

RELATIONAL INTERFACINGS  
BODY, MEMORY AND ARCHITECTURE IN THE  
DIGITAL AGE

By

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Volume Two (Appendices)

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**THESIS  
CONTAINS  
CD/DVD**

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# Appendix A

## Sited Moss: Invading or fading architecture

By: Nadia Mounajjed and Rosalie Kim

Bartlett/Slade Summer Event  
*[Dis]locating Specificity Conference*

September 17, 2004  
The Portico, Main Quad  
University College London

## A.I. Context & Site

'Sited Moss' was exhibited for one day as part of the [Dis]locating Specificity summer event which was held on September 17, 2004 at the University College London (UCL). (Dis)Locating specificity was a conference for PhD students organized by the Bartlett School of Built Environment and the Slade School of Fine Arts at the University College London.

This day of site-specific conferencing was initiated by Penny Florence, Director of Research at the Slade School of Fine Art and Jane Rendell, Director of Architectural Research at the Bartlett School of Architecture, as the first of a series of annual collaborative conferences between post-graduate students at the Slade and the Bartlett. The event was led by PhD students of the Slade School of Fine Art and the Bartlett School of Architecture and took place at UCL on Friday 17 September 2004, ending with a plenary session lead by Dr Marsha Meskimmon.

The starting point, an invitation to engage with a location in UCL, resulted in proposals for installations involving different materials and processes, from mosses to voices, from meteorology to memorialisation, extending debates around site-specificity into the production of practice-based research within the academic institution.

Conference included eight installations. PhD students presented the following installations: "Sussex in Bloomsbury" by Anna Arujo, Aslihan Senel and Willem de Bruijn (Araujo, A. et. al, n. d.), "Round Trip" by Ayelet Zohar, "Untitled II (for M.)" by Kristen Kreider, "The Sonic Composition of the City" by Michael Karikis; "Sited Moss: Invading or Fading Architecture" by Rosalie Kim and Nadia Mounajjed, "Nothing, 2004" by Neil Wenman, "Tip for London from Dubrovnik" by Hewitt.

Our intervention was located in the space of the Portico at the Main Quad of University College London campus (an outdoor semi public space). This is a Grade I listed building and is overprotected by the university. The space of the portico was found to be particularly interesting; it stimulated the concept behind the intervention (Kim & Mounajjed, n. d.).

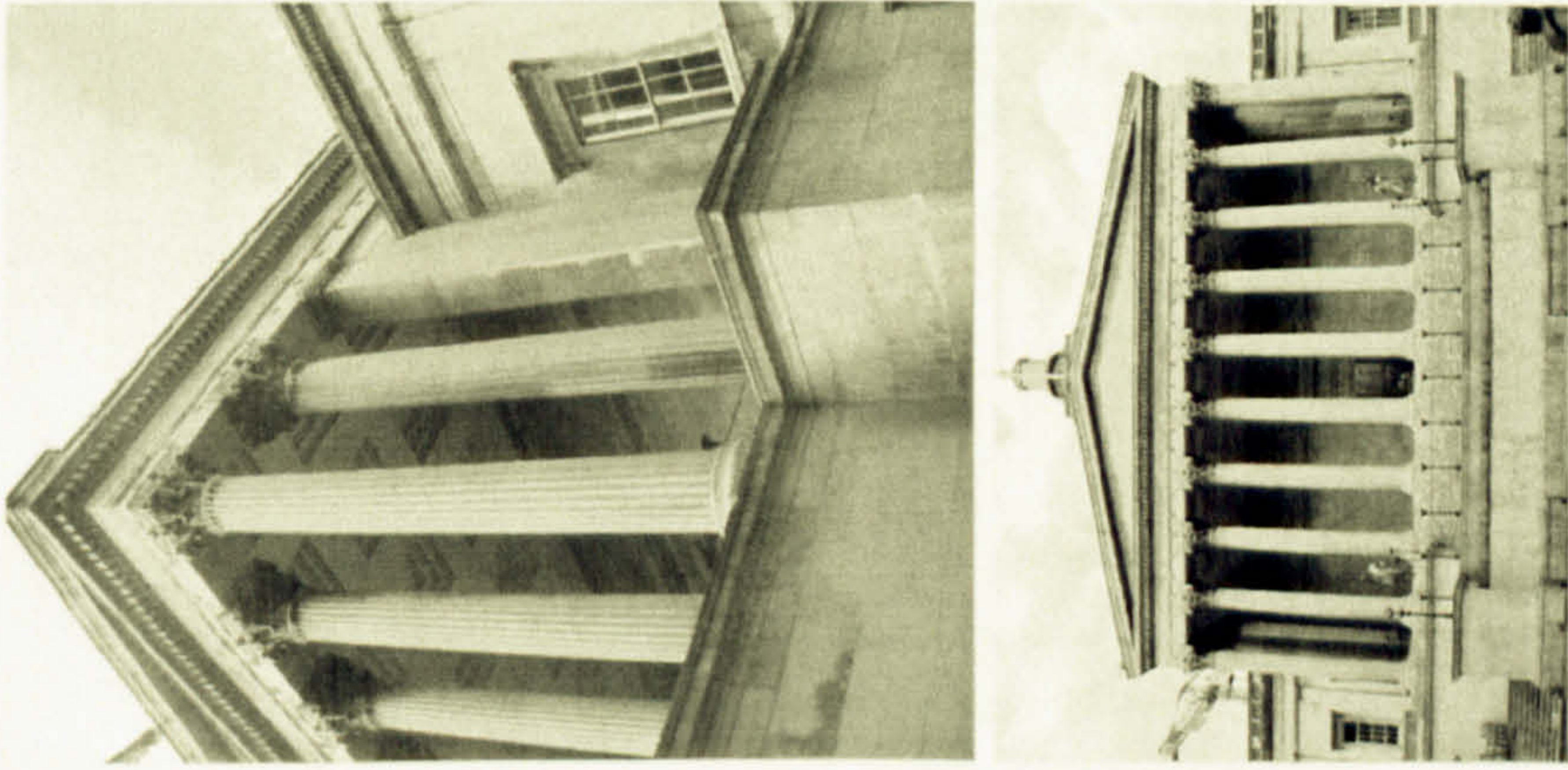


Figure 1 The Portico

The Portico is located in the Main Quad, University College London (UCL) campus.

Description of the site: The Portico is a traditional neo-classical building frequently used by users—an edifice carrying strong symbolic values for UCL. Its moral ideals as well as their social position and political tradition is embodied within the Portico, which also acts as a logo for the university.



## A.2. The Original Concept

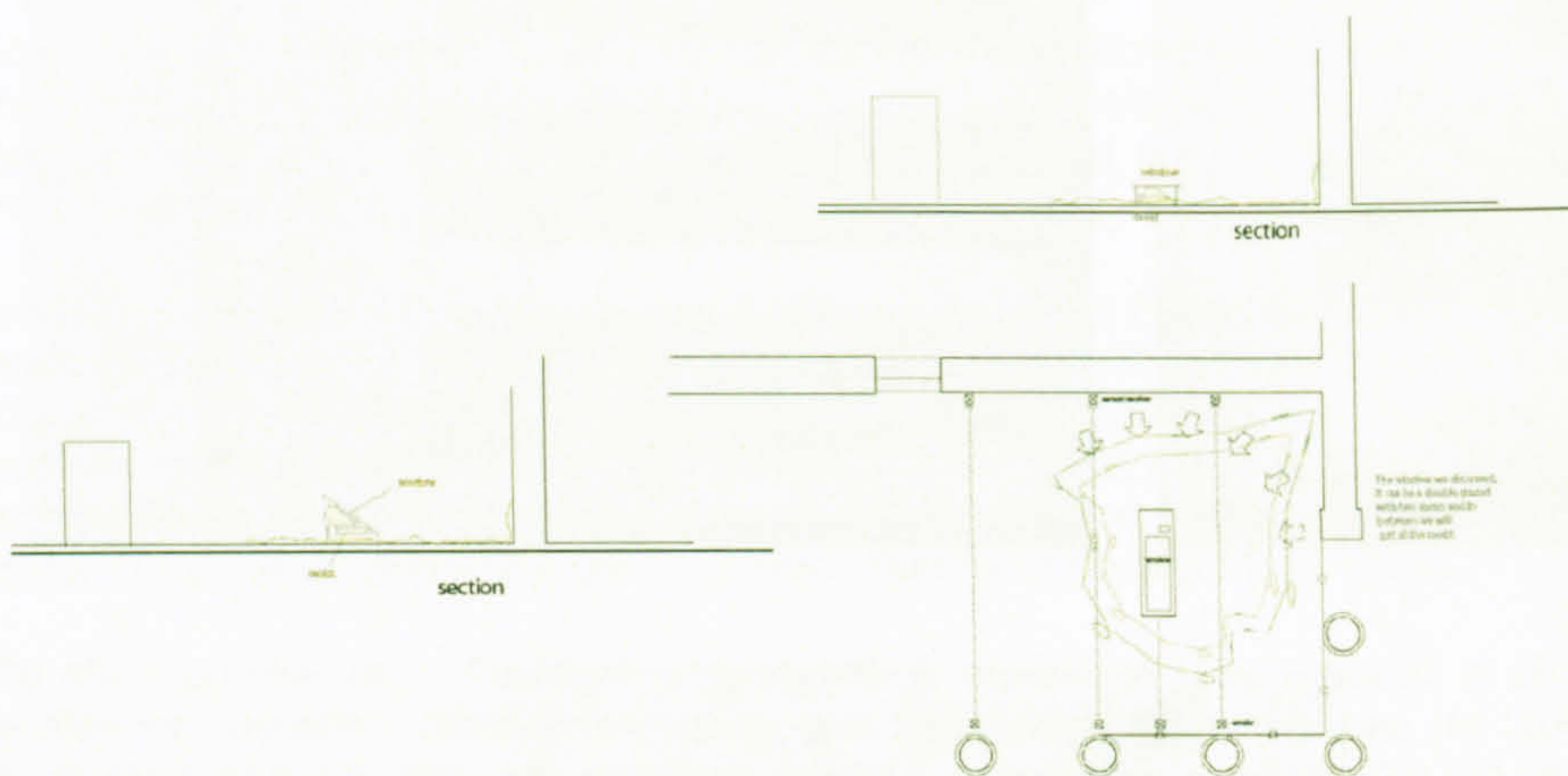


Figure 2 Early design sketches for Sited Moss

### Processes and Equipments

Water evaporation: Heater/spindle + Water/tank/pipe

Moist: Humidifier

Dispersion of moist: Fans

Lighting: Light Projector

Sound Installation: 2 Audio recorders, for sound recording/editing and playing + 2 speakers

