popularized. The remainder of the paper is concerned with the experience of getting and being online. First, i discuss how, in order to gain access to most online communities, one has to construct one's identities through a series of pre-selected and prescribed options, specifically age, sex and location. Here i am interested in the ways such identities are being manipulated. This paper concludes with a discussion of how sex as a marker of identity reproduces societal norms, both online and offline. It is my contention that the reliance on sex as a marker of identity online has encouraged a certain kind of re-embodiment of users (as sexed beings), with an attendant sexualizing of cyberspace. I suggest that the use of gender instead allows greater flexibility for users seeking to create new and fluid identities online.

The ideal

In their 1996 novel *Nearly Roadkill*, Caitlin Sullivan and Kate Bornstein create a fictional society in which online communities thrive and social interaction is the primary use of networked technology (Sullivan 1996). Recognizing the economic possibilities of targeted advertising in these online worlds, the government and advertising industry work together to require that everyone register their identity through a list of markers including race, age, income, and sex. Initially, almost everyone in this fictional society accepts these markings. A few disgruntled members of the community decide that this practice needed to be questioned. Through their vocal rebellion, they gather massive support and the online community stages a successful 24-hour voluntary boycott of the Internet, resulting in systematic change. Although *Nearly Roadkill* was written in the mid-1990s, before the mass popularization of the Internet, its vision of a commercialized online world has certainly been realized. And while one might argue that the recent economic devaluations of the Internet have curtailed its commercial progress, it remains to be seen whether we will also realize a mass social resistance to these commercial practices

In the late 1980s and early 1990s, many academics also imagined that virtual environments would offer a utopian world where sex, race, class, gender, age, and sexual orientation ceased to be relevant. While early systems appeared to offer these options, as the masses joined the Internet bandwagon, they brought many social norms with them. Although much of the early Internet, with its roots in research, was free, the growing population of users suggested commercial possibilities to many entrepreneurs. Working out how to make money on and offline been a complicated problem, but the first step has always been to have a better sense of who all these users are. As a result, commercialization of online environments has resulted in mandated profiling of individuals users.¹ These profiling practices have a wide variety of effects on the social environment, ranging from reemphasizing the male/female dichotomy to altering the social norms of introduction.

In order to profit from the tremendous expansion while still offering free access to consumers, organizers of online communities, including large portal sites such as Microsoft and Yahoo!, sought advertising.² In order to directly target consumers, advertisers require that these sites collect and make available demographic information about users. To comply, most commercial sites require users to identify themselves through a collection of demographic labels, usually including sex, age, and zip code (which can predict race and socio-economic class with reasonable accuracy). In some sites, these labels are made part of the user's profile, and thus play a significant identifying role during social interactions online. For example, while Yahoo! does not publicly reveal one's email address, one's sex is automatically placed in parenthesis next to one's membership; to change this, one must go click through six layers of personal information and then agree to Yahoo!'s terms of service.

Supporters of labeling suggest that this practice is beneficial, as it replicates the information available in physical interactions, allowing for appropriate behaviors and pronoun usage. Detractors claim that these coarsely drawn category labels are quite different from the more subtle cues present in real life and that they hinder the development of rich mediated communities by magnifying preexisting stereotypes, encouraging deception, and automatically sexualizing virtual spaces. Meanwhile, advertisers and those attempting to profit from online traffic continue to require collection of personalized information about individual users (and potential consumers), in ways simply not possible in offline spaces.

¹ Following the massive Internet boom, the vast majority of online environments are corporately controlled, relying on advertising revenues, or in rare cases, consumer subscriptions. Thus, for the purpose of this paper, we will only address such communities.

