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Barriers For Bridging Interpersonal Gaps: Three Inspirational Design Patterns for Increasing Collocated Social Interaction

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ABSTRACT
Positive face-to-face social encounters between strangers can strengthen the sense of community in modern urban environments. However, it is not always easy to initiate friendly encounters due to various inhibiting social norms. We present three inspirational design patterns for reducing inhibitions to interact with unfamiliar others. These abstractions are based on a broad design space review of concepts, encompassing examples across a range of scales, fields, media and forms. Each inspirational pattern is formulated as a response to a different challenge to initiating social interaction but all share an underlying similarity in offering varieties of barriers and filters that paradoxically also separate people. The patterns are “Closer Through Not Seeing”; “Closer Through Not Touching”; and “Minimize Encounter Duration”. We believe these patterns can support designers, in understanding, articulating, and generating approaches to creating embodied interventions and systems that enable unacquainted people to interact.

Author Keywords
Face-to-face interaction; collocated interaction; social encounters; sense of community; social barriers;

ACM Classification Keywords
H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous; K.4.2. Computers and society: Social Issues;

INTRODUCTION
“Neighbours complaining about someone’s dog making an awful racket. You could hardly blame the poor beast, its owner had died in her bed at least a fortnight before and there hadn’t been much left of the old girl worth eating.”[42]

Although drawn from fiction, this quotation provocatively draws attention to a troublesome fault line between the two most prevalent uses of the multifaceted word “community”: People that to an observer appear to share community membership might not feel any sense of connection. In particular, people that may be considered as being part of the same community by virtue of sharing location may not feel they also share membership of the same community, the main other sense of the word. That is to say, people may not know interact enough with their fellow inhabitants to discover whether they actually share any common interests, attitudes or other characteristics.

Research has showed that in urban areas, the sense of disconnection from neighbors and sense of loneliness are rapidly increasing [4]. Despite being collocated with numerous other people, we tend to feel “alone together” [55]. Furthermore, approaching strangers in public places might necessitate considerable skills [31][39] as individuals are generally reluctant to engage with unfamiliar others. This calls for new forms of technology where its role is to compensate the social barriers and trigger or encourage social encounters in various ways.

Face-To-Face Encounters For Fostering Communities
In this paper, we are concerned with encouraging and supporting interactions between people sharing physical location in order to further the common good of bottom-up community building. We acknowledge the earlier research on deploying networked and asynchronous forms of communication to support shared sense making, information exchange, creativity and collective action for localities [8]. However, we argue it is valuable to also pursue a complementary approach of designing to increase and deepen positive physical encounters between people who are not well acquainted with each other.

Practitioners and researchers in a wide range of fields have experimented with many different forms of supporting initiating interactions between co-located people. This includes installations [23], interventions [22] [51], gadgets [43], furniture [28], and wearables [37]. However, there appears to be a lack of a systematically presented collection of such design examples across different disciplines and media. To address this, we have been conducting an extensive design space review examining examples of both
high and low-tech efforts for sparking social interactions. Paradoxically, one useful design strategy to support overcoming some of the “social boundaries” [59] or “high barriers” [15] that obstruct interaction with strangers is the utilization of appropriate physical barriers or filters. For example, introducing a time-based restriction for interaction like in speed dating can provide an escape of an encounter that might turn out undesirable. Some of these obstructions and restrictions may transgress boundaries concerning what is comfortable or acceptable design, but as argued by Benford [5], unease and awkwardness can be harnessed towards providing positive social experiences. These aspects provide a design space that is not only limited to information technology but allows also the use of more traditional, tangible and stationary technologies, such as furniture and walls.

The contribution of this paper is twofold. We first present abstraction of three different types of social interaction supporting techniques derived from our design space review, particularly focusing on how to turn barriers and boundaries into artefacts of encouragement. Then, based on these interaction types, we offer a set of inspirational design patterns [32] concerned with lowering inhibitions for co-located people to interact. These patterns are proposed to be of value for those attempting to understand and intervening to support increasing social interaction. They may be used as design directions for developing solutions or interventions for reducing social inhibition, and to help nurture shared understandings for communicating amongst creative team members and other stakeholders pursuing such goals.