Input/Output: Sensors, to connect the humidifier/recorder to people's movement or to external weather condition

### Materials & Costs

The moss (4£ for 0.6m<sup>2</sup>) – 6.8£/m<sup>2</sup>

The reticulated foam (15£ for 25x1000x1000) – 15£/m<sup>2</sup>,

The foam dense sheet (1.8£ for 5x300x400) 15£/m<sup>2</sup>,

The foam dense sheet (6.9# for 20x300x400) 57.5£/m<sup>2</sup>

The Spanish moss, 60cm/7cm, 4.50£, (10 units available)

The moss walls 8 m<sup>2</sup> = £ 54.00 (if Sphagnum Moss)

Hanging moss 10 units = £ 55.00

Bun moss/Moss Blanket 10 m<sup>2</sup> = £ 120.00

Humidifier = £25.00-40.00 (for 65 m<sup>2</sup>)

Reticulated foam 3 m<sup>2</sup> = £ 45.00

Plastic sheet = £ 10.00

Soil = £ 30.00

Water

Hooks, clamps, wooden boards...



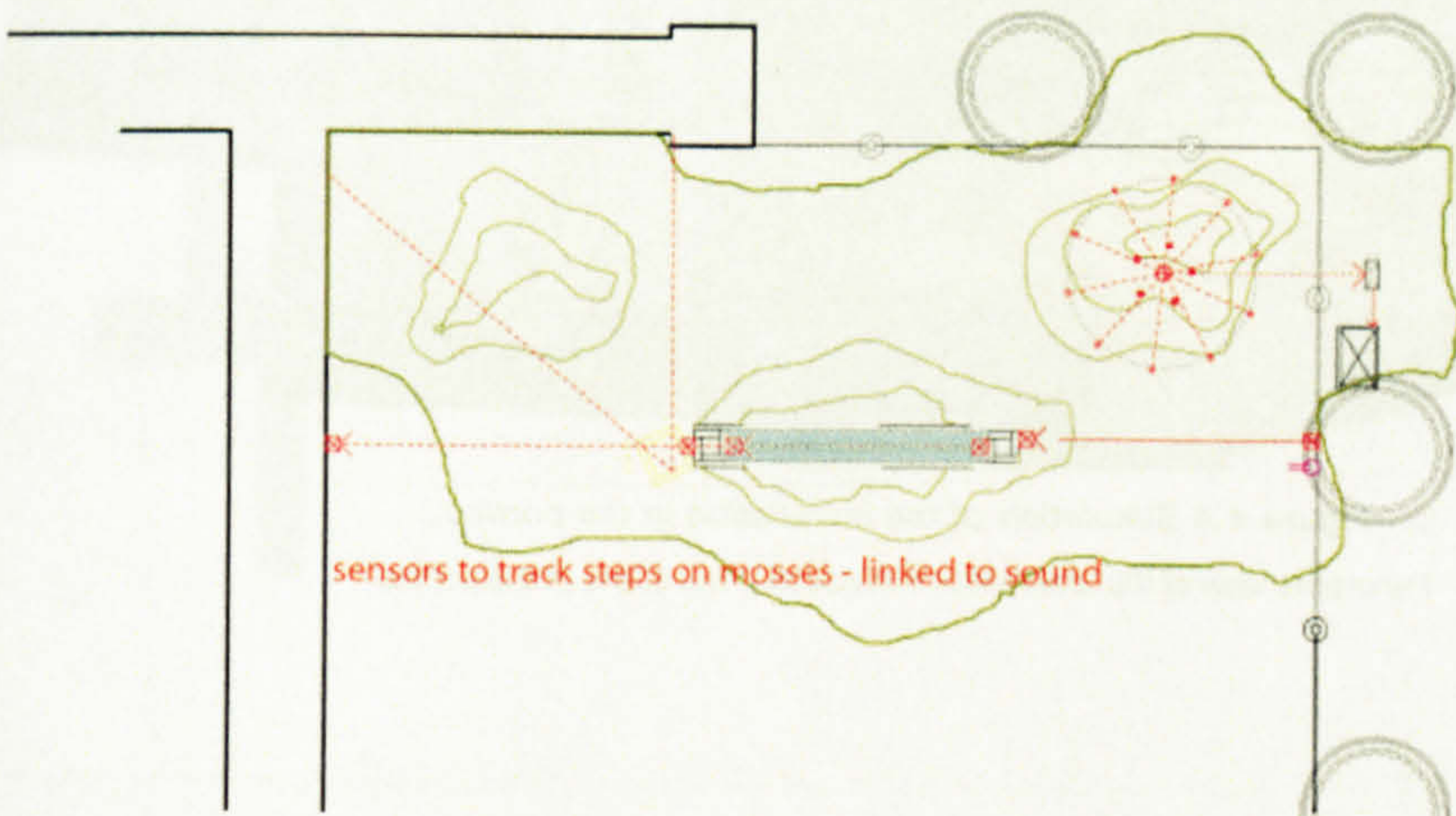
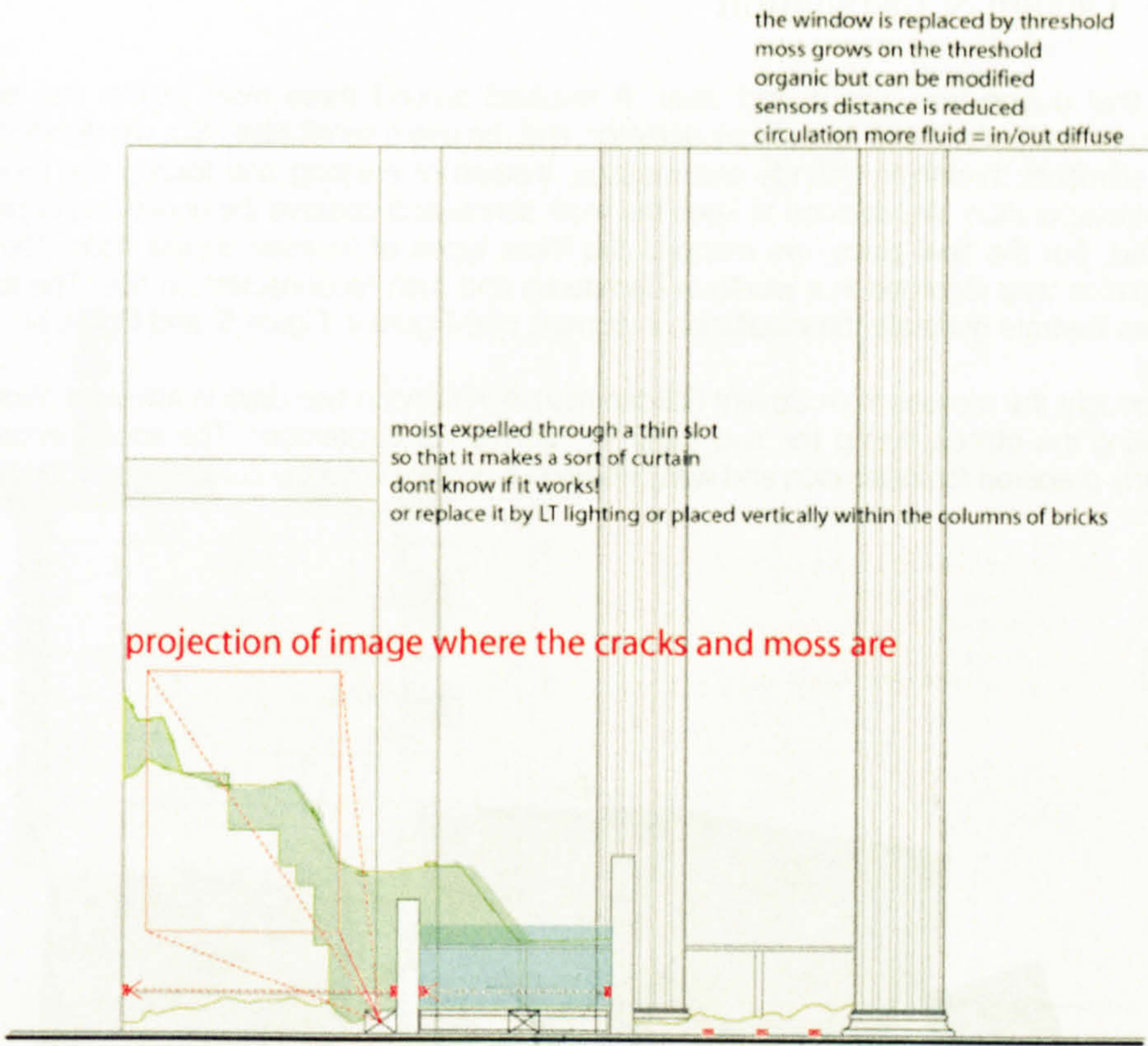