² Microsoft network includes Chat, Communities, Hotmail, Instant Messenger; Yahoo! includes Chat, YahooMail, Messenger, eGroups/yahogroups and GeoCities

The utopia-ization of online spaces

As digital pioneers, Donna Haraway, Sandy Stone and Sherry Turkle imagined the possibility of life online as a way to transcend physical identity and marked bodies. Cyberspace became a site, or series of sites, in which identity might be deliberately and consciously performed (a la Judith Butler). This reading of cyberspace was seductive, and spread from the academy across a range of communities generating considerable discussion in academic, radical feminist, and queer circles. These ideas were played out in some of early virtual worlds, such as LambdaMOO, where you could identify yourself as belonging to a wide variety of races and genders, beyond those that exist in the physical world.

Although early digital writing suggested that this was the perfect frontier to escape the inequalities of the physical world, researchers quickly discovered that the physical problems did not disappear in a virtual world. Indeed, O'Brien argues that individuals tend to reproduce, if not hypergender, their real world identities (O'Brien 1999). More significantly, even when people attempt to escape their physical identities, their deception is often quite apparent to other people within the space (Donath 1998; Berman 2000).

While academics continue to hope that the cyberutopia will be realized, the ongoing commercialization of online communities only magnifies existing identity markers by continuing to legitimate, even demand, their use. Although the desired utopia is impractical, i believe that it's possible to improve on what is currently available and find ways to move beyond a rigid set of social classifications to something more fluid and flexible.

Getting online in the real world – it's all about age, sex and location (A/S/L)

Earlier this year, eGroups moved to Yahoo!'s site, and i was forced to join Yahoo! in order to manage the myriad of mailing list subscriptions that are an intimate part of my digital life. Although i had previously considered signing up with Yahoo! for instant messaging purposes, i had avoided doing so for fear of the initial, but required, questionnaire, challenging me with impossible questions. First, i must choose one of a series of pre-selected secret questions, in case i forget my password and need to ask the friendly customer service people; i can't answer any of them. I don't have an all-time favorite sports team; i don't remember my father's middle name, the name of my first school or my high school's mascot; i have never chosen a favorite pastime; i don't have a pet at this moment and i certainly don't know where i met my spouse. I answer one of them randomly, deciding to hope that i just remember my password. The next step, birth date, is a less challenging, as i am quite able to pull down the appropriate month and fill in the two blanks indicating day and year. Next, under language and content, i leave the default 'English-United States' and move on to zip code. I re-enter my college zip code even though i haven't lived there in over a year, but figure it is as good as any zip code. Moving on to the gender scrollbar, i choose the first of two options –

male. Right below zip code and gender is the occupation scrollbar, allowing me to choose from a series of occupations with ‘executive/managerial’ and ‘professional (doctor, lawyer, etc.)’ being my first two choices. Next comes industry with another scrollbar of problematic options. I continue my systematic approach of selecting the first option, and become a male ‘executive/managerial’ in the ‘banking/finance/real estate’ industry. After removing the check from the ‘contact me occasionally’ toggle button and ignoring the optional interests, i proceed to submit the form.

It should go without saying that i don’t identify as a man, nor as an executive in the financial sector. However, my decision to adopt those markers, and thus thwart a certain kind of profiling, is more than just a whim. It reflects my discomfort and inability to adequately place myself within the recognized boundaries. Additionally, by opting for the first markers, i chose to identify with the assumed ‘norm,’ in the hopes of being able to blend with greater ease. Needless to say, my difficulty in filling out these forms continues, as i attempt to join a wide variety of digital spaces, from Salon.com to Excite to DisneyBlast, where i am required to define myself by a few ‘simple’ categories.

While Yahoo!’s sign-up process may seem particularly complicated, even the usual troika of age, sex and location is deceptively loaded. It appears so simple, so ‘natural’, a shorthand for who we are, or who we might be. Yet when scrutinized a little more closely, it immediately becomes more complicated. Online age, for instance, has legal implications. Since the passage of United States’ Child Online Privacy Protection Act (COPPA) on April 21, 2000, American companies operating in cyberspace are required to ask a user’s age and deny access to children under the age of 13 who do not have parental permission. In order to subvert these requirements, or perhaps to get around the letter of the law, some companies have designed scrollbar options that only present ages that are over 13, suggesting that those under 13 should just lie to acquire access.

