Living Avatars Network: Fusing traditional and innovative ethnographic methods through a real-time mobile video service

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This paper presents a study of new technologies potentially enabling access to a sensory feast of places by 'wired up' flanêurs, real-time as well as remote 'native' description and interactions and situated oral histories excavated through 'being in a place'. We describe an inter-disciplinary research project examining the cultural heritage of Singapore and the use of geo-location technologies incorporating social networking platforms as a medium for interactive heritage walks. The goal of the project is to engage both locals and non-locals in experiencing Singapore from a first person perspective, giving them a wider understanding of the ethnic and cultural diversity. The Living Avatar Network (LAN) supports sharing experiences and realities in real time through making it possible to 'walk in someone's shoes' through a living avatar, re-experiencing someone's memories of a certain place. Here we describe the approaches deployed in evolving a prototypical service - 'traditional' ethnographic style methods with the access to the real-time, lived character of 'local' experiences offered by digital photo streams and real-time video. More broadly, the project acknowledges the potential availability of the experience of being in a place and culture to be widely available through Web 2.0 technologies and people spending more time 'living digitally'.

> "Sight may be viewed as the most superficial of the senses getting in the way of real experiences that should involve the other senses and necessitate long periods of time in order for proper immersion…"
> Urry (2002:149)

INTRODUCTION: LOCAL CULTURE IN A GLOBAL, DIGITAL WORLD

Modern mobilities, such as physical and virtual mobilities (Urry, 2000), and encroaching globalisation promote the increasing jumble and homogenisation of disparate cultures in local settings. In a global city like Singapore there is tension between the lived history and reality of particular places and practices and the rush to feed and globalise "the tourist gaze" (Urry, 2002). Singapore is an ideal place to explore interactions between the emerging technologies, globalisation and the disappearing traditions because cultural heritage, like in many global, cosmopolitan cities, is a contested zone. Various interests, such as tourism marketing campaigns and the construction of a multicultural identity, compete over the function and the definition of the collective and personal past. How can memories and experiences be preserved in a city that is changing rapidly? How can the disappearing, even forgotten, past and the omnipresent future be reconciled?

These observations and questions point to a number of tensions, tensions that we wish to explore through this paper. On one hand there are tensions between performing and preserving particular

aspects of everyday life. On the other hand there are aligned tensions between preserving aspects of 'culture' and external forces such as modernization, development and globalization. Urry (2002) points to the growth of "tourism reflexivity" or "identifying a particular place's location with the contours of geography, history and culture that swirl the globe, and in particular identifying that place's actual and potential material and semiotic resources." In such a climate and with the rapid development of "communicative mobilities" and "corporeal travel" there are vast opportunities to both develop and mobilize "the tourist gaze". This 'reinvention and mobilisation' can involve different individuals' and groups' localized heritage through personal auditory and visual narratives.

Developing appropriately relevant and rigorous methods that support both policy (e.g. tourism policies) and design (e.g. emergent services) decisions is challenging. Our focus here is on design, but not the kind of design that is typically labeled "creative design" or "engineering design" (Vetting Wolf et al., 2006). In our treatment of design we acknowledge the explosion of technologies and interfaces into multifarious aspects of people's lives (Bowers and Rodden, 1993). We thus widen the 'traditional' notion to include e.g. assembling existing services in new ways. Thus, in this paper we examine the kind of 'everyday design' that is similar to the experience of the proficient home user or developer confronted with developing a 'proof of concept' or 'demo' or even simply 'getting the job done'. In our treatment of 'design' we also recognize the convergence between content and service creation and publishing through Web 2.0 technologies, where: the development of a prototypical service may involve little more than the innovative assembly of existing services; the time between this assembly and launch may be short and; the potential for accessing a large audience quickly, who can, in turn, reinvent the service, is considerable.

In some ways ethnography and cultural heritage have similar goals: they are concerned with 'the authentic'; they wish to represent this authenticity in some way; they have similar preoccupations with notions of place, artifacts and representation; both recognize the importance of experience; both are concerned with how to treat data (e.g. documents, photographs etc) and what to make of them. As Urry (2002:157) notes regarding tourism:

> "Culture-developing-and-sustaining-travel can take on a number of different forms: travel to the culture's sacred sites; to the location of central written or visual texts; to places where key events took place; to see particularly noteworthy individuals or their documentary record; and to view other cultures so as to reinforce one's own cultural attachments."