Figure 3 Early design proposal for Sited Moss

Co-designed by Kim and Mounajjed, 2004

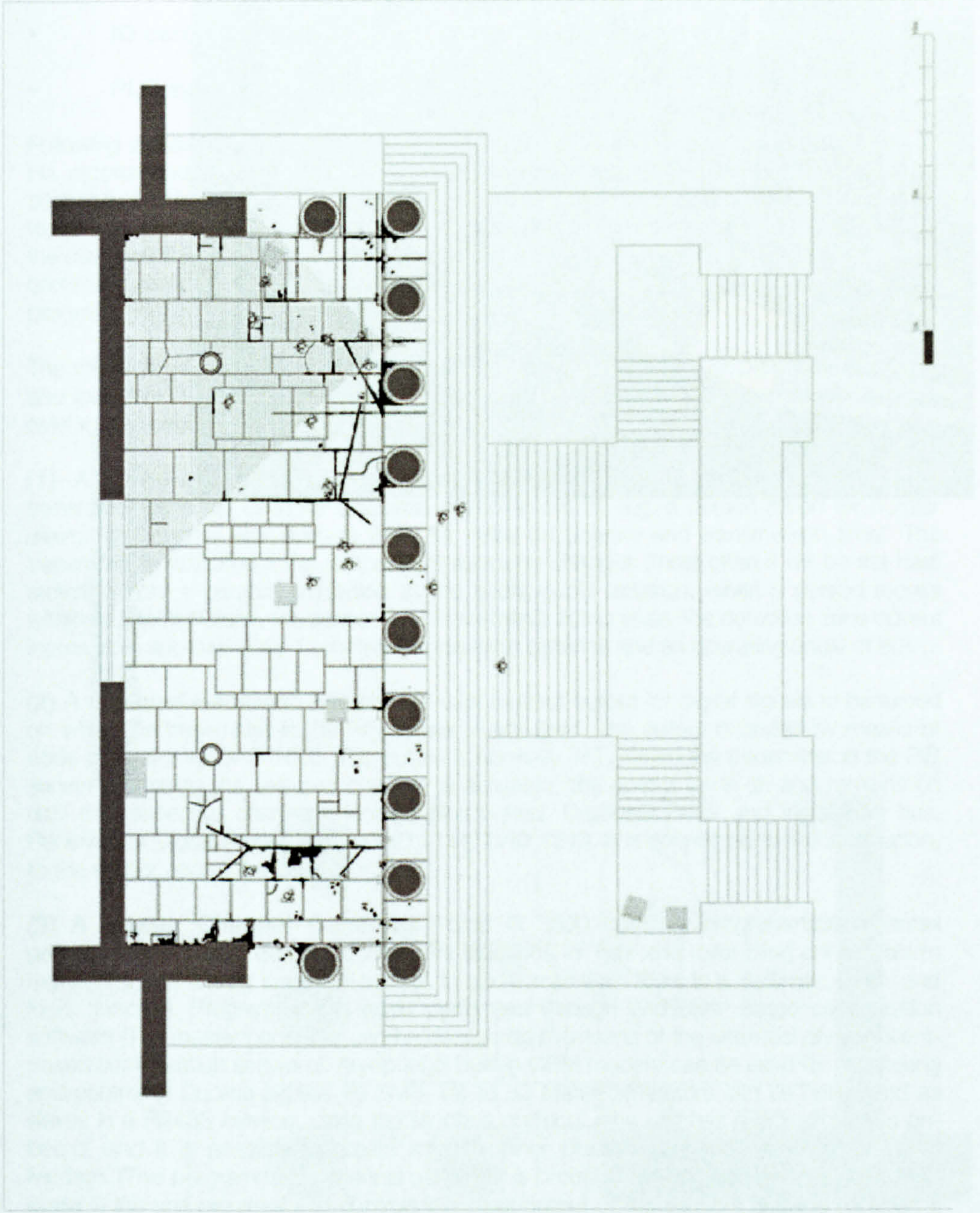
### A.3. Design & Installation

The final design was simple and clear. It revolved around three main points: the portico's monumentality, the moss as a decay detector, and the users sensibilities. So, we decided to use two elements: breathing sounds and mosses. Instead of creating and forcing the process of moist/evaporation. We decided to keep the work simple and observe the underlying implications instead. For the final piece, we mapped the three types of mosses on the floor. The sound installation was recorded in a studio in Damascus and then reconnected on site. The following figures illustrate generally the installation in context (see Figure 4, Figure 5, and Figure 6).

We bought the mosses from Covent Garden market in London two days in advance. Worked on installing the pieces during the two days 15<sup>th</sup> and 16<sup>th</sup> of September. The sound system was already prepared for installation and was directly put on the day of the conference.



*Figure 4 A Simulation of the installation in the portico*  
Panoramic view of the Sited Moss installation in the space of the portico



*Figure 5 Master plan of the installation*

The plan demonstrates the mosses mapped on the floor of the portico, it also demonstrates the zone covered by the sensory system (angle of 90°). The users are entering the space. And the furniture is kept as it is.

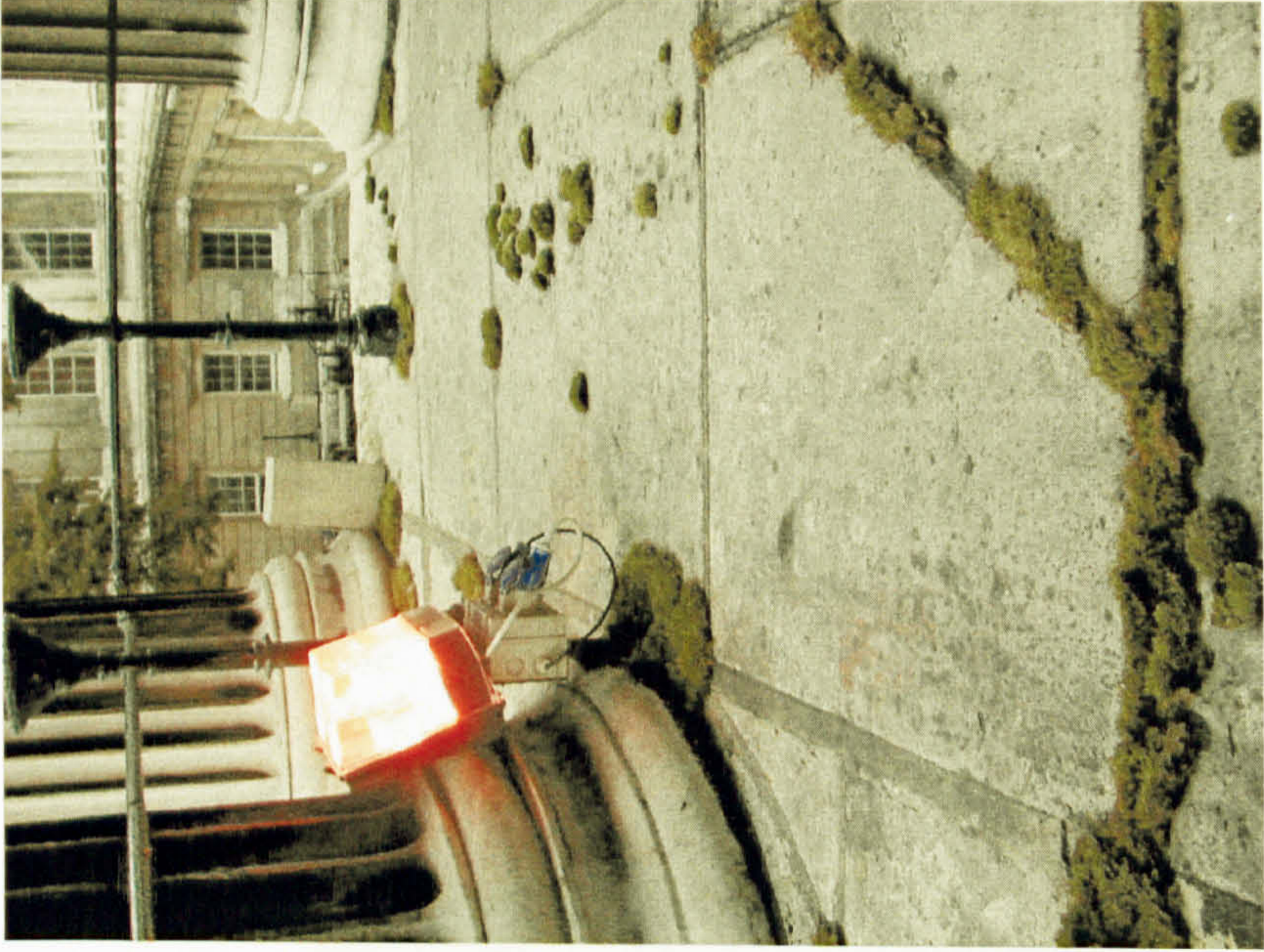


Figure 6 The installation in Sited Moss  
The image illustrates the space of Sited Moss

## A.4. System Technology for Sound Installation

The interruption of the voices implied the use of a programmable system; for this reason, an experimental prototype interface was needed for the work. So after some research for the ideal interface and two programming systems were identified as the best to use in this work:

- IO card this option requires a computer on site
- PLC system (programmable logic control)

Following professional consultation, I decided to work with PLC system in this installation. He recommended PLC, This choice was recommended technically for this installation because of its effectiveness and invisibility (one of the main concerns in this installation was to have a discrete implementation of the sensors, the system is smaller and less obvious to the user and therefore more convenient since it allows for a more transparent and intuitive communication/connection between the site and the users (less computers and less programming) (Kamalmaz, personal communication, 14 July 2004).

The interface was purchased from a company working in the field of process automation and industrial control' and contained the following components (all connected with Dupline twisted pair cable):

(1) A Non-Powered Dupline® Passive Infrared Detector (PIR): with built-in transmitter generally used for detection of movement by e.g. a person (Used for burglar alarm, light control etc/ built- in timer for delay on operate and transmission time). The transmitter is activated if the temperature suddenly changes (most often if will be the heat radiation from a person) in relation to the background radiation; when a person moves within a detection zone, the sensor will be activated; in this case, the detection zone covers inputs from approximately 12 meters of operating distance and an operating angle of 90°.