RELATED WORK

The Limits of ICT in Bringing People Together

Recent work has explored what would be suitable technology-based approaches to encourage interaction between nearby strangers e.g., [45][46]. Information technology based solutions tend to focus on approaches like increasing awareness of nearby people to identify mutual interests and common ground, for example in the seminal works by Falk & Björk [20]. Particularly, a number of attempts have been made to develop systems for mobile phones and portable computers to support such informational insights such as attempting to “extend the familiar stranger relationship” [44] and sparking conversations through photo sharing [27] and mutual address book contacts [28] amongst ad hoc groups of people.

However, mobile computing attempts addressing this problem space can be counterproductive. Personal devices whether worn or handheld cannot address population divisions concerning access to devices and/or bandwidth particularly along lines of age, income, local versus international visitor etc. Also a cellphone can function as a “private antisocial device” [18] and mobile applications have been called “attempts to limit or even close down opportunities for encounters with difference” [10]. Thus devices can indeed exacerbate the problem: “Communication technologies... create structures which include and exclude participants, and in so doing they can create social boundaries equivalent to the walls and windows in physical space” [58]. Developing systems that target community fostering but rely on individual mobile computing ownership also faces major challenges in regards to operability between different operation systems and device specification, or the plain lack of ownership. Furthermore, variance in device ownership is often greater when the community is more diverse, or in other words — when support for fostering interactions might be needed most!

Benefits of Face-to-face Encounters

Despite the many challenges in interpersonal communication between strangers, it can nevertheless be beneficial in many ways. For example, positive face-to-face encounters tend to provide stronger emotional satisfaction than virtual encounters [50], contributing to the important motivators of relatedness and belonging [49]. Community fostering through positive face-to-face interactions is potentially beneficial not only to community workers, neighborhood activists and directly affected private individuals, but stakeholders operating at broader scales too.

Consequently, supporting the initiation of social encounters is a design problem that many types of organizations and communities share. In corporate contexts it is important to increase encounters between acquainted employees to foster innovation and new collaborations e.g.[48]. In pedagogical contexts teachers often aim to encourage in-class collaboration and participation [31]. In public spaces and leisure contexts the encounters between strangers may be about more implicit social activities [47]. Many organisations that manage or promote urban areas would like to make them seem more sociable; this can increase at least perceptions that their cities are friendlier, safer and more fun. Ilja even goes so far to suggest important economic effects: “where trust and social networks flourish, individuals, firms, neighbourhoods, and even nations prosper economically” [26]. Regardless of the context of the interaction between strangers, oftentimes the benefits outweigh the costs (e.g., risks regarding privacy and unwanted emotional reactions), so social encounters are worth promoting and designing for.

Inspirational Design Patterns and Embodied Interaction

Design patterns capture how recurring design problems are commonly addressed through generic, re-usable, and structured descriptions of typical solutions. In the words of Alexander, the architect who originated the concept of design patterns: “Each pattern describes a problem...and then describes the core of the solution” [1]. An ordered collection of inter-related patterns is a pattern language. Many researchers and practitioners within computer science
and design have adapted and extended Alexander’s ideas, proposing, for instance design patterns and pattern languages for challenges faced in Human Computer Interaction [12] and interface design [53].

Our intention in developing inspirational design patterns is to provide stimulus rather than prescriptions. This is in the spirit of Jonas Löwgren’s suggestion to “broaden the repertoire of the interaction design community” with inspirational patterns for embodied interaction [32]. We do not aim to provide an exhaustive taxonomy of all the possibilities for designers to increase social interactions as the range of means by which technology may influence interpersonal encounters is potentially endless. We also do not intend to rank the effectiveness of different design strategies against each other in absolute terms, as contextual factors are hugely important for the success of any social catalyst design [3] [22]. Instead we offer our inspirational design patterns as provocations from which designers and developers may adapt and combine different approaches and principles according to their own situation and professional judgment.

We position our work as an attempt to link pattern languages with traditions of valuing the potential gains in sociability and collaboration from tangible and embodied approaches to design and computing [24][29]. In particular we are influenced by Hornecker’s concept of Embodied Facilitation that highlights how group behaviour can be influenced by different configurations of physical objects and space [24]. In relation to design patterns, our work chimes with Hespanhol and Dalsgaard’s recent identification of how recurring social interaction patterns of media architecture are lacking cross case analysis [23]. The patterns they present are very useful as a systematic review of how general social interactions can unfold around media installations. We focus our own efforts on the narrower challenge of understanding strategies for supporting co-located interactions between strangers, but take a much wider scope in the cases that we examine.

