Feather, Scent, and Shaker: Supporting Simple Intimacy

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ABSTRACT

In this paper, we describe three experiments in designing for minimal, expressive communication. These are very simple networked devices that are aimed at supporting implicit, personal, and expressive communication, as opposed to the explicit, goal-oriented, and informative communication characterising most CSCW systems. We suggest that these prototypes open an interesting space for collaborative systems, and describe some of the issues and opportunities they raise.

INTRODUCTION

Systems supporting collaboration tend to share three characteristics: They rely on relatively explicit communicative acts, they stress the exchange of information, and they support goal-oriented activities.

In everyday life, on the other hand, sociality is often a more subtle and delicate thing. Think of being in the same room with a close friend or lover. There may be no explicit communication, but instead a myriad of more basic visual, auditory, and tactile links are shared. No information may be exchanged, but emotions, even simple contentment, may be expressed. And no goals may be pursued or met, but instead mere togetherness may lead to a feeling of warm companionship.

Could systems be developed to support this sort of intimacy at a distance? In this paper, we describe three prototypical systems designed to support simple, expressive interaction, and then discuss the issues and opportunities that they raise.

FEATHER

The first system, Feather, is designed for situations in which one person is travelling while another stays at home. The aim is to indicate, simply and expressively, when the travelling partner is thinking of the other.

Two devices are used. The traveller carries a small object that signals that his or her attention is focused on the other (see Figure 1). This is envisioned as a kind of picture frame, but one contrived so that it invites activities that can be used to send a signal to the other object. In one version, this involves turning over the object, which otherwise sits picture-side down. In another, the object encourages lifting to view the image. This gives a precious, almost reverential feel to the interaction, and holding the object closes a circuit between the two halves of the unit, sending a signal to the other object.

The second object is larger, meant, like a piece of furniture, to be a relatively stable feature of the home (Figure 1). It contains a small and quiet electric fan in its base, and a single feather that rests on an unobtrusive grill above it. When triggered by the absent partner holding the picture frame, the fan starts, wafting the feather into the air. The drifting feather is constrained by a clear, cone-shaped plastic enclosure extending from the base, and lifts and dips naturally as it catches the wind.

The combination of picture and feather provides an ephemeral, poetic experience of connection. Handling the picture object becomes an act of affection and reflection, made more poignant by the possibility of the other's awareness. Seeing the feather drifting in the air intimates the other's attention with a lightness and dynamic that reflects the transience of thought.
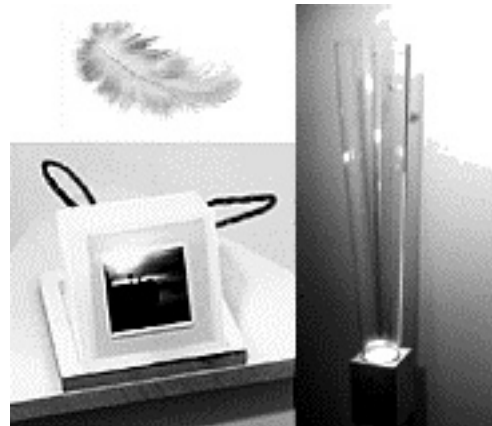

Figure 1: Feather

SCENT

The second system, Scent, is a variation on Feather. Again, a traveller takes the picture object, which invites handling both to see the picture and to signal the viewer's activity. In this system, however, handling the picture object starts a heating element at the bottom of an aluminium bowl, vaporising essential oil deposited within. The result is that a scent fills the home space to indicate the traveller's thoughts, lingering for a time before fading away.

Using scent to express connection allows a persistence that the Feather does not. The feather's movement lasts little longer than the picture is handled, and may be easy to miss even if the home-based partner is present. The scent is more pervasive, lingering like a memory after the initial signal is received.

Figure 2: Scent

Scent is also supposed to conjure emotions and memories more profoundly than vision, and personally significant scents might be chosen to enhance this effect.