(2) A Channel Receiver: with change-over contact output for digital signals to be turned on when the transmitter in the PIR sensor is activated. The output is coded by means of code programmer GAP 1605. The output is normally OFF. When the transmitter in the PIR sensor (coded to the selected channel) is activated, the output turns on and remains on until the respective channel becomes deactivated. Dupline® Field- and installation bus. Receiver for Digital Signals. Type GAD 1111, GAD 1213. It is connected to the application, to the sensor and to the generator.

(3) A Master Channel Generator—type G 3800 0015: a programmable channel generator with built-in dedicated intelligent functions for light and roller blind control, alarm monitoring and analog set-point control. In addition to that, there is a realtime-, timer- and logic- function. Programming is easily performed through Windows- based configuration software (The master generator can be configured by means of the user-friendly Windows-based configuration software). An optional built-in GSM modem can be used for monitoring and control of Dupline signals via SMS. Up to 32 Master generators can be networked as slaves in a RS485 network using the Modbus protocol. The unit has 4 digital outputs on-board, and it is possible to create links to other Dupline networks via external Radio Modem. (This programmable channel generator is probably the key component in the PLC system, the unit monitors and controls the input/output of the sensors and the receiver; it has 4 digital inputs and 4 digital outputs on board.)

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1. The company is called: 'Souccar for Electronic Industries, SEI'; it is based in Damascus (Syria) and it mainly trades and assembles imported Italian products in the field of control systems (Carlo Gavazzi). Among other things, they work on Logic and sequential systems, production floor systems analysis, safety measures and hazardous environment planning, environmental and field issues for instrument installation and commissioning. They do PLC (programmable logic controller) systems and programming—controllers- schematic design and wiring circuit.

**(4) Portable Programming Unit:** The programming unit provides means of reading and programming of channel codes.

**(5) An Audio Player/Recorder:** for projecting pre-recorded or live sounds on site

As shown in Figure 7, the interface was used to (a) detect visitors' movements, (b) process detection signals, and (c) project pre-recorded sounds on site (sounds of human breathing pre-recorded in a separate location); The separate pre-recording of the sounds received critical feedback on whether the sounds should have been recorded and projected live on the site to allow for the present temporal sense of now/ here: (the sensors track "live" the movement on site and project the sound). Unfortunately, this was not possible due to technical constrains.

PLC systems are widely used by the automation industry, but here this system is used for artistic creation as a basis to create a locative interface between the body of the user and the architectural context. The use of this particular interface in this installation forms the first step in using PLC s in architectural installations, but the PLC system could be expanded and can be programmed to provide some kind of semi-transparent interface that could spark spontaneous connections or interactions between the site and the visiting users and this could be tested throughout future installations.



Figure 7 System for dislocation

The image shows the concept behind overlaying the sound installation on the space.