Currently our intended audience is designers and developers concerned with collaborative systems. However, the design and implementation of conviviality influencing systems has potential to effect a great number of people and impact on a wide range of sectors. Therefore our efforts are geared towards eventually distributing a pattern language that is accessible and attractive to lay people. Our intentions are thus similar to Alexander, who hoped that his articulation of design principles would empower non-specialists to take a bigger role in designing their own environments for “most of the wonderful places of the world were not made by architects but by the people” [1]. Erickson, has expressed similar sentiments in computer science. He called for pattern languages to be used as a “lingua franca” in, and between interdisciplinary teams [19].

Reviewing the Design Space
Our inspirational design patterns originate from an ongoing large-scale design space review of a wide variety of tangible and embodied means (e.g., physical artefacts, interactive products, environments, garments) that may support initiation of positive interpersonal interaction. Thus our collection of examples is drawn from a wide variety of fields and sources. This includes not only published research projects and public exhibitions, but also many projects that we have only viewed on portfolio websites or in news stories or magazine features.

Our focus is towards tangible designs and physical computing related examples for co-located interaction. This is not only because of the importance of embodiment in social relations [16] [24] but also because we believe that more physical examples are more easily and rapidly understood and recalled than digital solutions. The functioning and behavior of ICT based systems for supporting collocated interaction are difficult to convey in one or two images. ICT solutions for supporting social interaction typically require many more words to describe than our highly physical design examples—this is especially so of the many ICT systems involving multiple networked devices. This intended brevity and accessibility may also help with inviting more scholars and practitioners into critiquing and extending our inspirational patterns.

The corpus has been formed primarily through opportunistically accumulating a collection of examples over time. This has mainly been through following number of art, design & technology blogs, and participating in international networks that feature concerns with cultural and social implications of technology. When relevant examples have been identified through such means, desk research was conducted upon the creators of the examples and their approaches, which frequently led to accumulating further examples. When we found several instances of similar designs but originating from different creators or different places, we paid increased attention to such examples. Although it is not a guarantee of validity, we took the fact that several creators have been thinking in the same direction as increasing the chances that a particular design approach is valuable to consider. After our collection was grown in this way to feature several hundred examples, we conducted several internal rounds of “card sorting” — clustering design examples according to categories based upon simple criteria such as scale, media, and complexity.

Participatory Sessions to Consolidate Desk Research
In order to generate new ways of looking at our corpus and possibly corroborate some of our initial analytical hunches, we conducted an iterative series of four workshop sessions. Prior to each session we produced simple A5 sized colour printouts. Each sheet displayed images of a design example along with its title, and in cases where the title was ambiguous, a brief explanation of the design examples’
dynamic qualities, behaviour or interactivity. The examples were selected to be representative of the range of media, scale, complexity and approaches that we previously identified. The initial session involved 65 design examples. Prior to each subsequent session, we removed approximately 20% of examples that did not produce strong responses. However, in somewhat ad hoc fashion, we also added circa another half dozen examples that we had recently become aware of.

The sessions took place in higher education institutions, in four different cities in two different countries. The first session was with an international class of 20 postgraduate interaction design students, the second a slightly larger, but less international postgraduate class comprising architecture and computing students. The third and fourth sessions were with researchers. The third involved 16 members of a HCI lab, and the fourth, 15 members of a very interdisciplinary design group. The intention of these events was not to produce findings generalizable to the wider population. However, it is noteworthy that the participants’ diverse expertise in design/technology was considered as valuable input for refinement of ascertaining whether the presented cases were of the highest quality and included the fullest range of approaches. Furthermore, participants were fairly representative of a broad range of professional roles of our initial target user for inspirational design patterns, i.e., the creators of systems to support initiating social interactions.

The first three sessions followed a similar format. Participants were put into groups of two or three people. They were then asked to recall or imagine various kinds of face-to-face scenarios (romantic, social and professional) in which they had a wish to interact with a particular other person for the first time, but were reluctant to initiate such an interaction. Next, they were asked to familiarise themselves with a randomly allocated subset of circa 25 design example paper cards and choose for each of their scenarios the design example that would help them make the first move in approaching, e.g., someone of higher status that could be helpful in their career development. Participants were asked what they would say to initiate an interaction in this scenario and to identify reasons why they normally might be reluctant to make the first move. The fourth session centered around imagining support for similar conversational openings, but with a focus on evaluating design examples in regards to possible installation in participants’ own campus workplace.