Other categories, which are not required by law, are used for market research, and thus, reflect current marketing practices and assumptions. The ‘gender’ question is usually presented as either ‘male/female’ or ‘Mr./Ms.’ – an interesting collapsing of honorifics and sex. The significant slippage here, however, is between gender and sex – between the body and the performance of identities. The question might be framed as one of gender, but the answer is all about sex. The request for zip code seems innocuous enough, but it encodes a worldview with America at its center – not all countries have zip codes – and a view of users that requires they have permanent and fixed addresses. Zip codes are an attractive marker for marketers because they can convey an accurate estimate of a user’s racial and socio-economic background.

In order to acquire a ‘Passport,’ which is the key to MSN’s Hotmail, chatrooms and community webboards, Microsoft requires that you select your sex and your zip code. Their explanation is simple: ‘This is one of the requirements for our banners advertisements, demographic purpose. I suggest that you give the

appropriate gender.³ It is interesting to reflect on the ways in which MSN attempts to normalize the practice, by evoking ‘passport,’ requiring that users prove their identity in order to gain citizenship and the freedom to travel. One might also ponder, as i did, what an appropriate gender might be in these circumstances, and how would i know i had chosen the right one?

Talk City/Live World, whose partners and clients include a who’s who list of mega-corporations including Cox Interactive, Mattel and About.com, ‘pioneered the use of interactive online environments for promotion and brand extension.’⁴ They suggest that accurate advertising demographics will make the experience better for the users.

We will use the personal information in order to be able to determine the demographics of our users. This will allow us to provide a better experience for our users. The aggregate information, which does not contain any personal identifiable information, will be used for marketing and advertising purposes on our site... This information will allow us to better target any offerings we might have, appropriate content and ads to the specific user. (<http://www.talkcity.com/csa/privacy.html>)

This stereotypical explanation suggests that consumers get something out of their ‘act’ of participation. By disclosing their identity, consumers will get better service, and more meaningful content. Here demographics create consumers; old vectors of social inequity become new marketing opportunities. For digital enterprises, accurate definition of user populations appears to have no obvious downsides: advertisers are happy, and consumers/users get a better experience. However, in these simple acts of definition, online business helps reinscribe existing social and cultural distinctions.

Having bodies, crafting selves

As there is a limited amount of information available in online environments, one would think that any additional information would help provide lacking context and enrich the barren virtual landscape. As O’Brien suggests,

(Re)embodying the self in a disembodied realm is an exercise in textual production. Because physical cues are not available, online conversants must signal everything that they want others to know about them through a text-based medium. (O’Brien 1999: 87)

³ From MSN Hotmail Support <support_x@css.one.microsoft.com> on May 14, 2001.

⁴ Talk City/LiveWorld is a marketing research company that collects and manages the data gathered by providing free-to-users chats, bulletin boards and other web services. Its clients represent a who’s who of mega-corporations including media giants (such as Cox Interactive, ABC, NBC, CBS, CNBC, HBO, Disney, WB, Microsoft’s WebTV, Sony Music), retail companies (such as Mattel, The Gap, Kodak, Johnson & Johnson), internet sites (such as About.com, Alta Vista, Amazon.com, Ebay), as well as a wide variety of other corporations (such as American Heart Association, American Express, Charles Schwab, Intel, 3Com, HP).
<http://www.tcmg.com/about/background/index.html>

But in the online world, if we represent people solely as their demographics (age, sex, location, race), we have constructed coarse categorization schemes that force people to mentally over-generalize. The result is an image that is even less accurate and more problematic than those developed during first impressions.

Consider, for example, the profile '23/white/female.' What image is drawn in the reader's mind? Does it resemble Britney Spears or someone you know? How long and what color is her hair? How heavy or tall is she? Is she attractive? Friendly? An introvert or an extrovert? What are her political views? What social communities does she participate in?

