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WHO AM I AND WHERE AM I? – SWITCHING AND STITCHING IN THE DIGITAL AGE

M. Smyth, B. Raijmakers and A. J. Munro

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1. Introduction

Increasingly technology is offering the opportunity for people to inhabit both the virtual and real worlds. Negroponte (1995) describes this dichotomy in terms of the difference between atoms and bits. Atoms representing the solidity of the real world, while bits reflect the transient nature of the virtual world. Compounding such a duality is the fact that work is no longer constrained by location as increasingly project teams are distributed across geographic boarders. Rather than reducing the need for face to face meetings, as was once claimed for Computer Supported Co-operative Working (CSCW) technologies, the result has been an increase in the requirement to travel as technology has enabled individuals to work on many more distributed projects. As individual workers become more nomadic, so has the technology sought to support such practice. Technology now not only tethers the individual with respect to their workaday world but also to their familyworld. The mobile phone, so ubiquitous in western cities, offers constant connection to and from the individual. As a consequence the potential for the seamless transition from family to work, irrespective of location, is only a few button presses away. Technology provides the opportunity for individuals to undertake both an increased number and, critically, an increased diversity of roles. The effect of this dual tension has been to place an added pressure on the identity of the individual. Work and family life have become blurred in the constantly accessible, 'always on' culture. It will be contended that the technology that has placed such pressure on identity may also offer solutions to this most modern of dilemmas. Dealing with identity involves dealing with both joyful and painful issues that are close to people's hearts. This paper will consider the issue of how technology might support the creation, maintenance and communication of identity by both individuals and groups.

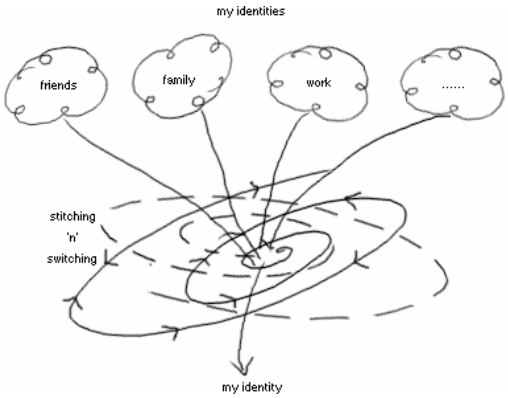

Figure 1. Components of Identity

2. Identity as Process

2.1 Switching 'n' stitching

Identities result from the different rôles and activities that people play in everyday life (see Figure 1). For example, individuals can describe themselves, and be perceived by others, in terms of their families, work and friends. However such categories may well constitute very different worlds. Identity has many components that have to be woven into our everyday lives. It is postulated that in order to cope with the demands of our society, people must be capable of switching between identities actively and quickly while stitching these different identities in place (Hall, 1991).

It is possible that a 'fragmentation' of identity is part of our experience of modernity (e.g. Benjamin, 1997). The modern city, for instance, not only allows us anonymity, but also the freedom to play with how we portray ourselves. This may be further encouraged with the rise of electronic communications: consider that the average person may manage his/her work identity on a mobile phone in different situations, have different internet personas, and may manage these rôles dynamically outside the traditional working hours. People may not necessarily want coherence with respect to identity. 'Non-coherence' might be a very good survival or control strategy. Non-coherence may be a resource we *use* and *play with*, leading to ongoing work to stitch these identities in (separate) place(s). Thus it would seem that the effect of technology in changing day-to-day communication practices across Europe has been to change identity choices and possibilities facing the individual. It is contended by the authors that the creation and maintenance of identity is a natural and daily process that can at times be both joyful and painful. How technology might support such a 'stitching yourself in place' activity is explored in this paper. A key question that the work will highlight is the issue of coherence and the degree to which it is both necessary and desirable in terms of an individual's stitching in place of their identities.

2.2 Premier switchers and stitchers: examples of possible test groups

Although we all deal with identity and the process of its ongoing stitching and communication in our everyday life, some social groups may be seen to face identity issues in a more explicit manor. It is informative to look closely at these groups. Immigrants are one example of a group who are very much experienced at 'stitching themselves into place' in Europe. On a day to day basis they have to stitch their identity in place by drawing resources from different cultures. This process is further complicated by the difference in the level of Western cultural influence as experienced by members of different immigrant generations. The older immigrants experience a larger influence from the culture they were born in while the second or third generations live amidst the collective memories of the older generation, the 'new' culture's pressures, demands and desires and the expectations of the older generation (Gaver et al, 1999).