A RE-FOCUSING TOWARDS USER NEEDS

The workshops were characterised by a very high degree of engagement and good humour, which perhaps resulted in more attention being given to the devising of opening conversational lines, rather than the causes of inhibition.

Many workshop participants also expressed an apprehension concerning the overall desirability of having their privacy or agency disrupted by encountering effective icebreakers in their real lives. This critique led to us adopting a more user-centered angle to our design space review. That is to say, rather than categorizing designs according to formal qualities such as media, scale or genre, our guiding light was to understand what particular and specific human needs might different designs be useful for addressing.

Connecting examples with needs to make abstractions

After these workshop sessions we reviewed our full corpus of design examples to consolidate clusters of examples that drew similar responses from participants. We did this by connecting clusters of examples to explanations in both academic and popular literature of why people might be disinclined, or deterred from initiating social interactions. We then re-ordered our collection through an iterative process of analysing and re-clustering design examples in relation to specific potential obstacles or inhibitions to initiating interaction.

Several main themes emerged. Firstly, the impact of distances between people in relation to the likelihood, ease and comfort of initiating interactions and how this could be assuaged through designs that enable manipulations of interpersonal proximity [39]. Secondly, how the absence of an excuse or reason to commence interacting might be addressed through designs that created moments of interdependency and shared rhythms between people [40]. And thirdly, how many participants felt potentially vulnerable in situations where their own visibility and physical accessibility to others was not limited. This negatively viewed prospect of exposed interactions was associated with design examples that restricted one or more sensory modality for human-to-human contact and exchange.

BARRIERS FOR BRIDGING THE INTERPERSONAL

In this paper we focus on such physical barriers. We choose this focus for two reasons. Firstly because, in our corpus, it could be seen that one of the most prevalent forms of attempts to support interpersonal engagements is some kind of interpersonal sensory restrictor. By this, we mean the artful use of filters or barriers that partially or fully separate people. For instance through restricting mutual abilities to make physical contact or communicate.

Furthermore, we believe that these sensory restrictors may offer a novel perspective on the challenge of fostering communities through initiating friendly new encounters. For it seems such perceptual filtering or dynamic obstructions bring up a contradictory design space. This would be interesting for engendering discussion within the scientific community and helping broaden people’s ways of thinking in design. For instance, more features, options or information is not always better.

Next we present 10 examples of such barriers, from 9 different creators, clustered into three types of restrictions: opaque creators, restrict interaction modalities, and temporary linkups. The first two kinds of barriers are
spatial-sensory restrictions that take different forms of limiting people’s ability to see or touch each other. The third is a kind of temporary filter in which access to, or perception of another person dynamically varies over time. In a subsequent section presenting our inspirational design patterns we explain the potential value of each kind of barrier with support from both academic literature and commonplace understandings of social interaction issues.

**Opaque Barriers**

Here are three unusual examples that offer support for interaction and getting to know each other through a variety of non-visual sensory modalities. The first motivates collaboration through musical exploration, the second provides a means for performing a physical greeting unseen, and the first proposes the importance of olfactory senses for interpersonal relating.

*TouchMeDare* was a social icebreaker installation for a Dutch musical festival. Participants on either side of an opaque and stretchy canvas triggered rich musical samples by maximizing the body contact they had through the canvas [55] (Figure 1). This offers a kind of visually private medium for embodied social interaction. It requires exploration as there are no instructions for use and furthermore allows for user appropriation in various ways – both collaborative and independent. The musical feedback provides an external reward or motivation for tactile interaction through the canvas.

*Anonymous Hugging Wall* is an urban intervention in which a pair of shoulder-length gloves is incorporated into a fabric surface. A person on one side of the wall can wear the gloves and thus give mutually unsighted hugs through the textile membrane [13] (figure 2). Similar to *TouchMeDare* this is also about providing a “privacy-supporting” medium for embodied social interaction. It also requires exploration and allows for various user appropriations. However, unlike the musical *TouchMeDare*, this design offers no media feedback. The tactile interpersonal interaction and possible verbal exchanges are meant as potential reward in themselves. Furthermore, user appropriations of this design appear likely to vary very widely as to whether they are mutually agreeable to both glove wearers and those receiving or evading manipulation by the gloves.