Drawing on a lifetime of social interactions, most people are able to develop a mental image using only vague descriptors, but that mental image rarely corresponds to the actual image of the person behind the given markers. That is, when presented with limited coarse information, people don't typically create an abstract mental construct existing solely of 23/white/female and devoid of other markers. Instead, they automatically conjure up an exemplar of a person who meets that description – but who also has other characteristics that have been unconsciously interpolated, although there is no particular reason to associate these characteristics with the given individual.

Providing coarse identifiers often generates inaccurate mental images that users must then overcome. In order to develop an accurate one, the reader is required to deconstruct this false initial impression, or view the differences from his imagined norms in a caricatured fashion. Although this is possible, it is difficult for people to adjust their initial categorizations; in fact, they are more likely to reinterpret the events than adjust their initial classification (Aronson 1995). While people usually have to overcome initial opinions in physical interaction, these are drawn from a greater context and understanding of the individual, based on what other information they visually convey in addition to sex/race/age.

The problem of coarse categorization is not just a concern for the reader, but also for the performer. When an individual embodies an identity, s/he has to be aware of how others are reading his and react accordingly. In the physical world, this means knowing the social repercussions of wearing a trench coat to an American high school, or a party dress to a business office. For the online performer, knowing that the reader has been given the coarse category data, and has likely conjured an incorrect stereotype, s/he must go out of his way to present further information to confirm, or combat, that stereotype. Instead of aiding in the development of a rich social environment, limited classification schemes offer new challenges for constructing complex and meaningful identities.⁵

⁵ When individuals construct virtual avatars to represent themselves, they also have to choose from a limited series of possibilities, similar to the demographic questions. For example, newcomers to My Virtual Model.com must choose their race through a series of colors and possible slants of the eyes (www.mvm.com). As these models are to be used to help people shop, the avatars balance between possible variations in body type and acceptable norms for image

In chatrooms, the usual formulation of age/sex/location still has a lot of currency. A/S/L acts as a social ritual – ‘formalized, socially prescribed symbolic behavior’ – where the result is both a fulfillment of acceptable social behavior as well as informative (Winthrop 1991). The A/S/L ritual is invoked when there are a great number of newcomers, as a way to welcome people and offer them an opportunity for introduction and identification. The response is simple, 23/F/Boston or 34/F/Portland. This can create opportunities for conversation, most frequently based on location. Responses like ‘Oh! I visited Boston once’ or ‘Is it still raining in Portland?’ are quite common. While A/S/L identifications rarely lead to deep conversations, they have become an easy way of developing the necessary introductory rapport.

These acts of social checks and the resultant reactions do give participants in online spaces a sense of the social space at hand. Yet, the presentation of self in as a precise constellation of demographic information does not always meet all the social needs of an environment. Indeed, the A/S/L formulation can remove the spontaneous or crafted ways that we present ourselves to others. It should not be surprising then that sometimes the most interesting conversations stem from dissent or unwillingness to answer this social check, effectively questioning the social norms. This, in itself, also succeeds at allowing for an introduction where the rebel is telling a lot about himself by refusing to answer or by questioning the purpose. Additionally, while the question suggests the type of answer – number, male/female, and simple phrase for location – this is not computationally mandated in the way birth date, M/F, zip code are in profiles. As a result, answers like ‘old/?/bumblefuck USA’ are perfectly reasonable and result in giving a personalized introduction, possibly with more depth than the statistical information.

However, there is more going on (t)here than just introductions and conversations. Age, sex and location are more than just a convenient shorthand, they are very specific markers that point to particular bodies in time and space. 23/F/Boston suggests not just a presence online, but also a very real person offline. With an obvious nod to personal ads, it is this slippage between online and offline identities, that a reliance on A/S/L allows, even in some ways encourages. Thus contextualized, the sexualization of online spaces seems almost inevitable.