Tuan (1977) in his book entitled Space and Place discussed the importance of architecture in inbuing a place with identity. He argues that landmarks serve to enhance a people's sense of identity; they encourage awareness of and loyality to the place. He continues by stating that such attachment to a place may come with a 'subconscious sense of familiarity and ease, with the assurance of nurture and security, with the memory of sounds and smells, of communal activities and homely pleasures accumulated over time'.

However, there are many other groups who *face identity issues daily*, and/or who *experience transitions* which need a great deal of 'stitching'. Examples are:

- people stepping onto different stages of social position (transitions between student/worker, single/married);
- people who are working in a different culture (switching rôles across various locations);
- people who are members of a sexual minority (e.g. gay men or women and the transition of 'coming out');
- people entering different parts of their lives (people who are becoming 'elderly' and are mainly defined as such);

- people that are isolated due to bad health (e.g. immobile people), who are not fully integrated into the community or in any other way handicapped and not able to express their identity.

It is contended that the study of such groups, which are characterized as 'being in transition', will offer a range of viewpoints on identity creation and maintenance.

3. Technology Conducive to Creating Identity

3.1 Does technology help to switch 'n' stitch?

Within computing the traditional boundaries between computer; telecommunications and consumer products are being rapidly eroded. Such technological convergence underpins the view that future interaction between people will be achieved through using technology as a distributed pervasive medium. In short, that technology will become ubiquitous and will merge into our culture (Weiser 1991, Weiser and Brown 1995). The creation of technologies that support identity, in particular its interaction requirements, offer a radical means by which to exercise this and other paradigms.

Relationships, whether at the individual or group level, will become even more digital than they are today. How individuals switch between these and stitch them into place within their lives, and indeed if they are aware of such transitions is an open question which should be addressed as part of this research. Technologies that show the first signs of supporting these practices are the satellite dish and the mobile phone. Satellite dishes can be conceived of as cultural switching devices as they enable the viewer to sample cultures from around the globe. Mobile phones, on the other hand, provide the mechanism for participation irrespective of location. Thus it is possible for the individual to stitch a variety of identities in place. For example, by reading a bedtime story to a child while walking to a business lunch in a foreign country, a scenario recently used by a mobile telephony company in a UK advertising campaign.

4. Understanding Identity as a means to develop Identity Technology

4.1 The process of identity: possible cases and themes

How technology could impact on the creation, manipulation and communication of identity remains an open question. This section will present a number of generic areas that will, it is contended, reflect a wide array of imaginable directions for technologies that support identity.

4.1.1 Signifiers

Signifiers such as clothes are appropriated by individuals to indicate allegiance to groups (e.g. immigrant communities). To what extent might such physical signifiers transfer to the world of virtual groups? But also *vice versa*, clothes made of materials where colour could be manipulated by the wearer to represent identity or mood.

4.1.2 Physical places

The association of identity with physical places raises the possibility of architectural structures being used as communication media through which individuals or groups might pass messages. Audio could be used for the same purposes. A good example of such a place could be an airport, where a connection to different worlds can be made. For some people the physical space of the airport is already on leg in 'the other world'. It can be associated with leisure (holiday), pain (loss of someone or something) or an entire change of lifestyle or identity. And these can also be simultaneous dynamic connotations, changing over short periods too, not equally shared by its part-time inhabitants.

4.1.3 Emotional Relationships

Previous I^3 research (Schenker, 2000) has shown the importance of emotional relationships between people, exemplified by objects which provide an interesting instantiation of identity technology due to their personal nature (i.e. wedding rings). A study starting from these relationships can be broadened towards the main qualities that constitute the process of identity construction.

4.1.4 Product Design

In terms of product design, how is identity created through packaging (i.e. iMac and Swatch) and mutability (i.e. Nokia Xpress-on Covers and Smart Cars)? While still only skin deep *sic*, such approaches could inform the design of technological artefacts whose purpose is to enable the user to create, maintain and communicate identity (Bolz, 1993).

The technologies described in the previous sections all perform specific functions: clothes provide the wearer with protection; cars enable movement and mobile phones allow communication. How these artefacts are manipulated to create and communicate identity is a secondary activity enabled by, and possibly encouraged by, the attributes of each device. Identity technologies per se are maybe an illusion, but technologies that support the creation, manipulation and communication of identity are a reality.