*Smell Blind Date* by James Auger is a speculative design prototype which enables two people to simultaneously get to know each other’s personal scent, but without seeing each other. Plastic tubes on both side of an opaque wall funnel aromas of armpits and groins to the nose of the person on the other side of the wall [2] (figure 3). Participants are able to converse, but may have their speech impeded by the nose and mouth covering masks through which they smell each other.

We acknowledge that this is probably the most extreme design example that we present. Both its functioning and dating themed title may appear to make it rather distant to community fostering efforts. However, we include it as a useful reminder that many different senses can play important roles in supporting social interactions. Furthermore, involuntary olfactory information as a means for matching two people together offers a provocative counterbalance to ICT systems that match users on the basis of deliberately stated shared interests e.g.[17] [34].

**Figure 1. TouchMeDare – music samples are triggered if the same point of the canvas wall is touched from both sides**

**Figure 2. Anonymous Hugging Wall features arm length gloves attached to a fabric barrier, and thus enables visually anonymous embraces**

**Figure 3. Smell Blind Date: plastic tubes from armpits and groins to noses elevate the importance of mutual scents in a first encounter**
Restrict Interaction Modalities
The following three projects provide actual physical barriers between two people. The first is only a partial barrier that offers a protective means for undertaking a common standing ritual, whereas the others completely restrict touching for encounters between people sitting opposite or parallel to each other.

Pre-Handshake Handshake Device by Dominic Wilcox is a waist high cuboid vitrine, approximately twice the length of two average adult forearms. The vitrine contains a pair of thick stiffened gloves. These gloves are mounted so that the fingers and fists of both gloves are interlocked together into a handshake position. At opposite ends of the glass case are openings that allow participants to insert one hand inside a glove and thus perform a form of handshake with another person at a distance and without direct physical contact (Figure 4). Its creator proposed this artifact to help with conflict resolution, but the design is intriguing to consider for deployment in other situations. It invites people to perform a form of a friendly ritual, but its stiff barrier prevents both interpersonal touching and the up and down movements of the grasped hands that are normally part of handshaking. The artefact creates a focus on handshakes or potential handshakes but does not explicitly interfere with any interactional modality. Users are free to talk, they have good visibility of each other, and should they so wish, are not restricted from performing “real” handshakes or touching each other in other ways if they step away from the Pre-Handshake Handshake Device.

Table for Two by Shani Ha was an installation on two sides of an urban café’s windows. It consisted of two normal chairs plus two halves of a standard small cafe table separated only by glass. One half of the table was placed on the pavement up against the café window. Opposite this, but just inside the cafe was positioned the other half of the table (Figure 6). In this way cafe customers could sit at the same table together facing each other, but at the same time be very separate — as chair was inside the café, whilst the other was outside in the street. The glass is a severe hindrance for casual verbal interaction, but in being an obstacle to any touching may increase interactional partners’ senses of comfort and safety. This unusual way of sharing a table enables a lightweight social interaction that is easy for either partner to escape from. Depending on differences in lighting conditions between the interior and exterior of the cafe, it is likely that the mutual visibility of each café customer was often unequal.

Teeter Swing by Keetra Dixon is an urban intervention that is part swing and part seesaw. It features a pair of hanging seats, each suspended by chains from a shared crossbeam (Figure 6). The crossbeam is supported by, and perpendicular to a high wired fence. The fence thus separates a person sitting on one swing seat from someone sitting on the other swing. However, the crossbeam pivots on the top of the fence also link potential swing users. This means that a user wishing to sit in the seat on one side of the fence needs to be balanced by a user sitting on the other side. From a distance, this design suggests a literally parallel activity, that of seating and swinging together. In how two people are mutually “shielded” by a fence, this is reminiscent of Table for Two’s interlinking of two spaces. However, with the cafe table intervention, a single participant can sit down irrespective of whether the other seat is occupied. Here, the inter balancing of the two seats means that the presence of another person is required to perform the activity of sitting, let alone swinging. This means that although the orientation of the swing seats is not facing each other, the precarious mutual interdependence created appears likely to mean that pairs of participants will be attending to each other very closely.
Temporary Link Ups

Here are three diverse examples of systems that provide encounters of limited duration. In the first a temporary physical barrier separates people. In the second, people are physically moved closer and further apart. In the third example people are themselves moving and effecting the motions of a barrier, and the fourth one enables users to rapidly initiate and close remote video links.