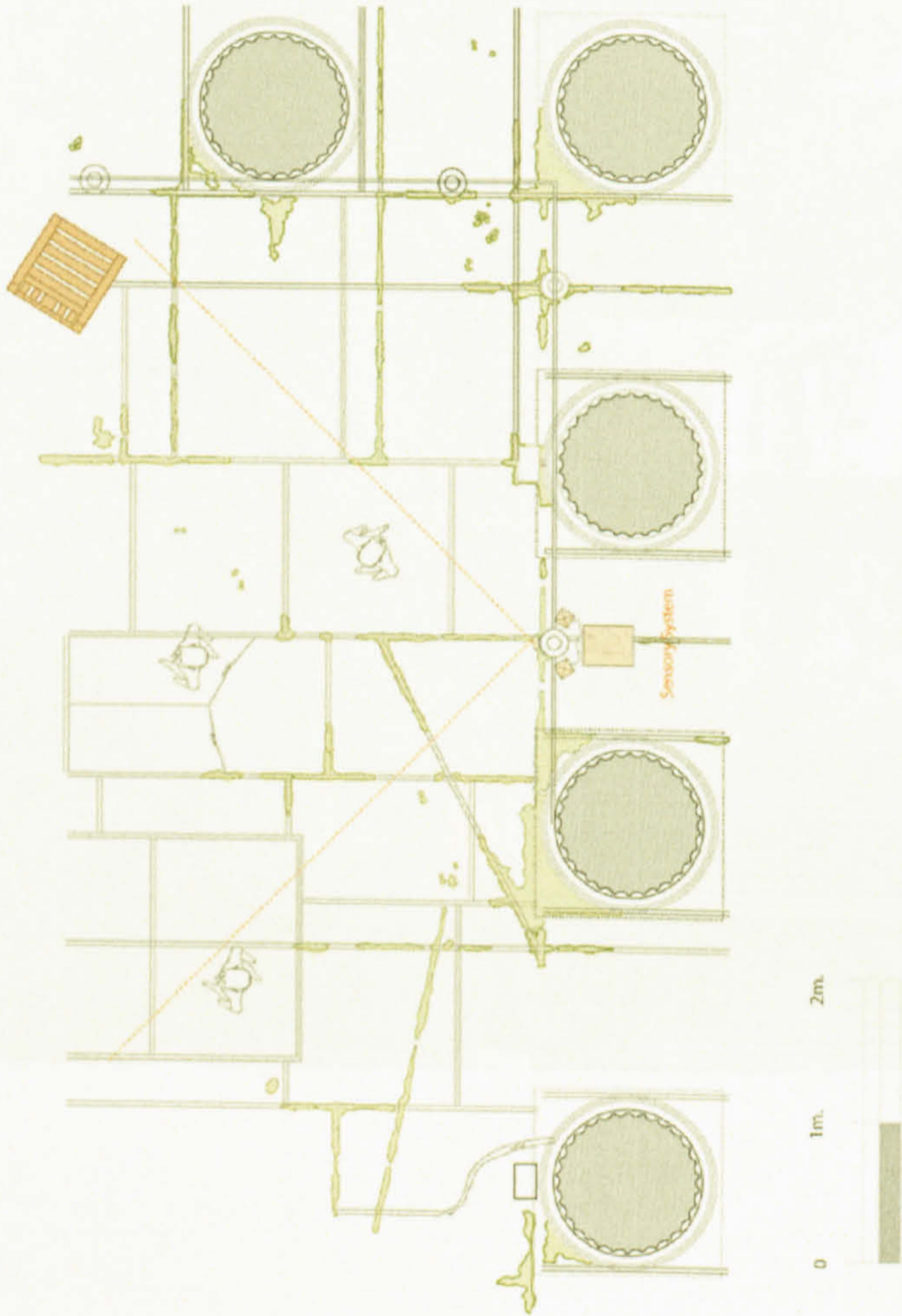


Figure 8 The sensory system placed between the two columns



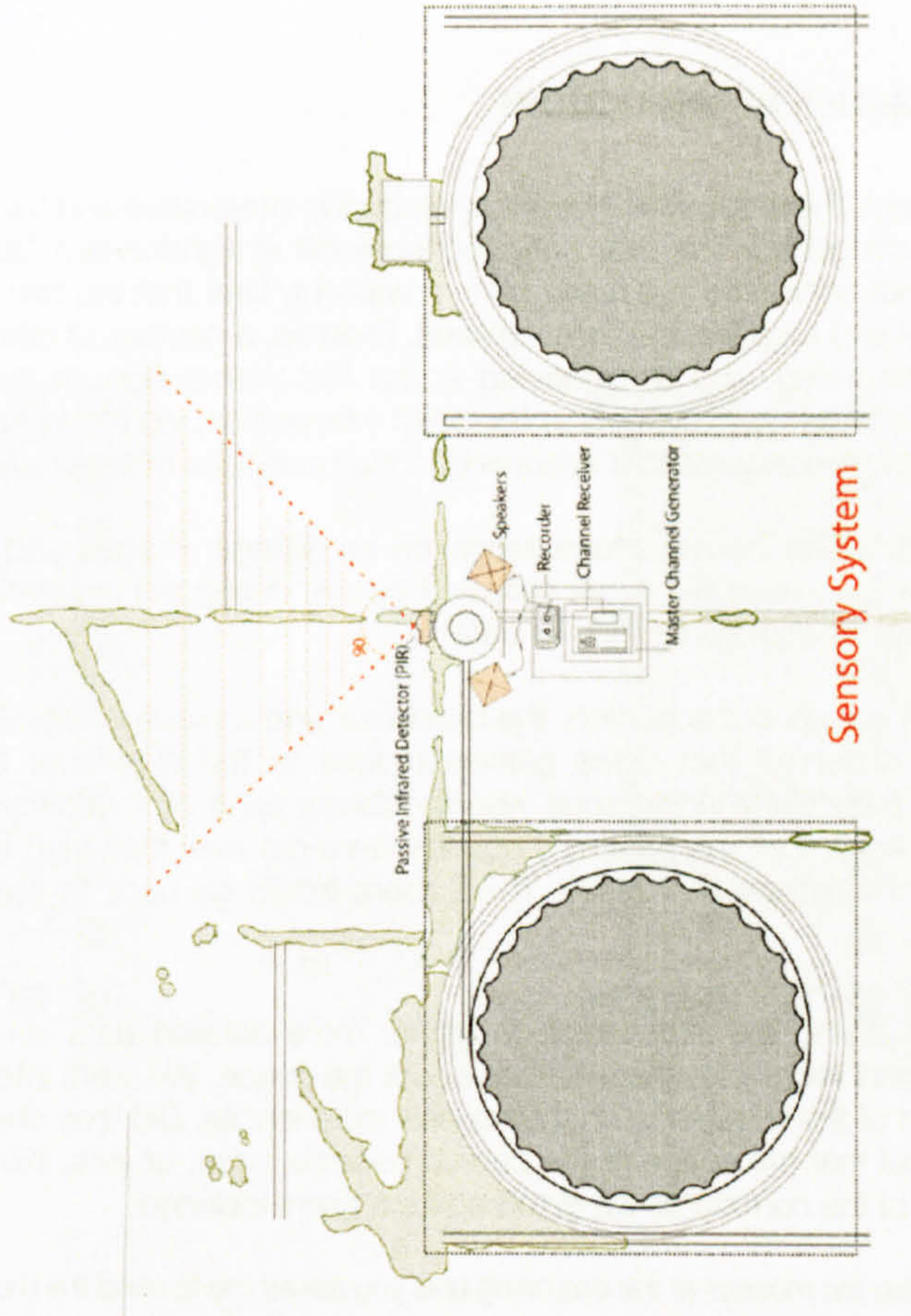
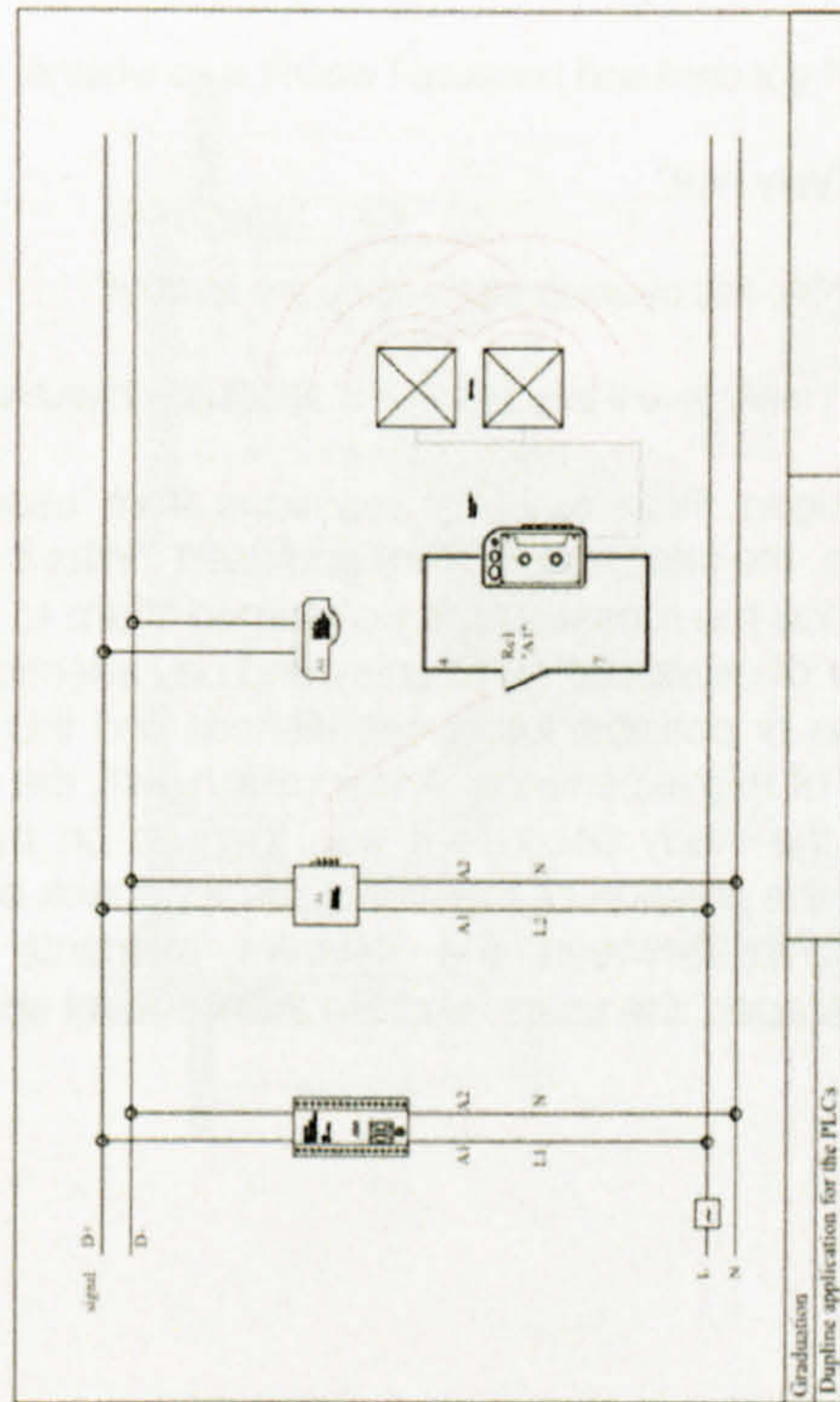
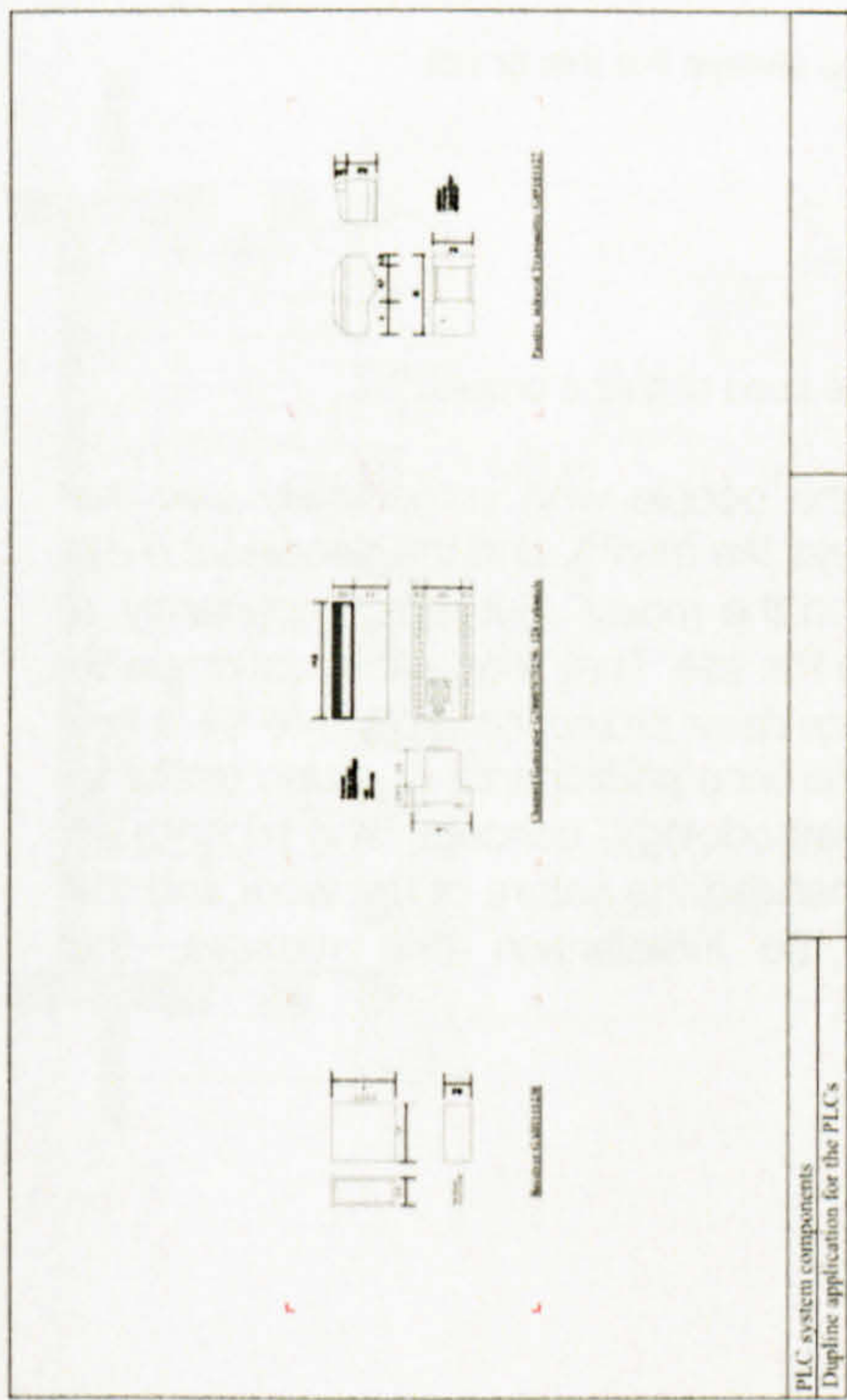


Figure 9 The components and circuit of the PLC system

## A.5. Research Tactics in Sited Moss

At the start of our project, the study was thought to be mainly interpretive and the research strategy was not fully conceived. The data collected were still straightforward “audit trails” and the strategy was not conceived in a ready form. It was only later that the two concepts of intervention protocol and mapping process matured. Even so, a number of ethnographic tactics were used, interpreted, and re-presented in the first intervention. In the second intervention, the protocol was more defined. In the latest intervention, we made early use of the intervention protocol, and developed it according to the conditions of the study.

In Sited Moss, I mainly relied on my interpretation on recordings, images and personal observations. For instance, I used my notes collected on-site during the installation. I also referred to users comments and discussions as data,

When Sited Moss was set up in the portico, the behaviour and movement of people was slightly modified. We observed that users gathered close to the source of sound by curiosity and interest, particularly in the zone where different sorts of soundscapes were produced. When they knew that the breathing sounds were not real, they tried to explore the echoes on different locations of the site. Then, users would go back to their original behaviour.

Interviewing was used during the intervention to gather more detailed data about users’ feelings, perceptions, and recollected experiences about the space. We were interested to know about the impact of the installation on their spatial experiences. Did they change their behaviour? Did they feel that the space of the portico became more, or less, intimate with the installation? Some of the comments we gathered from users included:

“Nice! I didn’t realize the mosses at the beginning until you asked me to mind the moss!”

“It looks really natural.”