Thus separating the methods we report on and the focus of the research is somewhat artificial. However, heritage has a concern with preservation and display while ethnography's prime concern is the investigation of local culture, wherever that locality may be and whoever might be engaged in the activities comprising that culture. Thus the questions we wish to answer here concern digital technologies supporting heritage activities, how to deploy these tools to understand the experience of those activities and the broader implications of these technologies for an understanding of heritage in a post-modern era suffused with different mobilities.

The specific work we report on here was part of an inter-disciplinary research project into the cultural heritage of Singapore and the use of geo-location technologies incorporating social networking

platforms as a medium for interactive heritage walks. The goals of the project were to engage both locals and non-locals in experiencing Singapore from a first person perspective, giving them a wider understanding of the ethnic and cultural diversity, through interactive heritage walks. The project has also explored opportunities and challenges for new ways of probing, sharing and promoting local 'culture'. The focus of this paper is reporting on the development of a prototypical service with a view to drawing out lessons for new ethnographies that combine 'traditional' and 'new' methods and deploy 'digital life documents' (Plummer, 1983) or, in Crabtree et al.'s (2006) terms, 'digital records'. What we suggest is that both the methods and new services we present here, offer new opportunities for exploring social life.

THE LIVING AVATAR NETWORK

The concept of the Living Avatar Network (LAN) was developed through qualitative enquiry and reference to popular culture (e.g. "Avatar", "Surrogates"), actual services (e.g. BBC News, 2009) such as 'Rent-a-friend' in Japan, and an art project on remote control (Silver and Rivrud, 2007). Popular culture, and science fiction in particular, inspired the idea that another body, appropriately connected with, can act as a proxy for experience while the phenomenon of being able to rent friends, relatives and even partners to 'stand in' for important others in one's life suggested the potential commodification of such a body's time. Silver and Rivrud's art project, deploying similar technologies to those used here (http://girlfriend.mediamatic.net/), probed the mechanics of the relationship between a controller and a controlled avatar via performances. LAN drew on each of these to support sharing experiences and realities in real-time through making it possible to 'walk in someone's shoes' via a living avatar, (re-)experiencing memories of a certain place. These 'memories' could be variously evoked and communicated, depending on the nature of the avatar-controller experience. The team ('the team') that developed the LAN concept comprised five students and two academic staff (one of the authors and another staff member) from the National University of Singapore. The second author periodically interacted with the team advising them on and answering questions.

The LAN concept developed by the team is quite simple: one person or group in a place being directly engaging with (e.g. through walking), 'the avatar', interacts with another person or group beyond that place, 'the guide', through the avatar using what we term 'mobile interaction technologies'. Important features of these technologies are that they: are portable; allow the collection and sharing of experiences through, for example, video or audio recording; deploy wireless communication technologies (e.g. WiFi, 3G); utilize publicly available infrastructure (e.g. cloud computing) and; deploy particular recent, freely available real-time services (e.g. Skype). Thus, although we term these technologies 'mobile interaction' they also support real-time broadcasting to a potentially huge public. Clearly 'the avatar' is not simply a dumb automaton being steered by the guide - the relationship is more egalitarian and reciprocal than that and may also vary depending on the situation and individuals involved. For instance, the avatar may be re-experiencing a place for someone else who is guiding him/her while also experiencing a place for the first time.

One situation the team discussed involved a local, because her work tied her to a particular location, guiding a visitor around Singapore through mobile interaction technologies. In this case, the avatar's experience is the primary motivation for and in the interaction. One particular scenario

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(Cooper, 1999) developed the relationship between the avatar and the guide further. This scenario (Wickrama, 2010) described a wheelchair bound Singaporean staying in another country vicariously visiting places (e.g. a location from childhood), performing activities (e.g. exercising) and even tasting local food through an avatar. In this case, the guide's experience is the primary motivation for and in the interaction. The team's vision extended beyond the particular trial described in this paper. They suggested LAN, if developed as a new Internet service, could encourage users "to exchange, volunteer or simply buy and outsource experiences and realities in real-time" (Wickrama, 2010) while walking around a specific location. Thus the idea, not unlike online relationships, could be extended to support people offering themselves as avatars (e.g. via the Internet) for someone they could connect with over a distance in order to share interesting stories, experiences and ideas in a novel setting.

