augment_me: A responsive media arts installation

Brad Miller
School of Design Studies,
College of Fine Arts,
University of New South Wales
brad.miller@unsw.edu.au

What is this installation – what was my starting point?

augment_me is a responsive visual database; a memory machine of sorts but a live and developing one. (In the event that I collaborate with choreographers and architects and further develop the idea, it’s meaning will continue to alter and shift).

The images constituting the database are a sequence of photographs and videos, collected over the past 8 years and tracks my relationships with people, things, places, scenarios. They are sequentially embedded with contextual associations arranged (initially) by time and date. This, combined with being able to access and make those images move, appear and disappear – by anyone or anything within view of the camera/sensor in the space where the installation is exhibited, makes manifest the metaphor of memory.

Eight years ago, I bought a cheap digital stills camera on my way to China in 2000 for a brief trip. I took photos as an outsider, of what, to me, was a foreign environment. When I returned to Sydney, I continued taking photos but they were relatively unconsidered. What I mean by ‘unconsidered’ is that I took them as most people, not artists necessarily, take a photo – to record a moment, a person, a thing, a place. Moreover, I had no intention to use these images as art. In that way, I described them as “found” images because despite taking the photographs, the context in which they were ultimately used was other than what was intended.

The “unconsidered” aspect seems to have changed over time, with other influences on the image taking and collecting. I soon began to take my camera everywhere with me and took photos. As they accumulated, I reflected on the material I had already taken and certain patterns/themes began to emerge – architectural details, the state of my bed, signage, faces, abandoned urban spaces, gaps between buildings, friends and lovers, landscape, social events. As well, I bought a new camera and new lenses. This, and the continuing development of the work (augment_me) altered the way I took photos. As they accumulated, and were organized, they triggered associations and meanings which the individual photo did not. They also functioned
as a reminder of things, people, places, I would never remember. The work became a database of memories.

**Working with Choreographers and Dancers:**

*augment_me* uses a granular synthesis system - a basic sound synthesis method that operates on the micro sound time scale and uses sound samples thus creating a live soundscape.

With the movement of dancers, the system would be responsive to motion via a video camera and used to subtly change, influence, affect, the movement of the images. The motion also affects the dynamics (eg loudness, volume and frequency) in the audio.

As regards working with architects, I see the built environment as a potential location for implementing and deploying a version of augment me beyond the gallery – to take the installation out of the gallery and into the everyday but in a formal architectural context.

Specifically, also, I would like to exploit the standard systems of surveillance and climate control already set up within buildings and use them to track the rhythms of any number of transient human activities over a day. For example - people using the water system, the comings and goings of couriers, telecommunication traffic coming in and out of building.

**A brief history and context**

I initially studied Electronics Engineering and later Graphic Design and sculpture. Later during research for an MFA in the school of media arts at the University of New South Wales, I started to create software objects using a scripting language then called Hyper Talk. The outcome of this research was a computer monitor based hyper-textual interactive entitled *A Digital Rhizome (1994) CD ROM.*
Considering this context, augment_me is a much more complex series of software objects with an input sensor (video camera) rather than a pointer. I am no longer entrapped by the small screen as with my previous works and the continual taking of photographs, has freed my formal practice from the studio, my home and assigned work place.

augment_me started life as a short formal proposal in 2003 to Volker Kuchelmeister (ZKM/iCinema) to test George Lakoff’s conceptual metaphor theory as a basis for a responsive interface design to be deployed in media arts installation. It has been in continuous development since. In 2008, it was supported by the Visual Arts & Craft Board and in 2009, by The Music Board. I have worked with Programmer Adam Hinshaw since 2005; Producer Kate Richards (2008) came on board in 2008 and sound artist Ian Andrews in 2009.

The background to augment_me.

In the process of making A Digital Rhizome, I read the work of George Lakoff and Mark Johnson, Metaphors We Live By (1987) and later Philosophy in the Flesh (1999) in which they introduce conceptual metaphor theory. (I think, at a shallow level, I found Lakoff exciting because he allowed me to read Deleuze and Guattari metaphorically).

Conceptual metaphor theory proposes that language is essentially metaphorical and emerges from a mind embodied. We proposed to use Lakoff’s conceptual metaphors as a way to blend ideas of material memories (people and places) and interface abstractions (ways of physically accessing information).
Lakoff’s theories, and in particular “conceptual metaphors” refers to the understanding of one idea, or conceptual domain, as it relates to another. For example, qualities can be mapped in terms of directionality (e.g. More is Up hence “over my head”, or Time is Motion hence “Time Flies” or perhaps the economy is in a down turn hence “it is Going South”).

augment_me uses location and movement of visitors entering the exhibition to interface with a library of images and sounds. The installation dynamically scales pictures as well as filters and pans audio elements.

What does it look like?

The installation is sequence of moving image strips we have called TileStreams. These consist of a string of small pictures (Tiles) from the database and are displayed in the horizontal left to right. The system can address (2880 pixels x number of screens) and this scalability means that many data projectors maybe addressed, furthering the potential to be adaptive to site specificities or curatorial considerations.

The tile streams are responsive to movement in the environment. They can be moved left or right in response to the interplay of a set of rules, derived from a very small subset of conceptual metaphors.