*Take a Moment* by Lauren McCarthy was a site-specific installation for two seated participants sitting either side of a motorised hand fan. The fan unfolds and contracts at random intervals to enable participants to alternate between moments of visual connection and separation (Figure 7) [35]. The unfolding fan does not prevent verbal interaction continuing. However, its literally jutting into interpersonal space can be appropriated by a participant seeking an excuse to pause or exit an encounter.

*Double Carousel* by Carsten Holler was a large mechanical installation for several art museums consisting of two full sized fairground merry-go-rounds. The two carousels are positioned closely together, but not so close that they overlap. As these rides slowly rotate, visitors on different machines are brought briefly closer together, before the revolution of each carousel takes them away (Figure 8) [9]. Although the carousel is rotating at a very stately pace, it brings people into each other’s social spaces for only very momentary windows for very lightweight interaction such as sharing a smile, laugh or maybe a high-five. Although the moments for interacting are much briefer, this design is similar to *Take A Moment* in how users have no input in determining the duration of spells of unimpeded contact or in this case the brief physical physical proximity. Unlike the randomly unfolding fan of *Take A Moment*, the rotations of the *Double Carousel* are regular, so if participants wish, they may anticipate a recurring brief encounter with a passenger sitting on the other carousel. The dynamic barrier here is not a wall, but the divergent routes that people are taken on. This example indicates the potential of fostering interactions through directly enabling the motion of people.

*Blender* by Robb Mitchell was a public gallery installation consisting of a very large revolving door surrounded by a circle of immobile chairs. The door panel was shaped, and the chairs were fixed in position so that the plywood door panels overlapped the chairs and thus passed closely over the knees of seated visitors. To walk through the space, gallery visitors needed to push and pull the door panels, and in doing so, they would continually enter and exit very brief encounters with those sitting down (Figure 9) [37]. Both the people standing and sitting could have some influence on the duration of the encounter, but because frequently many different people were simultaneously attempting to manipulate the speed and direction of the door’s rotations, rarely could a single person take control of the duration of an encounter between a seated and standing person.

*ChatRoulette.com* by Andry Ternosvky is a well-known internet video chat room that randomly connects two users. At any time, a single click from either participant in a chat terminates that link, and initiates a new random pairing. Such easy to switch connections results in a very rapid turnover of encounters [30]. Although it is a medium for remote interaction we present this example, as it is easy to imagine versions in which connections are limited to particular locations. For instance, in ways reminiscent of “telephone cafes” in which revelers use handsets installed on each bar table to dial up and begin speaking with strangers seated at any other table in the same venue. Unlike the other examples we present above, designs like telephone bars and *ChatRoulette* give both users complete unilateral control for ceasing a connection. However, as the name famously implies, with *ChatRoulette*, users have no choice about whom they initiate a connection with. It is also interesting to compare how the metaphor of a roulette wheel in this remote interaction system is reminiscent of the physical rotation of *Blender* and *Double Carousel*. This can serve as helpful reminder for the potential of crosspollination between the realms of physical and digital design in fostering social interactions.
THREE INSPIRATIONAL DESIGN PATTERNS

Our format for presenting inspirational design patterns is inspired by Alexander’s original layout but differs slightly because whilst Alexander was concerned with capturing recurring design solutions [1], our interest is more towards ground breaking, innovative solutions. The patterns are not intended to be mutually exclusive—it is possible to perceive elements of two or more of our abstractions in many design cases.

Below, we present each of our patterns in the same way. First we give each pattern a short title, and then follow this with a brief problem statement and offer a sentence of possible advice for how, in broad terms, this challenge may be addressed. We then unpack the problem statement and point to some of the examples that inspired the pattern.

Design Pattern #1: Closer Through Not Seeing

Being seen by other people can inhibit other forms of exchange.

To address this, designers may wish to consider if, and how to:

*Provide opaque barriers in order to reduce inhibitions for interacting through other senses*

Social inhibition effects can be particularly pertinent in connection with undertaking any action in which a person is less confident, as having an audience means that unsuccessful performance of an action opens a person up to looking ridiculous [21]. Many people may often not be very confident about commencing face-to-face interactions with a less familiar person. The anonymous communication enabled by internet forums and other online communications appear to reduce social inhibition for many people to begin interacting [31]. Attendees at masquerade parties can be similarly disinhibited. We suggest that TouchMeDare, Anonymous Hugging Wall, and Smell Blind Date, are all instances of this pattern.