CULTURAL HERITAGE AND NEW AND EMERGING TECHNOLOGIES

> "Questions of heritage, even where there is commodification of history, makes 'history' central to the nature of given cultures and demonstrates that heritage cannot be divorced from the various 'techniques of remembering', many of which now involve tourist sites, festivals, events and so on…" (Urry, 2002:159)

Notions of nationhood and heritage are now closely linked - what to choose to preserve and put on display is at least partly determined by national priorities. Stretching back to the 1851 National Exhibition in Crystal Palace, London, particular "travel to sites, texts, exhibitions, buildings, landscapes, restaurants and achievements of a society has developed the cultural sense of a national imagined presence" (Urry, 2002:158). Yet it is important to acknowledge the impact and importance of informal, unofficial narratives and stories with the increasing ubiquity of global travel, 'global diasporas' (Urry, 2002:159) and global personal connectivities to others. VFR (Visiting Friends and Relatives), health and religious travel accounted for 27% of all inbound travel in 2006 (UNWTO, 2007) or 225 million international arrivals, compared with 154 million in 2001 and 74 million in 1990. Urry (2002:159) cites examples of huge Trinidadian, Chinese and Brazilian diasporas and how diasporic travel "has no clear temporal boundaries" as being 'home' and 'away' tend to merge into each other. Larsen et al.'s (2006) recent empirical study of working people's mobility in the Northwest of England shows how 24 informants, ranging from architects (nine) to porters and doormen (six) sustained regular telephone contact (at least one phone call every ten days on average) with people living over 250 km away. Thus nomadism seems integral to today's age (Makimoto and Manners, 1997) with an increasing number of hybrid connections maintained through "inhabiting machines" such as mobile phones that "reconfigure humans both as physically moving bodies and as bits of mobile information and image, with individuals existing both through, and beyond, their mobile bodies" (Urry, 2004:35). Through these 'machines' "connections are crucially transformed, with others being uncannily present *and* absent, here and there, near and distant, home and away, proximate and distant" (ibid).

A useful way of viewing experiences through LAN is through Urry's (2002) notion of "the tourist gaze". Although directed at understanding the consumption of places by people engaged in tourism and not cultural heritage, it does offer insights because it considers how people experience what is put on display in particular places. It also represents the interaction, conflict and tension between the consumer and the provider of the experience and the autonomy of the individual when approaching a

place. As such the notion of the tourist gaze has both resonances and dissonances with the experience proffered through LAN. Both are primarily aimed at leisure as opposed to work, arise from movements and stays in new places, involve short-term or temporary experiences, focus on visual experiences, can be anticipated and even constructed and sustained through non-tourist practices (e.g. watching TV). Both are also, to some extent, determined by a series of external factors such as "changing class, gender, generational distinctions of taste within the population of visitors" (Urry, 2002:3). However, the kinds of experiences supported through LAN differ because they are more individual in character and less mass-produced and, thus far, less subject to competition. LAN experiences are also, despite involving the lingering over particular aspects of places typical of the tourist gaze, more 'in the moment' and less subject to the pressures of immediate reproduction and capture through visual artifacts and technologies because the network, via real-time data capture, can potentially support exactly this. The mediated experiences need not be 'out of the ordinary' but, instead, may simply be ordinary and everyday. The gaze offered by LAN is less constructed through signs than personal memories and past experiences. As such the kinds of less commodified and mass-produced views offered through LAN offer distinct opportunities for ethnographers to uncover current and even past practices 'from within'.

Our tentative suggestion then is not only that there are other narratives relevant to heritage than 'the party line' but also that there are other ways of investigating and preserving culture than those privileging "the visual". Urry (2002), at the end of his book, admits as much, recognizing "the tourist gaze's" emphasis on the visual. Recent developments in the role of walking in ethnographic practice (e.g. Pink et al., 2010) and "sensory ethnography" (e.g. Pink, 2009) point to the importance of recognizing and exploiting the observer's physical engagement with and presence in multiple facets of a place for ethnographic methodologies. The latter aspect of sensory ethnography acknowledges the reflexivity of ethnographic encounters and argues for multiple ways of knowing beyond 'classic' observation. Pink (2009:15) describes how recent sensory ethnographies have shifted from focusing on different cultures to considering aspects of everyday life: "Such sensory ethnographies both attend to and interpret the experiential, individual, idiosyncratic and contextual nature of research participants' sensory practices *and* also seek to comprehend the culturally specific categories, conventions, moralities and knowledge that informs how people understand their experiences." (Pink, 2009:15). Pink et al (2010:3), drawing on Ingold's work (e.g. Ingold, 2007), note the importance of "the recognition that walking is…in itself a form of engagement integral to our perception of an environment" as well as something that can be learned and a means of communication and knowing.