SHAKER

Shaker is designed for less intimate friendships and more symmetrical communication than are Feather and Scent. The system consists of two pairs of devices, one pair carried by each partner (Figure 3). Each contains a solenoid, consisting of a metal rod surrounded by a wire coil. When the Sender is shaken, the movement of the rod induces a current in the coil. When this (or a digitised version) is sent to the Receiver, the current causes its solenoid to shake the Receiver proportionally.

Shaker permits the exchange of fairly subtle tactile gestures. There is not a one-to-one correspondence between the units' movement, but the timing and amplitude is maintained. Ideally, the sender and receiver would be built into a single unit, with feedback reduced by orthogonal send and receive axes. Shakers could be of a form and size that makes them easy to carry or wear as jewellery, using pager or cellphone technology to link them. In any case, the aim is to encourage entertaining and light-hearted play among friends.

Figure 3: Shaker receiver and sender

EXPRESSIVE COMMUNICATION

Feather, Scent and Shaker have been prototyped, but only with wires connecting them, rather than full-fledged networking. Remote connections might be achieved using the internet, infrared links, cellphone, or pager technologies.

Networking will be necessary to get adequate experience, however, the current prototypes have allowed us to get a feel for the interactions these devices offer. Briefly, we feel they differ from most CSCW systems in encouraging implicit and expressive communication with a focus on supporting relationships.

Most current collaborative systems demand explicit communication. They rely on symbolic messages—usually language—which means that communicative acts must be overtly articulated by the sender, and that their reception is a relatively focused and attentional endeavour for the recipient. The use of symbols also implies that the process is one of transferring information, whether about facts or opinions or beliefs. Finally, the broad purpose of current systems is to support goal-oriented behaviour such as planning, design, or problem-solving, in which communication serves some external aim.

The emphasis on simple *awareness* taken by some media space researchers, where awareness refers to the low-level activity of keeping track of one's extended environment, contrasts with most CSCW work. One of the advantages of media spaces over more focused technologies is the ability to support this sort of immersion in a remote site. Awareness can be seen as a process of picking up largely nonsymbolic information that is not predictable nor clearly related to any particular goals. This implies that supporting awareness in collaborative software systems (e.g., shared applications or virtual realities) is difficult; the very attempt to define what information should be made available for awareness contradicts its implicit, serendipitous, non-goal-oriented nature.

Feather, Scent, and Shaker build on notions of awareness. They avoid explicit symbolism, relying instead on more immediate visual, olfactory, and tactile links. The meanings they convey can be apprehended relatively directly, because of their simplicity, their perceptual immediacy, and because the concern is not to exchange information, but rather to express mood and emotion. Finally, they are not concerned with collaboration meant to achieve external goals, but rather with companionship considered as a goal in itself. They offer very simple, poetic indications of attention and emotion that we have not seen in other collaborative systems.

Despite their nonsymbolic nature, these systems do not rely on literally imitating the everyday world to convey meaning. They use looser mappings, allowing meaning to be expressed without being explicitly defined. These mappings can be seen as metaphors, but we prefer to think of them as expression because they need not be precisely understood or defined to be effective. They depend, in part, on a significant component of product design; screen-based versions would be unlikely to have the same impact.

These prototypes are clearly preliminary, and raise many design issues. It is not clear that such simple interactions will be satisfying; instead frustrations with their minimalism may simply lead to higher phone bills. Similarly, the asymmetry of Feather and Scent seem problematic. The impact of looking at the picture object depends on knowing that one's partner might be aware; the lack of feedback might make this possibility more frustrating than fulfilling. Some utility should be offered during their resting states, perhaps by allowing manual use or other functionality. Finally, our intuitions should be tested with finished, networked versions.

These designs open new space for thinking about technology-mediated sociality. They emphasise the potential for technology to mediate interactions that are indicative rather than explicit, expressive rather than informative, and emotive rather than instrumental. The prototypes indicate that devices might be deployed that focus exclusively on these kinds of interactions. More generally, however, we believe their warmth, playfulness, and poeticism might be powerful complements to any collaborative system.