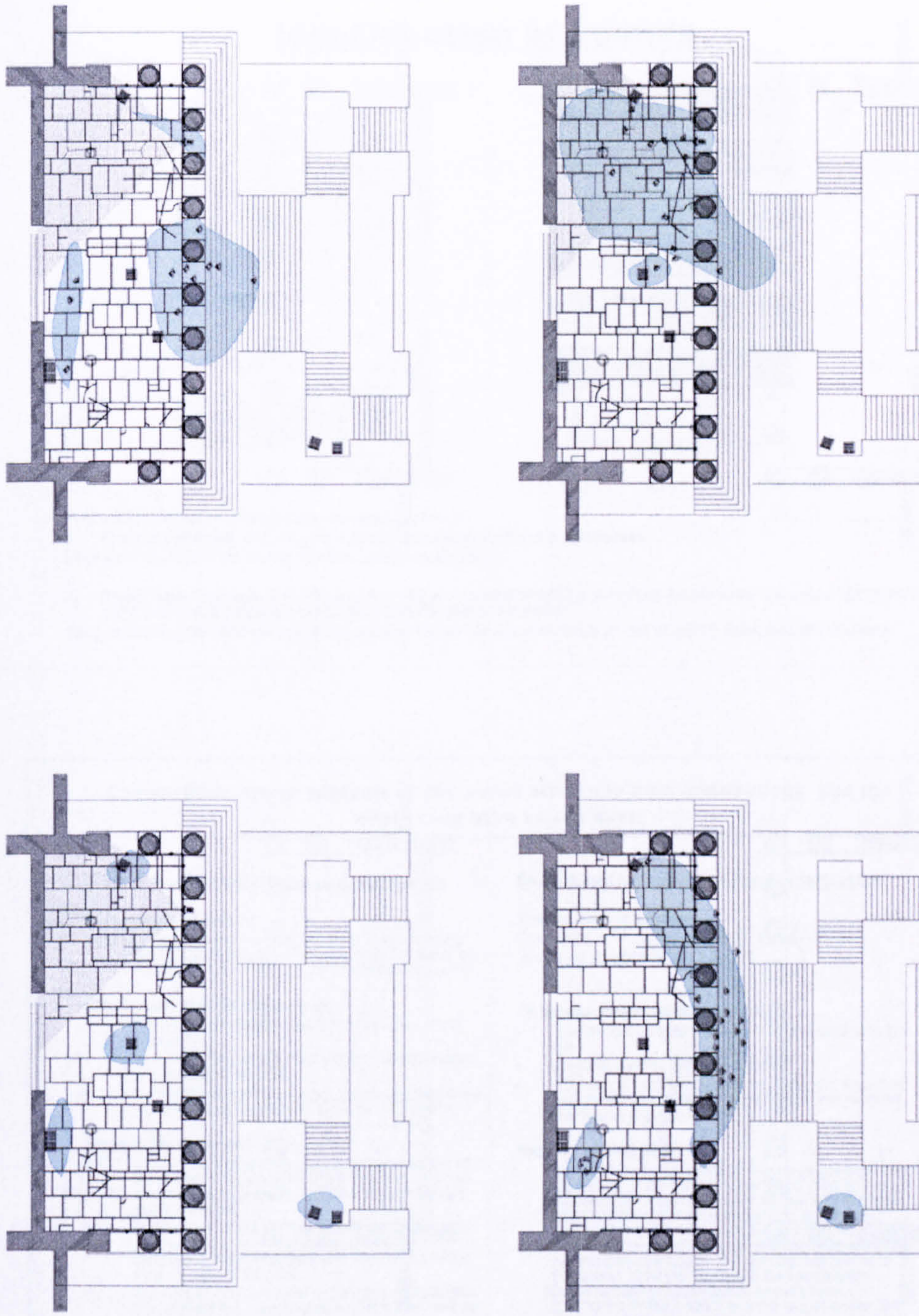
“I got confused because I wasn’t sure whether it was always like this or not.”

“Very nice”

“Oh, this cleaning staff – they are so lazy!”

“I really love it and I think it is absolutely beautiful; the seed of a nice project.”

We noticed three types of reactions from users: the people who immediately saw the mosses, the people who were confused (“*Was it always like this?*”), and the people who did not notice the mosses until we warned them to “mind the moss!” But most importantly, a number of users started to enjoy and pay attention to the site. They made associations with previous or possible future experiences and this imaginative projection proved to be a key aspect of this experience. A discussion with the conference participants was also useful to inform the study because it was focused on the methodology, concept, and techniques behind the creation of the work. The feedback emphasized the nature of the work and the relationship between the different elements of the intervention (the mosses, the soundscapes, the users, and the architectural space).



*Figure 10 Mapping sociospatial practices in Sited Moss*

The images illustrate a mapping process of the users' movements on site. Below left: showing a mapping of the whole space in one moment during the intervention. Below right: showing a plan of the western side of the portico with the mosses and participants exploring the space of the Portico. Top: sequence of mapping users' movement on site, the images are arranged from top left corner (anticlockwise); the blue marks represent the areas of users' movement or location: 1) a few users sitting in different spots; 2) conference attendees entering the portico; 3) users exploring the soundscapes in the eastern corner; 4) users walking and looking at the mosses, talking to each other or leaving.

**TEXT BOUND INTO  
THE SPINE**

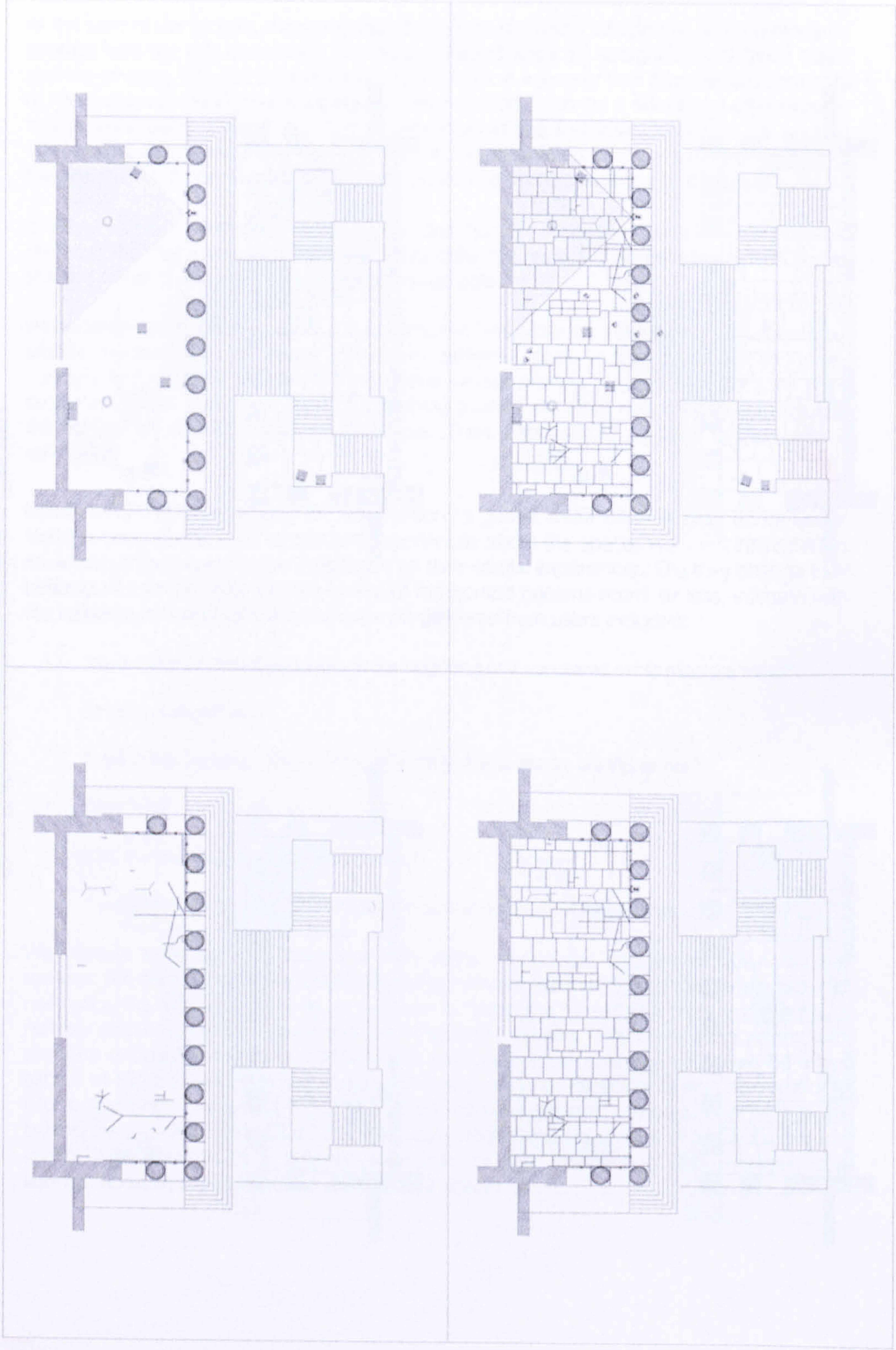


Figure 11 Mapping Memory in Sited Moss

The images illustrate the different layers and events happening on site [clockwise]. (1) Water joints, (2) furniture and sensor, (3) the different floor textures affected by time, (4) plan of the virtual layer overlaying the floor.

## A.6. Evaluating the Impact of Sound Projections on the Users' Spatial Experiences

### Identification of sounds



Figure 3.4 A momentarily frozen field of vibration in air. Waves of compression are shown schematically as they would move out from a hearing source. The equivalent sine wave is shown at the bottom. Actually this high-pitched tone is not a pure tone, and the waves are complex, not simple. A field of this sort, however, illustrates any vibratory event.