Bruce Chatwin in "Songlines" (1987), points to some of these concerns, describing how Australian aboriginals couple traditional songs and stories with places to the extent that they can be used to navigate the continent. Oral history or "spoken memories and personal commentaries of historical significance through recorded interviews" (Ritchie, 1995:1) is recognized as a 'heritage genre' or "cluster of genres" (Portelli, 1998). Ritchie's (ibid) notion of oral history emphasises the act of transcription, archiving and presentation of the resulting material. Yow (1994:94), on the other hand, stresses the importance of the relationship between the listener and the narrator and how the listener is 'placed': "there is someone else involved who inspires the narrator to begin the act of remembering, jogs memory, and records and presents the narrator's words". Plummer (2001:28) also emphasizes the role of the listener in gathering "researched and solicited stories" that "do not naturalistically occur in

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everyday life…they have to be seduced, coaxed and interrogated out of subjects". Crabtree et al. (2006) have developed 'life documents' through 'the digital record' or the "natural extension and evolution of the ethnographic record, where technologies of production have progressed over time from paper and fieldnotes to incorporate a veritable host of new computational media to record social life" (ibid:284). In such a view new, ubiquitous and emerging technologies proffer insights into the situated character of social interaction in a way that is mutually supportive of 'traditional' ethnographic approaches.

While LAN has the potential to respond to the challenges of sensory ethnography (Pink, 2006; 2009) and generate various kinds of life histories, it also, in more traditionally ethnographic parlence, offers potential for embracing both the senses and "direct and sustained contact with human agents, within their daily lives (and cultures)…" (O'Reilly, 2005:3). Key distinguishing features of the LAN network then are its ability to leverage the individual, personal knowledge and motivations of the non-professional guide. The suggestion here is that 'the personal' is being connected to 'the cultural' and that there is at least the potential for autobiographical accounts that "self-consciously explore the interplay between the introspective, personally engaged self with cultural descriptions mediated through language, history and ethnographic explanations" (Ellis and Bochner, 2000:742). The portability of mobile technologies deployed also supports the engagement of all the senses. As Urry (2002:146) points out, there is more than sight involved in experiencing a place: "There are not only landscapes…but also associated soundscapes… 'smellscapes'… 'tastescapes'… and geographies of touch". However, these are not LAN's only potential benefits - the way the network is configured supports both different and developing relationships between people via place-centred narratives.

APPROACH: DESIGN AND METHODS

The LAN design process involved developing the broad LAN concept (see above), field observations of tourists in Singapore, scenario and design concept development, generation of a prototype and, finally, an evaluation of the emerging LAN prototype. The process is best understood as everyday design informed by field observations and evaluations, against even a "quick and dirty" ethnography (Hughes et al, 1994). This poses a few problems for the design process discussed in this paper. For one, at no point in the development of the LAN prototype was ethnography conducted, although the initial observations could be regarded as a "quick and dirty" ethnography. However, that is not to say that there is not much to learn from the process we discuss here for ethnography. For through this process the team, developed refined and tested the LAN concept. Thus we will largely report on the evaluation of the LAN prototype, examining the kinds of data collection approaches that the LAN service supports, the analytical value of this data and how the service developed relates to cultural heritage. The design process and the technical details of LAN are described in Wickrama et al (2010).

The implemented version of LAN discussed in this paper comprised a lightweight netbook with Internet connectivity (e.g. via a USB dongle), a BlueTooth headset, a portable camera carried or worn (e.g. on a helmet) supporting an audio/video service connection to another person, in this case via Skype. Wickrama et al (2010) describe the envisaged end product of LAN as:

> "a social networking website, where living avatars offer their services to people who would like to relive and re-experience certain parts of the city, specific periods in their lifetimes or they are simply curious to see something that is remote, exotic or inaccessible for various reasons."

Thus the future development of LAN is tied to servicing those who has previously been/lived in a place. Here we are concerned with how LAN can service ethnography. The broader implication here is that due to increasing mobilities and personal connectivity a raft of information is available when in a place and appropriately connected, albeit information that, in Crabtree et al's (2006) terms, is "fragmented". There are technical difficulties with utilizing this data as well such as issues with the reliability of service and granularity of positioning data. However, despite these concerns LAN develops the experience of mobile guide systems away from traditional issues of managing variable network connectivity, personalization across devices and dynamic delivery of content (e.g. Kenteris et al., 2009) towards the facilitation of ongoing journeys through space, time, roles and interfaces (Benford et al., 2009) and, more specifically ongoing, developing relationships with often physically and temporally distributed others in hybrid environments and changing roles.

FINDINGS

In this section we focus on the data generated from the field trial of the LAN system. The primary focus of this field trial was to inform the (re)design of LAN. It involved two locations - the place being visited by the 'avatars', in this case Tanjong Pagar in Singapore (Figure 1, left - depicting one of the team in the 'avatar' role) and a meeting room from which the 'guide' interacted with the 'avatar' (Figure 1, right).