5. Envisioning the Attributes of Technologies that Convey Identity

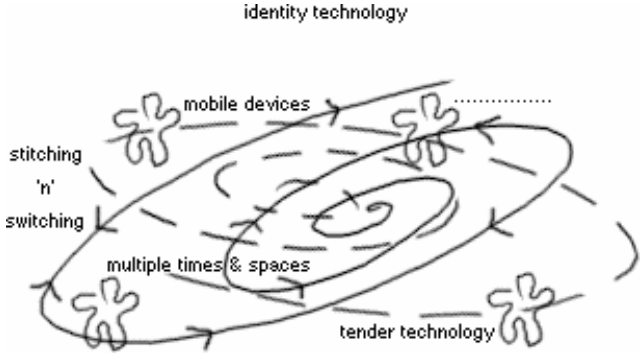

Figure 2. Characteristics of Identity Technologies

While the nature of the attributes associated with technologies that support identity remains illusive, certain predictions about their nature can be made (see Figure 2): Firstly, such technology must enable people to operate in multiple times and places. Secondly, as identity creation is considered to be an emergent and ongoing process, it seems likely that any device to support such activity would have to be mobile and 'personal'. They also seem appropriate because of the ease with which such technologies can become cherished items in our daily lives (e.g. our attachment to the mobile phone). Thirdly, the technology must be *'tender'*, both in its handling of the process of identity creation and expression. That is, such expression need not be *overt*, sometimes it must be *subtle*, private and only accessible to those with whom an existing history already exists. We tell a lot not from what is said, but *how* it is said; not just from a touch, but the *way* we are touched. Our term of 'tender technology' concerns those technologies that allow the communication of such context, which is usually lost in conventional devices. It has been suggested that the study of implicit expression, coupled with the value placed on emotional connections, is indicative of new rôles for technologies within our personal lives (Gaver and Martin, 2000). Identity is one such rôle. Technologies which support identity must reflect such diversity through 'tenderness' in design, development and deployment.

6. Technology to Support Ambient Identity

The communication of identity can be both explicit and implicit. In the case of implicit communication of identity this usually occurs when individuals are involved in an existing relationship. Furthermore, it is contended that identity constitutes an aspect of the self. Where one originates plays an integral role in who that person is now. Where we have grown up, visited or worked can influence our image of self and impact on the nature of the identity which we construct and convey to others. The connections that we have with people and places contribute to our sense of self and identity.

It has been argued that the current generation of technological solutions are overly focused on the support of foreground tasks. Indeed, Buxton (1996) draws the distinction between foreground and background tasks and comments that the support of background tasks could provide new opportunities

for the deployment of technology. The display of ambient information is thought to be an area of research that impinges on the design and deployment of identity technologies. Examples of work in this area can be seen in the research conducted at MIT and the RCA. Specifically, studies of Tangible Media (Ishii, 1997) and Calm Technologies (Weiser and Brown, 1995). Examples of the use of Tangible Media which explore aspects of the ambient display of information are Pinwheels (Ishii et al, 2001) and LumiTouch (Chang et al, 2001). Pinwheels sought to explore how the architectural spaces that we inhabit will become an interface between humans and online digital information. A series of pinwheels were mounted in 8 rows and attached to a ceiling of an exhibition space. Each pinwheel could be driven by small motor. The spinning of the wheels was indicative of the state of a computer network, in the works of Ishii 'the Pinwheels spin in a "wind of bits" that blows from cyberspace'. In short the aim of work was to present information within an architectural space through subtle changes in movement and sound. The LumiTouch prototype attempted to articulate another aspect of ambient communication, that which exists when individuals are within an existing relationship. In such circumstances it is common to exchange objects. LumiTouch consists of a pair photograph frames that light up when the corresponding frame is touched or passed by a partner. The prototype aims to explore the communication of emotional content through a semi ambient display that can move seamlessly from the periphery to foreground. What each of these prototypes demonstrate is the importance of ambient information in facilitating how sense is made of the world and also in the maintenance of connections with people and, indeed, the sense of self.