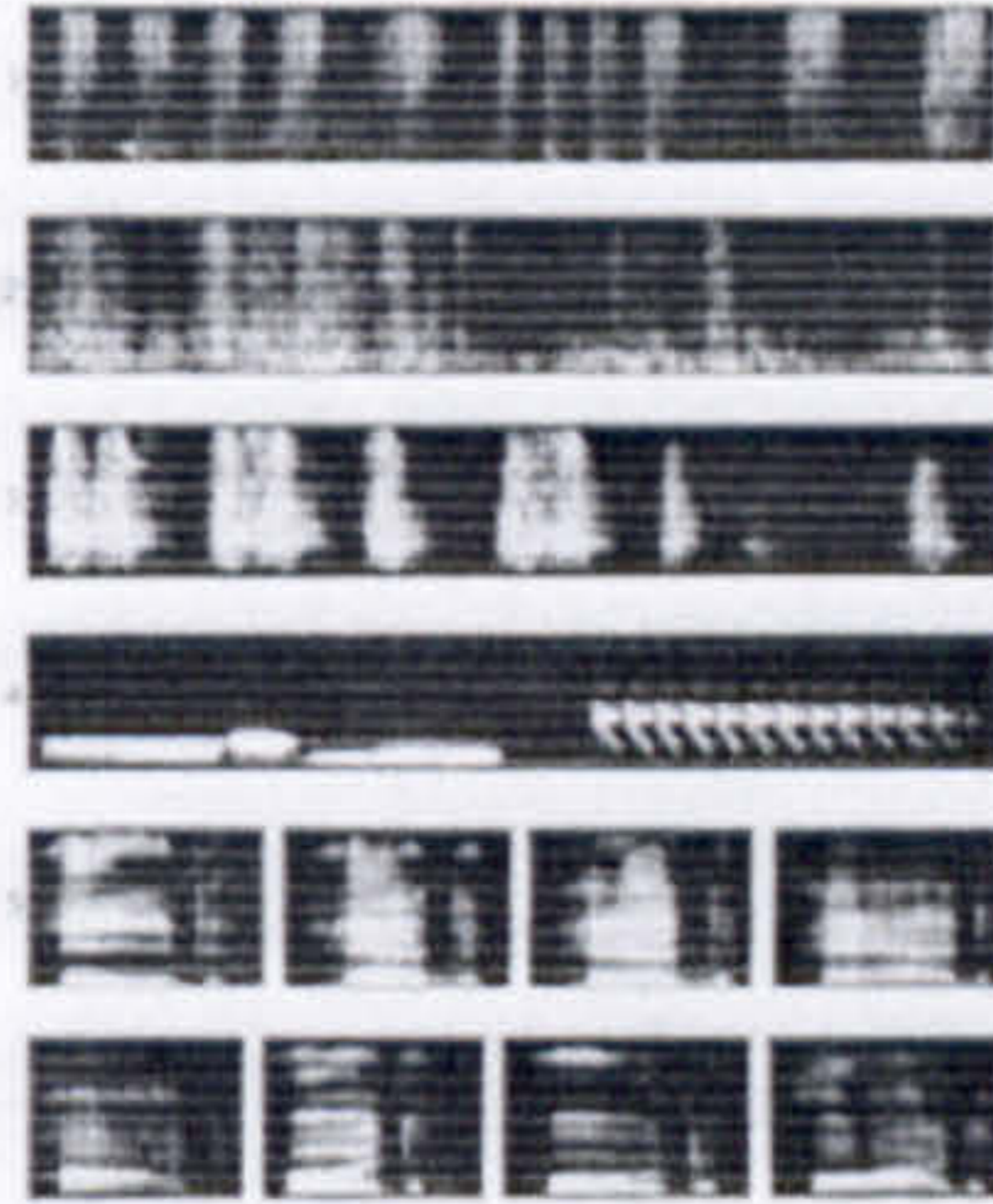


Figure 3.7 Spectrograms of several auditory stimuli. From left to right: (1) Breathing with a steady rhythm; (2) Breathing with a steady rhythm and a steady rhythm; (3) Breathing with a steady rhythm and a steady rhythm; (4) Breathing with a steady rhythm and a steady rhythm; (5) Breathing with a steady rhythm and a steady rhythm; (6) Breathing with a steady rhythm and a steady rhythm; (7) Breathing with a steady rhythm and a steady rhythm.

Two methodologies in representing and studying sound:

**1. Classical method:** reducing sounds into **combination of pure sine waves**

Sensation of sound constituting of: Pitch-Loudness-Duration

**2. Sound spectrograph:** it represents the relative amounts of energy at various frequencies- the sound spectrum at each moment of time from the beginning to the end of the event.

Sensation of sound corresponds to: Abruptness-Repetitiveness-Regularity of rate (rhythm)-Subtleties of sequence.

#### **Comparative study: analysis of the sound effects in both installations and the effect they have on the user.**

**Body & Matter: materiality and the senses**

**The nature of sound:**

When the user enters the dark labyrinth, starts hearing the sound of a steady rhythm of dripping water on a metallic bucket coming from the last dark room.

**Characteristics of the sound:**

- Transition of waves in the air from the source to the ear.
- Repetitive-Regular - similar rhythm, Steady tempo in between transitions
- No transformation of pattern; the sound continues with the same rhythm and tone for a long time

**Impact on the user:**

- The process of identification and configuration of the pattern - formal pattern (representation) it has a form of vertical motion or fall of drops of water into the bucket.
- Recognition of the spatial dimensions of the next and last room as a vast space; space by calculating the depth, tone and abruptness of the echoes, vibrations... Etc.
- Feelings of comfort, relief to be ensured that after the labyrinthine claustrophobic space there will be a more relaxed atmosphere.
- The stable repetitiveness of pattern adding some sense of security; no unpredictable interventionist event to interrupt the sound.

**Sited moss: invading or fading architecture**

**The nature of sound:**

The voices of breathing, laughing, sounds of steps projected on site through a sensor

**Characteristics of the sound:**

- Transition of waves in the air from the source to the ear.
- Irregular rhythm, different tempos
- The spatial pattern changes promptly; the sound of breathing changes from slow to quick and overlaps the sound of steps

**Impact on the user:**

- Different rhythms create ambiguity on the time and the nature of the current experience. The sound finds echoes within the user's personal core either by association, either by deduction, and thereby generates his/her own narrative thread linking ultimately the actual site with the user through what he/she currently hears. The waving intonations of the sound allow the shifting of the user's gaze between his/her projected potential space (prompted by the sound) and the actual space, the breathing helping to withdraw the users away from the current scene.
- Feelings of intimacy, curiosity and ambiguity.
- the change in pattern is part of the stimuli by constantly redrawing the attention and awareness of the user to the source of the sound

## A.7. Post-conference Discussion on Sited Moss

*The following discussion took place in the Portico on September 17, 2004. The discussion involved conference participants after they experienced the piece. The transcripts retrieved most of the discussion, but some information was missing from the recordings due to technical reasons.*

[...]

Nadia Mounajjed: We tried to pick the area where it could develop naturally like in between the joints and then we put water. So you see some of them are already kind of settled.

Penny Florence: But there is a really green one out there!

Rosalie Kim: Yeah, The research is that we bought those mosses from another shop, and we put them later. The difference is that these ones, which are here, have been installed since Tuesday, so they are getting a little yellow. This shows how you can see the difference in time by looking at the difference in the colour of moss.

Participant: Was your idea to see how the moss would actually start growing?

RK: Actually we didn't think that this is possible for a long time, because the UCL authorities only allowed us to work here for a few days.

Jane Rendell: Did you have to get up early and get the mosses today as well?

RK: No. We started two days ago. And then we thought this would be more natural in a way.

RK: The whole idea started when Jane asked us to pick a site on the UCL campus to make an installation. We thought that the portico was the right place, because the portico represents the school's protected monumentality, eternity and atemporality. When you look at the logo of UCL, you have the image of the portico, so it is also the symbol of the University.

When we tried to book this space we had so much trouble with the UCL people. This is a Grade 1 listed building, we were warned that we can't touch anything; we were not allowed to spray anything. At the end we thought that all these precautions about preserving the space from the decay might prove to be ineffective. Actually the decay is always happening by the weather or by the furniture being moved around etc. so we thought it was quite interesting to start from this point. And that is how we started. So, we started by making some sort of site survey (of the floor) like architects do when they work on a site and we looked at the floor inch by inch to see where the mosses and the sounds should be mapped. And then we decided to focus on three types of decay and map it with three types of mosses. And by doing so we wanted to emphasise on the notions of ruins and decay.

We actually chose the moss because the moss has the ability to detect any kind of cracks so in a way, the moss map will present a new representation of the portico, and will allow the users to read the space in another way than they would normally do.

NM: One of the interesting things we found is that most of the users tend to come here for lunch. In a way, it becomes a habit since they come frequently. We felt that people tend to deny the space by sitting at the periphery and looking outwards. So, in this work, we were mapping the moss to awaken the users to the space they already regularly visit.

On the other hand, we made a sound installation to complete the experience of the users—which already involved the tactile, visual, and olfactory etc, through the presence of the moss. We thought that by projecting sound we could push the experience further and

stimulate the users memory and imagination. We chose the sound of breathing which is a normal component of the space. And we wanted to create ambiguity in the users mind by wondering whether: it is the sound of the building getting tired or the rhythm of the mosses growing slowly? Or is it simply people remembering something that might have happened at a certain time. And this was the main idea of the users overlaying their mental (illusory) projections on the actual space.

JR: I think you were talking about three different mosses; can you explain more?

RK: Yes. The ones you see on these water channels are coming from the carpet moss. The relationship between the types of wearing and moss is defined by the amount of water needed for the moss to grow in the crevices. Hence, the moss mapping will explain how the space has been exploited by the users, how the rainwater is evacuated from the site, where the weather mostly affects the space, etc. For instance, the bun mosses, which are mapped over the punctures, are slightly greener. They look like the most alive, the punctures where they were installed the water comes and settles. And the ones there, which are slightly yellow, they come from sphagnum moss they have been dried by people walking on them.