Consider the environment that presents no information other than just the title of the online space, for instance ‘rec.motorcycles’, or CNN’s ‘Talkback Live’ chat room. The initial image of individuals in that space – one of interest in the topic – is imprecise but fairly accurate. The reader can then use the language of the participants to develop a more detailed mental image, building from direct impressions instead of potentially inaccurate or meaningless labels. In a space focused on a nonsexual topic, such as gardening, the sex of participants should be irrelevant to the content. Appropriate markers would indicate skills, knowledge, and experience in the topic. But by presenting sex as the relevant marker, the implicit message is that sex is the most or the only significant characteristic.

Additionally, the social rules that govern a space are difficult to discern, as determining a digital space's history is impossible unless you have experienced it. Even in a physical space, it is challenging to read the subliminal signals that others project, or to determine what the norms are regarding sexual interactions. In a virtual space, these cues are even more obfuscated. Although inappropriate sexual innuendos would be quickly socially punished offline, they are all too pervasive online, with little social repercussions.

The most obvious way in which users attempt to desexualize the spaces is through using deception, or misidentification. Due to the lack of context in these spaces, human connection becomes difficult. Also, while mandated profiles only increase the sexual nature of these spaces, even the A/S/L social checks provide sexual context. Rather than ignoring this issue, thereby encouraging inappropriate behavior or deception, a better initial step would be to figure out how to develop social accountability in online environments.

An interesting consequence of the quasi-voluntary way identity is established online is that it provides opportunities for intentional deception. By offering explicit options for categorization, online profiling is bound to introduce a certain level of inaccuracy, either due to an individual being uncomfortable with the choices or feeling the need to misrepresent himself in order to participate in a community. Some systems, such as those who do not allow users to choose options under 13, actively encourage dishonesty. Still others present the information in a way where dishonesty is likely to lean in one direction, by ordering the options in a specific fashion. While discussing how users react to these profiles, I found that many people share the same method of filling out the forms: choose the first choice available that will still let you join the site. This makes me wonder what the statistics are for self-reported 13-17 year old males. The users I spoke with seemed much more likely to record an accurate zip code, but quite a few preferred to indicate one that they felt could not exist, such as '12345.'

If deception is quite common, what is the social cost of doing so? While getting a gender specific advertisement might be annoying, there is no other systematic penalty for offering inaccurate information. The primary cost of deception lies within the social realm, potentially affecting the user and/or the community (Donath, 1999). Although deception is an advantageous coping mechanism, it may not aid in making a social space effective, as initial encounters are fraudulent and do not help people get to know one another. O'Brien writes,

... even if it is possible for me to conceive and author characters that defy categorization along conventional lines, others cannot engage in meaningful interaction with me ('meaningful' being defined as mutually comprehensible and generative) unless they too know something about the 'script' through which I am representing myself and/or characterizing the situation. (O'Brien 1999: 85)

In order to stop deception, corporations want users to construct universal profiles. Microsoft's .NET initiative, initialized through their Passport system, suggests that it will make things easier for users, by consolidating their information and passwords. This is particularly important since there has been tremendous concern for how multiple identities may act as fronts for criminals, voyeurs, sexual deviants and stalkers. As a result, we are learning to distrust things that historically seemed very transparent. But by focusing on the dangers of online interaction and the problem of multiple identities, we fail to consider other ways in which we, as individuals, manipulate our own identities.

In the physical world, it is common for people to actualize different identities for different purposes, without any of these identities being 'inaccurate.' It is not uncommon for individuals to have multiple email addresses or phone numbers as a way of controlling access to them. Most people are not interested in consolidating all of their physical or virtual identities into one. Online, people sign up for multiple accounts and offline; one's party persona is different than one's work persona.