Figure 3. Concept sketch of the Identity Pebble

The identity pebble (Figure 3) is a concept which draws on the importance that is placed on connections with places and how they contribute to identity. It also explores how ambient information associated with those places might be displayed in a seamless manner. The concept is grounded in the idea that mementoes are brought home to act as a reminder of distant places visited or left behind. Such objects provide connections to places and people. The Identity Pebble draws on the propensity for individuals to collect stones from foreign beaches. Each stone acts as a tangible reminder, or connection to, a specific point in time and place. As the object is handled so the memories of that time and place are rekindled. The Identity Pebble will look like a normal pebble, but when touched it will emit sounds associated with its place of origin. Furthermore, the pebble would emit light such that it is synchronised with the natural lighting of its origin. The aim is that the pebble would provide an individual with a connection to past memories and places that constitute part of that person's identity.

In a similar vein the design of the new rooftop restaurant for Harvey Nichols's London branch has incorporated lighting that reflects the climate conditions of the external environment (Figure 4). The aim being to connect the dinning space to the outside and to give a sense of eating in the open. The architect is attempting to use lighting to imbue the space with an identity thereby creating a greater sense of place for the dinners.

Providing a building with an identity in the context of its situation is a theme being explored by a number of architects. In particular, the Tower of Winds located in Yokohama by Toyo Ito (Figure 5). This is a structure that filters the air and sounds of the city and transforms them into light. An architronic object rooted in it's place, contextual but subject to change as the air, light and sounds around it are never the same.

Figure 4. The Rooftop Restaurant together with two examples of the use of ambient light, Harvey Nichols, London (2003)

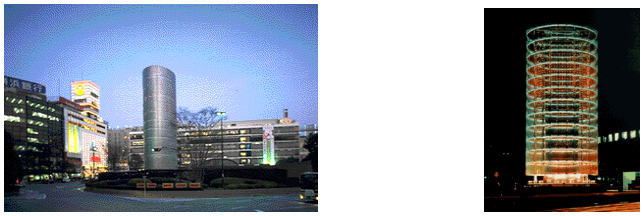

Figure 5. The Tower of Winds, Yokohama, Toyo Ito (1986)

7. Conclusions

Identity is a complex phenomenon and the pressures on how it is created, maintained and communicated have been exacerbated with and through certain technologies. The author's have highlighted the link between certain attributes of these technologies and how these can be utilised to support identity. It is proposed that designer's must adopt a 'tender' approach to their design.

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References

Benjamin, W. (1997) Charles Baudelaire Verso: London.

Boltz, N. (1993) The Meaning of Surface, The Doors of Perception 1, Amsterdam

Buxton, W. (1996). Absorbing and Squeezing Out: On Sponges and Ubiquitous Computing, Proceedings of the International Broadcasting Symposium, November 13-16, Tokyo, 91-96.

Chang, A., Resner, B., Koerner, B., Wang, X., and Ishii, H. (2001) LumiTouch: An Emotional Communication Device, Proceedings of CHI01, Extended Abstracts, ACM Press.

Gaver, B., Dunne, T. and Pacenti, E. (1999) Cultural Probes, Interactions, Vol I.1, 21-29.

Gaver, B. & Martin, H. (2000) Alternatives: Exploring Information Appliances through Conceptual Design Proposals, Proceedings of CHI2000, ACM Press, 209-216.

Hall, S. (1991) Stitching yourself in Place, Annual Magazine of the European Network for Cultural and Media Studies, Vol 1, Amsterdam, 4-13.

Ishii, H., Ren, S. and Frei, P (2001) Pinwheels: Visualizing Information Flow in an Architectural Space, Proceedings of CHI01, Extended Abstracts, ACM Press.

Ishii, H. & Ullmer, B. (1997) Tangible Bits: Towards Seamless Interfaces between People, Bits and Atoms, Proceedings of CHI97, Atlanta, Georgia, ACM Press.

Negroponte, N. (1995) Being Digital, Hodder and Stoughton.

Schenker, J. (2000) Not very PC, Time Magazine, Europe Digital, Vol 155, No 8.

Tuan, Yi-Fu (1977) Space and Place- The Perspective of Experience, University of Minnesota Press, USA.

Weiser, M. (1991) The Computer for the 21st Century, Scientific American, 265 (3), 94-104.

Weiser, M. and Brown, J.S. (1995) Designing Calm Technology. http://www.ubiq.com/hypertext/weiser/-calmtech/calmtech.htm