Design Pattern #2: Closer Through Not Touching

The prospect of actual physical contact can inhibit other forms of exchange.

Thus designers may wish to consider if and how to:

*Restrict interpersonal touching in order to reduce inhibitions for interacting through other senses.*

Cultures vary widely in norms of how much people may touch other people with whom they are not familiar and how close they may approach each other [26]. Even within the same culture, personal preferences can be far from similar. For instance, some people wish to avoid close contact with others for reasons of hygiene. In other cases there may be an aversion to being too proximate with other people due to undesirable or unfamiliar odors, a threat of physical harm or possible social harm such as accusations of impropriety or feeling a sense of shame. This pattern was inspired by (amongst others) Pre-Handshake Handshake Device, Table for Two and Teeter Swing.

Design Pattern #3: Minimise Encounter Duration

An open ended encounter can be intimidating because ending the interaction can seem awkward or offensive.

Thus designers may wish to consider if, and how to:

*Provide mechanisms that alternate between separating people and allowing people to connect.*

For some people, a deterrent to initiating interactions is uncertainty as to how easy it may be to terminate the encounter. People fear getting stuck in a conversation from which it is difficult to extricate themselves. Self help books e.g. [29] and blogs offering tips on how to network abound with advice on how to politely end a conversation during a social event. Anecdotally, airline passengers are much happier to commence chatting with unfamiliar travellers sat next to them during the closing stages of the flight, compared to any earlier part of the journey. Sociologist Simmel highlighted how the fleeting nature of encounters with “the stranger that moves on” often result in what he called “the most surprising openness-confidence” [51]. A related phenomenon is how at bus stops in many Northern European countries it is common to converse with strangers whilst waiting for a bus, but much rarer to sit on a bus with strangers one conversed with before boarding. Strictly time limited encounters in speed dating events (both romantic and professional networking activities) is another well known instance of how people can feel less inhibited about starting conversations when they know the encounter will soon end. Design and technology can offer many more ways to provide similar brevity of encounters. We suggest that Take A Moment, Double Carousel, Blender and ChatRoulette are all instances of this pattern.

DISCUSSION AND CONCLUSIONS

Most of the design concepts we presented have not been properly evaluated with respect to their effectiveness or social effects. So we do not know to what extent most of them individually serve as good examples or design direction in themselves. However, the set of examples and the patterns as a whole have a strong function of insight and provocation, as a pool of inspiration to take a sip from. None of the examples should be followed rigorously but understanding and critiquing them may elicit new kinds of ideas that actually work as intended.

We have presented three inspirational design patterns—“Closer Through Not Seeing”, “Closer Through Not Touching”, “Minimise Encounter Duration”—for supporting developers in staging social encounters through design. These patterns are not meant to prescribe solutions. We intend these to be considered in light of local situational needs. As such, we do not propose the inspirational patterns as mutually exclusive, as developers can draw on multiple patterns, or similarly, a multiplicity of designs can be inspired by one particular pattern. Although it is likely that designs following from the patterns may successfully contribute to an increase in the initiation of social encounters, this effect is naturally not guaranteed.
For developing interpersonal relations, transparency and openness are widely considered to be desirable qualities. The three design patterns we have presented appear to be of a very contradictory nature to such qualities. This discrepancy merely serves to underline the complexity of attempting to design for social interactions and how different design strategies and implementations are required for different contexts. We find this kind of contradiction a fitting provocation as it highlights the paradox inherent in applying the artificiality and rationality of design and technology towards nurturing something very natural — how human relations develop. We hope that these inspirational design patterns can serve as a reminder to community oriented technology researchers of the high potential impact that the physical aspects of interaction design efforts can have on something very dear to most people — commencing new encounters.

Future work
We look forward to map in detail how these inspirational patterns relate to concepts and theories in community development and HCI. We are developing a next iteration of design cards presenting around 15 design patterns. These cards will be distributed to design practitioners, community organisers, researchers and teachers for further validation and expansion of design patterns concerned with supporting the initiation of social interactions.

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REFERENCES (EVERY REF <40 NEEDS +1 IN BODY)
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