FIGURE 1: The 'avatar' on a walk (left) interacting with the physically displaced 'guide' via Skype (right)

As we noted above this was not an ethnographic study but there was a genuine motivation for the trial - one of the team's friends was visiting Singapore for the first time from Vietnam. The trial proceeded by 'the avatar', who had not met the particular team member playing 'the guide' before the trial, moving around the Tanjong Pagar area, finding her way and experiencing different aspects of the area's

heritage (e.g. a well-known hawker centre). Observers captured interaction 'at both ends' via photographs and video - one at the guide 'end' and four at the avatar 'end'. As will become clear below, as the trial played out all the people involved at both ends of trial became involved. Wickrama et al. (2010) describe a detailed content analysis of the 45 video clips, 118 photographs and transcripts generated involving the generation of three descriptive themes and accompanying sub-themes. Here we extract particular video extracts from the trial data for a different reasons - to develop insights concerning the value that this kind of data can offer and lessons for new ethnographies deploying such 'inhabited technologies' (Urry, 2004:35). Thus in what we present we do not aim to be complete, but instead extract and discuss the most relevant and exemplary material.

Individual perspectives

The LAN system offered a series of perspectives that were specific to person, place and even particular things. These perspectives often had quite different styles. In the first example depicted in Figure 2 and the extract below, the 'guide' (G) is helping the 'avatar' (A) find her way using her own knowledge and Google maps. The extract shows the shared uncertainty and need to find information in the environment, but Figure 2 (right) also illustrates the first-person perspective, 'reality show', highly indexical view provided via LAN. This extract also shows how interaction over LAN can be characterized as joint discovery, even cooperative work - in this case way-finding. The 'guide' and the 'avatar' work together when moving through the environment. As this movement unfolds different views of the place visited are provided.

FIGURE 2: The 'avatar' walking to the road (left) and at the roadside (right)

G: "Do you see any road name or any signpost?"
A: "The road huh?"
G: "Why don't you just walk to the nearest road and try to see whether you can find any signpost.
A: "Okay…"

The perspectives offered by LAN could be quite voyeuristic and, quite literally, 'in your face' as shown in Figure 3 and the extract below it. Indeed the view offered on the 'avatar' eating his lunch is quite intrusive yet strangely co-present for the 'guides' - they could even hear the sound of eating. Yet the 'avatar' does not express concerns for himself or the visitor from Vietnam being watched - holding the camera while eating seemed to simply be inconvenient.

FIGURE 3: Close up views of the 'avatar' eating his lunch

A: [sounds of him eating food]
G1: "Hey, how, do you find it distracting that, uh, that you have to eat and we watch you?"
A: "Um, I don't know, it's kind of okay, it's just that it interferes with my hand a bit."

As shown above LAN provides unique views on a person, place and situation. The uniqueness of the view could extend to the view suffered by an object, in this case a spoon.

FIGURE 4: Close up views of the 'avatar' eating his lunch

G1: "I understood that you want to put the camera with the fork.
A: "Can use the spoon or not?"
G1: "Ahh this is cool! Yeah, wow."
G2: "Ahhh."
G1: "This is funny." [laughs]

This view provided such a sense of 'being there' that one of the guides, completely unscripted, started describing the action in a form of commentary (Figure 5 and the extract below). She describes the action in a way that seems she is controlling the spoon, again indicating the shared nature not only of the experience but also the unfolding action. These different, highly individual views seem to promote the mundane yet sensory experience of being in a place being shared, somewhat curiously, across some considerable distance where, at both ends of interaction people are both present and absent.

FIGURE 5: Close up views of the 'avatar' eating his lunch

G2: "It's ah scooping the potato."
G1: "Wow."
G2: "And yet I'm not eating it but I'm putting it into your mouth." [laughs]

Being in a place

Perhaps surprisingly given the camera resolution, a strong sense of being in a place was communicated through LAN. If anything the medium quality of the camera contributed to the experience. Figure 6 shows three views of a team member sitting down (Figure 6 (left), the avatar team moving through the hawker centre (centre) and other people (right).

