Beating the City: Three Inspirational Design Patterns to Promote Social Play Through Aligning Rhythms

Robb Mitchell[1(✉)] and Thomas Olsson[2]

[1] University of Southern Denmark, Kolding, Denmark
robb@sdu.dk
[2] Tampere University of Technology, Tampere, Finland

Abstract. This paper offers three inspirational design patterns for sparking social play between unacquainted people in public and semi-public spaces. The intention is to support developers in appreciating and articulating possible approaches in creating physical or digital artefacts as interventions that encourage unacquainted people to play together in urban areas. As part of a broader selection of design examples with such social effects, we present three inspirational design patterns related to the notion of *rhythm*: "Sharing Vibrations", "Actions That Need Another", and "Crosswire Outputs". Although the creators of our accompanying design examples did not explicitly propose them neither as games, nor urban interventions, we believe that they have strongly playable qualities that can help inspire opportunities to increase playability in unexpected moments in city places.

Keywords: Design patterns social interaction · Social play · Urban icebreakers

1 Introduction

To foster the hospitality and openness of a playable city [27] we propose that social play experiences are crucial as both ends and means. Playable cities have great potential to increase the sociality of cities for both residents and visitors. Shared playful interactions in urban environments may result in greater social cohesion, senses of belonging and community [14], and perceptions of welcome-ness. Thus, playable cities share many of the characteristics of other attempts to provoke more interpersonal contact between unacquainted people in public places. Increasing the likelihood of strangers interacting also increases the chances that they might play together. For a fresh perspective on facilitating co-located fun in our cities, playable city advocates might look towards a wide range of art and design experimentation specifically concerned with fostering new encounters between unacquainted people.

In many situations, play between people can be difficult because people feel inhibited for various reasons. The reasons vary from person to person, and from situation to situation; however, in general such "social boundaries" [28] can be said to originate from, for example, cultural norms, personality characteristics like shyness, lack of awareness of common ground with the other possible players, and the risk of being embarrassed. In this paper, we zoom in on three possible inhibitors of social interaction in public spaces and

present some simple advice and diverse examples as to how these barriers may be overcome. Practitioners and researchers from many fields have proposed a wide variety of interventions [26], gadgets [5, 25], installations [10], objects, and apparel [16] to support initiating interactions between co-located people). However, a systematically presented collection of existing social icebreaking design examples appears lacking. To address this, we have been conducting an ongoing design space review examining diverse examples of both high and low-tech efforts for sparking social interactions. Crucial to informing this design space investigation has been our facilitation of an international series of workshops in which interdisciplinary teams comparing and critiquing diverse examples of possible social icebreakers, drawn from many fields [19].

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 [13]. We do not aim to provide an exhaustive taxonomy of all the possibilities for designers to facilitate playful 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 playful social catalyst design [2, 9]. Thus, similarly to influential notion of "strong concepts" for HCI [11] we make no claim at universality for our patterns. Also similar to strong concepts, successful use of inspirational design patterns requires skills and knowledge of particular contexts. The inspiration patterns offered follow a similar form but are different in scope and content to previously published other subsets of patterns that focus on proximity [18] and filtering of encounters [19].

Finally, this work complements the work of [23] in outlining the design space and design challenges for interactions between strangers. The examples we present to illustrate our design patterns are broader than only urban oriented. We nevertheless hope our focus on the fostering social encounters may be a useful complement to other descriptions of interventions concerned increasing the playability of cities [21] and related experimentation with pervasive gaming [6]. The inspirational patterns we offer may help foster informal social play in their own right, or can be social icebreakers that help facilitate more structured forms of collaborative play or multi-user games.

We draw upon Alexander's original format for presenting design patterns [1] in the following three subsections. We give each of our inspirational patterns a short name and after this (in italics) offer possible problem statement concerning initiating social interaction. Then we offer a one-line summary of a possible way to think about this challenge, before presenting two examples that illustrate each abstraction. After the pairs of design examples we offer a brief speculation concerning how each inspiration pattern might be applied in designing playful cities.

Sharing Vibrations

It is easy to ignore the presence of other people and not consider that our actions may effect them.

We argue that physical sensations that increase awareness about the presence of other people can also increase the chances of lightweight social interaction.

Gravicells by Seiko Mikami and Soto Ichiwaka (2004) is a digital installation that offers a simulation of the forces of gravity. Visitor movements are detected by floor based sensors that trigger audiovisual effects [3:23]. Most striking are the dynamic black and white ripples projected on the floor around each visitor. The presence of more than one person on the floor causes more complex patterns to be projected. This effect is somewhat akin to the intermeshing of radiating ripples on a pond when two thrown stones perturb the water surface at different points (author's personal observation).

Net Berlin by Numen (2013) is part of a series of gigantic multi-layered hammock-like installations. This iteration consisted of multiple levels of interconnected rope nets that invited visitors to explore by climbing and rolling, or simply lounging around [24:13]. Vigorous movements of visitors in non-digital installation caused vibrations that could be felt throughout the whole structure, and even gentle movements could be detected across and between different levels. This was because a portion of net that functioned as a floor for one participant, could simultaneously also be a ceiling or wall for another participant.

This pattern appears especially ripe for supporting the transition between parallel play and "interference play" [7, 15].

Actions That Need Another

Initiating interpersonal contact can be difficult without any practical reason.

Create opportunities and challenges that require assistance from another person to encourage collaboration.

SHARE by Stephanie Chen (2007) is a flattish box comprising four drawers for serving sushi. The four drawers all face in a different direction. A handle-like ribbon is attached to the front of every drawer. A mechanism inside the box prevents drawers being opened individually. To access the food requires two or more people pulling several ribbon-handles at the same time from different directions [4].

Friendly Twist by Coca Cola [20] was a set of bottle cap designs distributed by a soft drinks company as part of a promotional campaign. The cap of each bottle was designed so that it could interlock with the cap of other bottles in the campaign. Furthermore, the bottle was sealed very tight, so that it was only possible to unscrew the cap through dovetailing and twisting the cap of one person's bottle with another person's bottle.

We suggest the interdependency [12, 17] that this pattern exploits has potential for eliciting collaborative playfulness and can be considered for applying to playful designs that require not only instrumental use of hands, but almost any other sense-able body part, action or state.

Crosswire Outputs

It can be difficult to notice and appreciate the actions of another person.

Make the actions of one person appear as if they are done by another person in order to provide shared elements of surprise and bewilderment.

Remote Furniture by Fujimura (1999) is a pair of motorized, connected rocking chairs. Activity in either rocking chair is detected by movement sensors that cause actuators in the other chair to move a corresponding amount, thus creating a kind of echo, or mirror of rocking motors in the opposite chair [8].

Reversed Megaphone by Caspar Obrø and Mads Hobye (2011) is another pair of recognizable artefacts: namely two megaphones. The mic and loudspeakers of each megaphone are cross wired with each other so that audio inputs to one megaphone are transmitted to, and amplified by the other megaphone (and vice versa) [22]. When two people are using a megaphone each, a boisterous form of ventriloquism results.

In addition to provoking various forms of playing with identity, this pattern may also offer a route to many other kinds of shared amusement such as personal expression, teasing, pranks and turn taking games.

2   Conclusion

We have presented three design approaches (or *patterns*) that we hope can provoke designs for promoting social play between collocated strangers. The patterns build on the notion of mutual *rhythm* (i.e., coordinated and synchronized action) that would be created in physical and digital artefacts. The provided examples are part of a broader collection of designs that manifest various approaches to encouraging collective action and play between unacquainted people particularly in public spaces and urban areas.

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