This does not mean that users don't intentionally lie on their Passport applications. For example, it has been shown that women regularly portray themselves as men in order to avoid being hassled as they access information (Bruckman 1993). Again, this does not mean that this is their universal persona, only one that they evoke for a purpose. Universal accounts with public profiles do not solve the problems of deception, only magnify it by forcing users to either have multiple accounts or lie more pervasively. Universal accounts also fail to address the underlying issues of power inequities and pervasive gender inequalities that have been re-established online.

Moving beyond 'sex'

The problem with sex as a principle marker online is that it adheres to a body – it is hard to think about sex without thinking about the biological ways that is expressed. Even queer companies privilege the male/female body in cyberspace. For example, UK's QueerCompany offers potential users the usual male/female options, as well as MtF and FtM. While they are to be commended for attempting to address these issues, and while adding additional transsexual markers validates the existence of transgender individuals, they still fail to acknowledge that not everyone in the population fits comfortably into either two, or four, potential categories and that not everyone wants to have a sexed body online.

The use of 'sex' as a significant marker online has a negative, though little discussed, impact on the genderqueer community. Here, I am using genderqueer as an umbrella term for all those who don't simply fit into male/female, including those who identify as transgender, transsexual, intersexed, bois, grrls, drag artists and a wide variety of other identities. These people cannot comfortably be categorized as either female or male, either due to biological or psychological perceptions of self. Requiring a sex-specific

identification reinforces the notion that there is a wide divide between two segments of the population, making invisible those who appear to fall in between. Genderqueer communities have gained a great deal by having the opportunity to present themselves online, as they perceive themselves, not just as society perceives them. And their ongoing online identity politics are instructive as we think about the ways that 'gender' as a marker might have more flexibility than sex.

The concerns in this paper do not mean that identifying elements should not be a factor of interaction, just that individuals should have the opportunity to perform the ways in which they present themselves, in the same way as they choose clothing and other markers to perform identity in the physical space. By limiting how, and with what language people are able to express their identity, profiling does a disservice to its users.

Although the practice of profiling affects users both personally and socially, the primary push for acquiring profiles is economic. For this reason, in order to eliminate forced profiling, it will require arguments that affect both the social element as well as the economic position of most companies.

Meanwhile, forced profiling continues to increase. Microsoft's Hailstorm⁶ is being hailed by the media, although practically unnoticed by the public, as a way to make life quite a bit easier; to do so, Microsoft will handle, regulate and store everyone's private data. Although privacy should be a tremendous concern, when the apparent benefit of sharing your information overshadows any perceived problems, people are more than willing to share their data, as has been shown through grocery store savings cards.

Since the majority of the population will happily convey their private data, and the majority of companies think that it is useful for gathering advertisements, eliminating forced profiling seems like an impossible goal. Those who recognize that the public doesn't necessarily want to walk around with this information, such as Yahoo!, allow users to turn off public perusal of this information, although the information is still gathered and still affects Yahoo!-user interaction, such as advertisement presentations. While this eliminates many of the perception concerns, it still enforces the binary assumptions and affects the privacy that users are able to maintain when online.

Although the ideal would be to allow users to construct their own representations, without encouragement or structure imposed by corporate interests, I know that this is not feasible. For that reason, I feel as though educating users to be aware of how their profiles affect their social interaction is the most obvious first step.

⁶ .NET includes Hailstorm and Passport. Based on the Passport identification system, Hailstorm allows for universal collection and maintenance of all a user's activities, data, and information.
<http://www.microsoft.com/net/hailstorm.asp>

Additionally, i feel that it's necessary to help construct social environments that offer better ways to assist users in constructing and maintaining their identities, and i am pursuing this in my own research. This work is far from complete, and the details are beyond the scope of this paper, but the salient features of our ideal space allow for localized self-identification, visual presentation of historical and current behavior characteristics, and visual mechanisms by which users can develop appropriate mental models of the people that surround them. If constructed appropriately, and these spaces actually improve social interaction, gradually the commercial environments will incorporate these mechanisms in order to remain competitive.

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