FIGURE 6: Views of the hawker stall and hawker centre roof (left), walking through the hawker centre (centre) and particular people (right)

Thus the sense of 'being there' offered through LAN was not static. There was a sense of an ongoing experience (see below), movement and change communicated through the camera being still or 'shaky'. LAN also highlighted aspects of a place that are more unusual but important for getting a sense of a place - a hawker stall sign, the roof (Figure 6 (left)), and the walls (Figure 6 (centre)). LAN also offered views on anonymous others populating a place, walking through it and having their lunch (Figure 6 (right)). There was also a sense of capturing the mundane reality of a place through these views, a reality that is often glossed when trying to promote a place as a heritage site. Food and hawker centres are an important part of life in Singapore - they are not just visited by tourists but also lived by residents. LAN captured the different kinds of food available in a hawker centre (Figure 7), the soundscape and colours of the place as well as the particular food choices of the avatar team (Figure 7 (left)) and a sense of engaging in lunch together (Figure 7 (right)). The latter was particularly evident when the camera moved and panned from one seated person to the next.

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FIGURE 7: The visitor's lunch (left) and a team member eating (right)

The multi-faceted sense of 'being in a place' that LAN supports also seems important for both ethnography and heritage.

Key trajectories and interactions

The team's experience in the hawker centre, captured through LAN resembled a journey or trajectory (Strauss, 1993) with distinct stages.
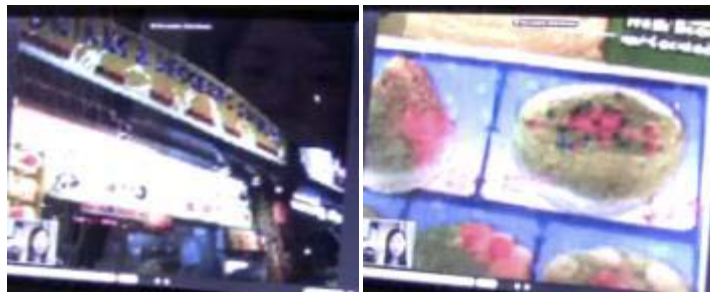

FIGURE 8: The front of the dessert stall (left); ice kacang on the menu (right)

In one particular case they ordered a dessert from a stall called 'ice kacang' - a combination of crushed ice and sweet toppings distinctive to Singapore. This firstly involved going to the stall (Figure 8 (left)), checking who was there (extract below), viewing the menu (Figure 8 (right) and extract below).

> G: "Is your friend with you?"
> A: "Sorry."
> G: "is your friend with you?"
> …
> A: "Can you let me see the menu? I can see but it's quite blurry."
> A: "Quite blurry ah?"
> G: "I can see it's ice kacang right?"
> A: "Okay."

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> G: "Okay"

They then discussed options on the menu (Figure 9 (left) and extract below), comparing items on the menu with desserts in Vietnam (Figure 9 (right) and extract below) and discussing what to order (extract below).

FIGURE 9: "Kinds of beancurd" (left) and glass jelly (right) on the dessert stall menu

> G: "What are this?"
> A: "It's like fresh beancurd."
> G: "Oh, okay."
> A: "Some kinds of beancurd"
> G: "Do you have beancurd in Vietnam?"
> A: "Yes we do [unclear]."
> …
> G: "What about the black glass jelly? Do you have it?"
> A: "Yeah, we have in Vietnam."
> G: "Oh, so is there anything you don't see in Vietnam?"
> …
> G: "So have you tried ice kacang in Singapore before?"
> A: "I [unclear] haven't tried it."
> G: "So maybe you like to order ice kacang?"
> A: "Yeah I think so."

Then the guide decided what to order.

> G: "Okay then maybe you would like to order the peanuts and tell me how you find it?"
> A: Okay.

Figure 10 captures the process of ordering. There was some laughter and amusement among the team after ordering - the LAN system also captured these emotions.

FIGURE 10: Ordering ice kacang - approaching the stall owner (top left), selecting from the menu (top right), paying (bottom left) and receiving change (bottom right)

After ordering, the ice kacang was delivered (Figure 11) and the guide and avatar discuss the heat in the hawker centre (extract below).

> G: "Wow what's that? It's so huge!"
> A: [laughing] It's a lot! Wah lau!
> G: "Is the weather out there very hot?
> A: "Yes it's really hot"
> G: "It must be very refreshing" [laughs]
> A: "A good choice!"

FIGURE 11: The stall owner (left) prepares the peanut ice kacang (right)

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It then becomes clear the avatar has ordered an additional ice kacang (Figure 12 (left)). The guide instructs the avatar to focus on it (Figure 12 (right)).

FIGURE 12: The stall owner (left) prepares the mango kacang (right

G: "Wow another one coming out!"
A: "Yes we ordered…with peanut and the other one is mango."
G: "Okay."
A: "Yes."
G: "Can you focus the camera on the ice kacang?"
A: "Can you see it?"
G: "Lower a bit. Yup. Wow! That's a huge one."