We us a video camera input overhead, monitoring the space in front of the screens. We are currently testing various image progressing strategies for capturing the position and motion of viewers but most probably we will use Open CV. The order of the images, their relative size, the push or pull of the TileStreams left or right and what happens to the sound is determined by this interplay. For example, mapping visitors to an individual TileStream and then mapping their location in the gallery to a
TileStream’s lateral movement, or the relative scale of pictures is mapped to the location and the proximity to the front of the projection surface.

VideoTracker OSC. Written in Processing and Open CV developed for augment_me by Adam Hinshaw (Note mapping isn’t necessarily 1:1 it most probably will be mapped to a mathematical expression).

The interface afforded by our use of the camera in augment_me is the type of interface that can allow these conceptual domain mappings to work, for me, in a meaningful way — by pushing and pulling, tile streams of memories across the horizontal viewing plane. A further extension or an expansion of the contextual possibilities to dynamically adjust or change the ordering of the media has lead us to using Flickr as a platform for storage and tagging of the photos and video.

There are a number of reasons why I have decided to use Flickr instead of an internal (private database). The Flickr database has a built-in tagging mechanism used to describe the content; it is publically available via the Flickr API and is continually evolving as open source.

Some other considerations:
• My image and video content are publically accessible.
• The potential to use others Flickr users images and video content could be accessible if permissions and appropriate creative commons licenses are set.
• My content is now distributed and managed externally for a fee.
• My content is available independent of place or equipment, but now dependant upon Internet access beyond local caching.

The tagging structure we are considering using is still in development and has been seen as additional to the initial idea which simply associates images with the time and date because it allows for much more flexibility in how media is retrieved and associated. Tagging is a taxonomological exercise and there are many ways in which we could describe the images. No consistent taxonomy has at this stage been decided on.

Future image content development is already under consideration including micro narratives in sequential form for stills and video, the concept is a critique of a so called ‘whole’ person, with a working title complete_me and it will using a designed tagging taxonomy.

What are we doing with sound?
I’m working with Ian Andrews and the plan currently is to interpret and process the audio, which originates from the video material used in the TileStreams and Ian’s own field recordings.

There are four major types of audio
(1) social exchanges within interior spaces
(2) urban street
(3) social exchanges in the street
(4) incidental sounds.

The video audio is incidental and, I think, presents some interesting accidents.
We plan to use three distinct modes that the installation will exhibit. These are:

- At rest: the system with no-one in it;
- Provoked: the system with initial visitations;
- Engaged: the system pushing the content around and scaling it.

These modes are our starting point with the sound. We plan to use multiple channel outputs but not necessarily encoded for a surround system. Ian is using PD (pure data) – an open source patch based processing environment. The system will communicate using OSC (Open Sound Control).

Where is the film?

I prefer to speak of video in all its variety and think of images as a collection of pixels rather than grains. These picture elements can be stored in an array (a numbered list) and addressed as individual elements - with the computer there is so much flexibility as the intention is not mass media.
In artificial intelligence and cognitive science, the term situated refers to an agent, which is embedded in an environment (built?). In this use, situated refers to software agents as also being situated if:

- They exist in a dynamic (rapidly changing) environment, which
- They can manipulate or change through their actions, and which
- They can sense or perceive.

Being situated is generally considered to be part of being embodied, but it is useful to consider both perspectives. The situated perspective emphasises the environment and the agent's interactions with it. These interactions define an agent's embodiment.

Since the late 1980s, artists such as David Rokeby (VNS), or Christa Sommerer and Laurent Mignonneau or Rafael Lozano-Hemmer's (relational architectures) etc have been working with ways that embed computational intelligence into the built environment. They look beyond the model of personal computing, which placed the computer in the foreground of our attention, towards a "Ubiquitous" or "pervasive" computing that takes into account the social dimension of human environments and allows computers themselves to vanish into the background.
No longer solely virtual, human interaction with computers becomes socially integrated and spatially contingent as everyday objects and spaces are linked through networked computing. We have become augmented.

Artists such as Paul DeMarinis or The Blast Theory Collective have focused on how situational parameters such as mobility, wearable, networked, distributed and context-aware agency informs their art. Incorporating an awareness of cultural context, accrued social meanings, and the temporality of spatial experience, situated technologies privilege the local, context-specific and spatially contingent dimension of their use.

Why are you augmenting me?

Oxford definition of “Augment” - to increase the size or value of something by adding something to it.

Some of the ideas used in augment_me began to take form when I interviewed a young person as part my research in 2004. During the interview, I asked questions about identity and materialism and some of the answers bewildered me - primarily because what was revealed was that the attractiveness and appeal of self, was all about how one “looked” was determined, almost solely, by branding, consumption and market driven perceptions. Moreover, that the self could be more the self by buying or having a certain thing to define “you”.

augment_me is a resistance to someone else’s view of what it is to be augmented. And, perhaps the title augment_me is ironic. I am stridently asking to be augmented and critiquing the idea that I can or want to be.

In augment_me, the individual images are everyday - banal in some instances, beautiful in others – a building, a lover, a flower, a fountain, a dirty street, a painting, drunk friends, a wake – they are fragments, moments, within the ever changing concept of “whole”. And, at the same time, it is the idea of a fixed and total “whole” which I resist in favor of multiplicity, the ever changing, the undefinable.

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