Finally the avatar and the rest of the team (Figure 14) sit down to enjoy what they have ordered. LAN supported the whole process of moving through a place and thinking about what they wanted, trying to decide, choosing, locating a table. This involved some role negotiation, direction by the guide and initiative from the avatar. The movement also helped in getting a sense of a place and its possibilities

FIGURE 13: The avatar trying the ice kacang (left) and describing her reaction (right)

Storytelling and memories

As already noted LAN supported engagement with particular 'journeys' (Figure 2) to a hawker centre and, in the case below, through the hawker centre to a particular stall that the guide remembered. In the extract below the guide asks the avatar to visit a particular stall.

> G: "Oh okay I feel like eating some sweet soup. Can you order some sweet soup for me?"
> A: "Uhhh, I don't see any dessert stall around here."
> G: "Oh, what about the stall we went to last time, the peanut soup, is it open?"

Getting to this stall involved passing other stalls (Figure 14 (left)) and walking through the hawker centre (Figure 14 (right)). The extract below captures the talk on the way.

FIGURE 14: A hawker stall on the way (left), walking through the hawker centre (right)

> G: "Are you finding the peanut soup stall now?"
> A: "The peanut soup stall, ummm. Peanut soup stall."
> G: "I think it's called "Peanut Soup Stall"."
> A: "Peanut Soup Stall."

In Figure 15 and the extract the guide directs the avatar to the peanut soup stall she wants to visit. However, the avatar (Figure 15 (left)) discovers the stall is closed (Figure 15 (right)).

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FIGURE 15: The avatar (left) discovers the peanut soup stall is closed (right)

G: "Yeah I think it's this one on your right."
A: "Okay, on my right. I think it's closed already."
G: "Oh it's close."

The journey to the peanut soup stall was a particular trajectory but it was also a story in itself that was based on the guide remembering a past experience of a particular hawker centre stall. Integral to the experience of this personal trajectory was, again, movement captured and communicated by the camera e.g. through camera shake.

LESSONS FOR NEW ETHNOGRAPHIES

We have already pointed to the development of "sensory ethnography" (Pink, 2009) and the various kinds of 'scapes' that can contribute to the 'gaze' (Urry, 2002). The extracts above illustrate how LAN engages the senses through movement (Figure 2), sound (Figure 3 and the extract and the ambient noise throughout), taste (Figure 4, 5 and extracts), and even touch through the sensation of heat generated through the videos and remarked on by the guide (Figure 11). These different views on the setting mobilize the senses despite the challenges of communicating this material in a 'traditional' academic paper: we could not, for example, represent the background noise or the tastes encountered effectively. However, the fact that it has been difficult to represent these first-person, mobile sensory interactions is itself informative. They also reaffirm the relevance of 'the tourist gaze' (Urry, 2002) to heritage-type experience offered through LAN. However, LAN not only supports viewing distinctive objects, seeing particular signs, unfamiliar aspects of the familiar, familiar activities in new contexts and familiar activities in new visual backdrops but also transmitting and sharing individual, singularly ordinary activities to new audiences via the Internet.

In some senses, however, the guides and avatars were performing for the camera in a research project. The experiences through LAN were also collective and mediated, negotiated and digital, marking them as distinctive from the original tourist gaze notion. However, Urry (2002:150-1), in the second edition of his book, describes different types of tourist gaze that are relevant here - the "*collective* tourist gaze" involving conviviality and the "*anthropological* gaze" involving locating a sights "interpretatively within an historical array of meanings and symbols". The notion of the tourist gaze also concedes the inauthentic nature of the tourist experience via "staged authenticity" (MacCannell, 1973) and "pseudo-events" (Boorstin, 1964): "It therefore seems incorrect to suggest that a search for authenticity is the basis for the organization of tourism" (Urry, 2002:12). Heritage, it seems has a similar quest for and difficulties with the inauthenticity of authenticity. However, the candour of the footage presented here again suggests how 'the local' inhabits the ordinary. LAN highlighted for us the importance of food in Singaporean culture, the positioning of hawker centres in the everyday lives of Singaporeans and suggests their importance for them, something that is not staged but lived. Thus for others the videos may be distinct from "one's normal place of residence/work" (Urry, 2002) but for Singaporeans we would suggest much of what is captured here is familiar.

The extracts also illustrate the value of the first person perspective provided by LAN, the ongoing sense of presence and absence experienced by both guides and avatars, a particular journey or trajectory to achieve something and the various forms of work involved (e.g. wayfinding, decision-making). Some of the views offered by LAN are beyond street film and closer to a 'reality' genre where we obtain unexpected (and perhaps unwanted) views on everyday lives. Yet through the interaction offered by LAN these views become less voyeuristic than participative, pulling the audience into the movement, sensuality and even the emotions of experience. Such a rich, experiential view suggests the importance of 'reconciling fragments' (Crabtree et al., 2006) that are not only visual but auditory and tactile to access the experience in such settings. LAN also acknowledges the physicality and embodiment involved in moving through a place, to "sensually extend human capacities into and across the external world" (Urry, 2002:152) to experience a "multi-dimensional rush and the fluid interconnections of places, peoples and possibilities". LAN recognizes we are emplaced (Cassey, 1996) - that bodies and places are interdependent. LAN's openness as a service also acknowledges the centrality of different mobilities (not just movement) to the experience of a place and therefore places as temporary and evolving. This is never more relevant than in an era of 'liquid modernity' (Bauman, 2000). In this context we have also shown that LAN can, quite literally, connect distributed people and places, whether that be through current or past experiences.

LAN also represents a particular 'way of seeing' (Berger, 1972), constrained, defined and enabled by the specific people, places and technologies involved. As with oral history, the relationship between the teller and the listener, the guide and the avatar is critical. Certain places favour being viewed through LAN, particularly those that engage the senses. Yet we are also alerted to the contribution and role of walking to places and that places are extended and enhanced through such walking. The technologies themselves – through medium-resolution video capture, lack of camera shake correction, distorted voice rendering and at times unpredictable quality of network service offer a unique perspective on a place. These aspects of the experience of the technology, along with the mobility and unobtrusiveness of capture technologies and ubiquity and social acceptability of mobile technologies, contribute to a style of everyday film that, in some ways, serves to convince rather than contribute to doubt. What is captured unfolds 'as it happens'.

Thus we suggest a series of useful insights for the practice of ethnography enquiry through drawing on the particular findings from the trial conducted. These lessons concern setting up, conducting, analysis and representation in ethnographic enquiry. A key theme throughout these concerns is what to make of the findings and knowledge generated through LAN inquiry. The first lesson is that new technologies suggest the importance of new forms of representation of ethnographic findings for new audiences and publics. This work suggests also suggests that experiences captured through video may not be reducible to text and even images. This is not to buy into the 'total capture movement' (Bell and Gemmell, 2009) but to acknowledge that being and living in place does not simply comprise the visual. The second lesson is that acknowledging, exposing and negotiating roles (e.g. 'guide', 'avatar') in ethnographic enquiry is useful. This happens in 'real-time' through LAN, and in its unfolding provides further insights into the (in)authenticity of a place. This relationship also forces us to think about the role of the self in ethnographic work e.g. as guide or guided. The third lesson is that documenting shades of difference between ethnography, rapid ethnography and field study, as we have done here, is important in order to understand views offered on a place and, more

generally, the store we can place in any findings. The fourth lesson is that 'outsourcing' embodiment can still provide useful insights into experience. 'Being there', we would argue, is still critical for understanding a setting, but, in many ways the observer *is* there through LAN. The fifth lesson concerns the surprising value of mobile video as not only a tool for visual ethnography but also for sensory ethnography. This is a question of placing value in the imperfections of real-time, real-place capture - background noise through ambient capture, unusual views through wild panning and movement through camera unsteadiness.

CONCLUSION

We have described and presented LAN, a means of combining more traditional approaches to ethnographic work (e.g. observation) with new technologies (e.g. mobile video). We believe that the move from everyday, personalized consumption to everyday co-production through new Web 2.0 technologies means additional opportunities for investigating social life, especially as this 'social life' is lead *through* the digital. This marks a distinct progression from the tools proposed by Crabtree et al (2006) to tools that support unsolicited, naturalistic production of data about social life. We have examined some of such 'co-produced' material here to explore what work it can do for the ethnographic enterprise, suggesting it can produce unique, individual views on a setting, a multi-sensory experience of being in a place, insights on extended sequences of actions and interactions and unfolding narratives. As Urry (2002:151) suggests one of the problems ethnography poses is its longevity and the potential intrusion it poses. Yet LAN ushers in another set of concerns with regard to surveillance and acknowledging the rights of those gazed upon, concerns that seem not to be shared by everyone. As services like LAN develop, we suggest there will not only be a series of 'ready-made' views on places but also new sets of readily available real-time data on hybrid lives lived through the digital and the physical.

NOTES

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