Q: is it living there, do you think would settle there?

NM: We tried to pick the areas where they can actually grow and develop. So, if you put them on the joints they would really settle and some of them are hard to move already.

Penny; when did you put them?

RK: some of them like the yellow ones on the channels, the ones, which have dried a little, are there since Tuesday. And the greener ones on Thursday and the bun moss today.

P: did they all stay here or died?

RK: Yes. Some of them did, all that they need is the watering. So we were trying to do that, and we asked people to watch out for the mosses, so that they stay ok until today, and people didn't seem to care at all.

P: And did you explain that?

*[Laughing]*

RK: No. Actually, there was a guy who came here and he didn't seem to realise what was happening. They told us: "This cleaning staff, they are so lazy!"

*[Laughing]*

PF: I am just thinking about the strategies to use the moss here. Understand you were telling about the mosses on rocks and forests and how they relate to culture. can you explain?

RK: yes, if you see the 18th century landscape, the moss tends to demonstrate the perennial and triumph of Nature upon the man-made constructions and civilizations. In oriental culture, the moss reminds the user of various Buddhist gardens where the tufted moss creates a visual enthrallment and rich textures soothing the personal thoughts. Its evergreen character symbolizes the permanence of the universe whereas its shape is a metaphor for the running water or the waving sea. These gardens tend to interpret and idealize Nature, inviting the user to lose him/herself into the contemplation of a man-made artificial landscape referring to the Universe.



This is precisely the reason why the moss cannot only be prejudiced by being related to decay, deterioration and invasion, when in fact, it can also be seen as an incentive for the beginning of a new cycle (moss preparing the site for superior plants to come and propagate) or even, as observed throughout History in different countries, as a protection or a construction material. The moss is the joint between a finishing state and the birth of another phase.

Ayelet Zohar: This probably has the connotation of antiquity. And this is why decay has an interesting relationship with antiquity, and with the romantic notion of decay.

PF: it is interesting what you said about the mosses being in a spongy form, atomic...

JR: We also liked the idea of the breathing; can you tell us more?

NM: we brought in the idea of breathing to stimulate associations in the users mind between the different events that may be happening on site. This may be a connection between the mosses organic growth (needing air and humidity), and the users movement and breathing, it also symbolises the building as sensible space. In a way, we were also emphasising on the unconsciousness, when people listen to the sound of breathing which is in itself an unconscious process.

RK: When people reach the portico, they are tired from climbing the stairs, their breath becomes quicker and they are sweating. So, by projecting the sound of breathing, one gets to realise what kind of breathing there are in this place: is it the building getting tired or the architecture getting tired? those kind of relationships.

JR: How did you do the Recording? What type of recording did you use?

NM: I have recorded the sound of people breathing. Sometimes they were moving in the space of the studio, whispering to each other and laughing low. There were three people, two ladies and one man.

Yaoria Horalambidou: What was the intention behind this specific type of voices?

NM: We wanted to create a reference to some type of happening, which took place somewhere and at a specific moment in time. When we project this in the portico, this immediately takes a new meaning; people wondering what is going on with these people, if these voices belong to people at all.

YH: I like the fact that you are using the building, and the chair would be moved around and then finds a link between the two. I think that is for me the most interesting aspect and perhaps I understand it as more specific than the rest.

YH: Would you like to see some sort of sound that relates to the decay?

RK: yes. We left chair as it was, so we get its position as it was at some point and try to revise a certain instant in time. It was difficult to record on site. So, we thought that the sound of breathing might suggest what happened on this site at some point before or what might happen later.

JR: how do you see this type of environment, does it have a particular meaning, like the stones for example?

RK: No. We looked at Furniture, how it has been moved around the time. We observed different type of users. We had people who come to have an intimate kind of conversation. So, they like to sit in an intimate place, and we had people who sit alone. Others they want to spy. It is the same when people enter in the installation. Some people tend to avoid the

mosses while others tend to step on them they don't care. Few people like to sit next to them.

JR: I was looking at what you are doing, and I noticed in the environment, there is something about how you specifically approached it. I also think that this was responding to the different circumstances, I wonder if you had all other possibilities, I mean in an ideal situation, how would you deal with the project? What would be the ideal scenario?

RK: to look more carefully to where the mosses should be located, and how it relates to sound. In one day, it was not easy to create the impression. Today. it is cold, windy and rainy. It depends on the day!

NM: It is also important to look at the nature of the sound and the content of the recordings. as for the equipment, we could expand the system and place different speakers: something higher, something lower. With better quality recordings, and to try to record sounds which are more related to the whole idea of ruins, decay and memory; something, that would create a connection between the moss, the users and the site.

YH: This is not what I meant. The discussion is about how the sound would be ideally? If you were to record with the mosses what would be the message?

NM: We also focused on the notion of memory, but maybe it should be more specific. But at the same time, we didn't want the people to know the exact source of sound; the message was more about confusion/ambiguity.

RK: I think that we should focus on the idea of mapping. The moss at some point could carry a message. Perhaps the sound could also refer to the memory of the building.

PF: I like the idea of mapping the memory of such place. Particularly the moss here, the fact that it was at some point disturbing that means really that it has been placed rather than being here naturally.

PF: also there is something about the architecture of the building all together, like UCL, of course there is much to think of, you know (i.e. connotation, the 18th century, classical work etc.) What does this work have to do with all that?

JR: you talked about the building from your point of view. You got rid of the sensor, I think that was a good choice. It is interesting to see what do you expect people to feel of the whole space, I really love it. I think it is beautiful; the seed of a nice project.

PF: Didn't notice how. Thank you very much.

Q: How many times did you go to the market?

RK: four.

*\*\*\*End of Discussion\*\*\**



# Appendix B

## Under Scan: Relational Architecture # 11

By Rafael Lozano-Hemmer

Lincoln  
November-December 2005

Leicester  
January 2006

Northampton  
February 2006

Derby  
February-March 2006

Nottingham  
March 2006

1998

Unit 1: Introduction to the course

Unit 2: The course

Unit 3: The course

Unit 4: The course

Unit 5: The course

Unit 6: The course

Unit 7: The course

Unit 8: The course

Unit 9: The course

Unit 10: The course

Unit 11: The course

Unit 12: The course

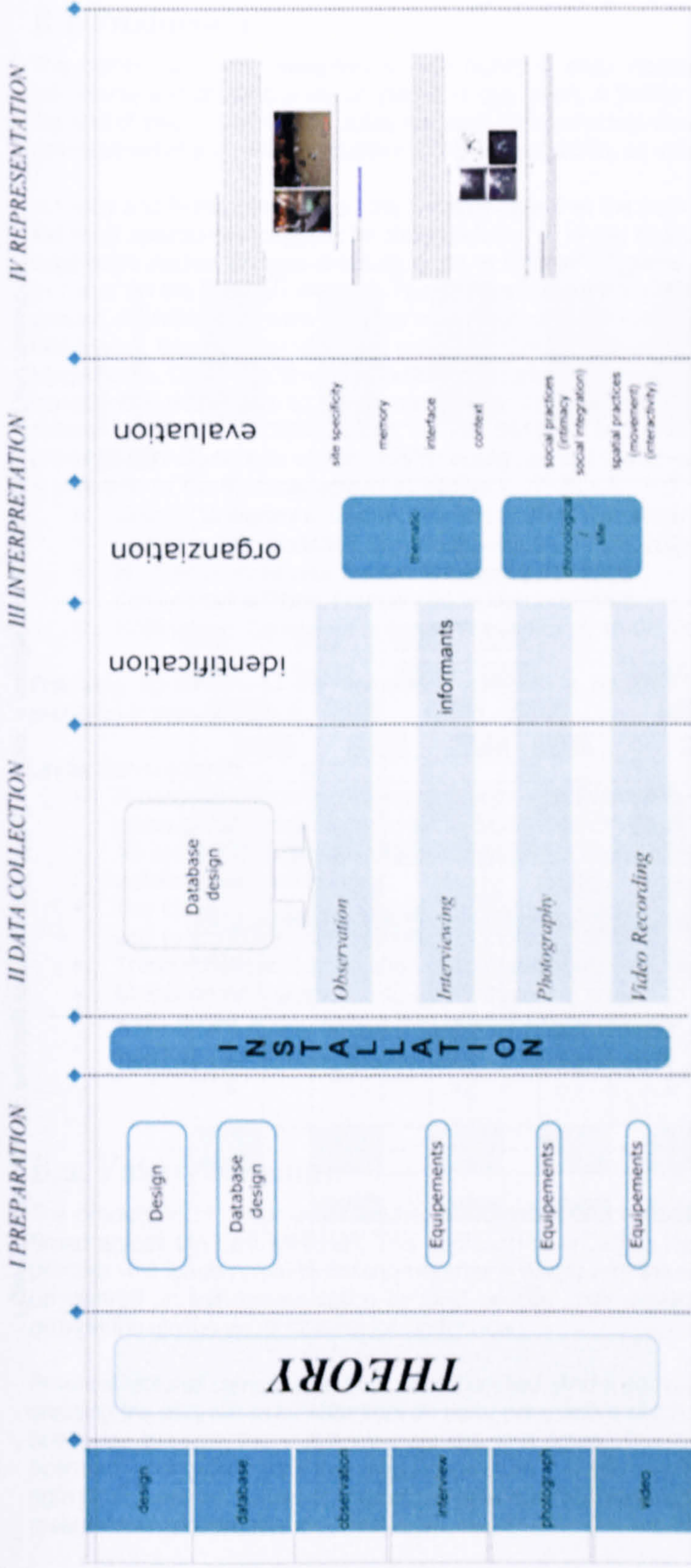


Figure 12 A plan for ethnographic mapping in Under Scan

Ethnographic mapping involved four phases outlined horizontally at the top. The areas in dark blue reflect the different methods used in this research strategy.

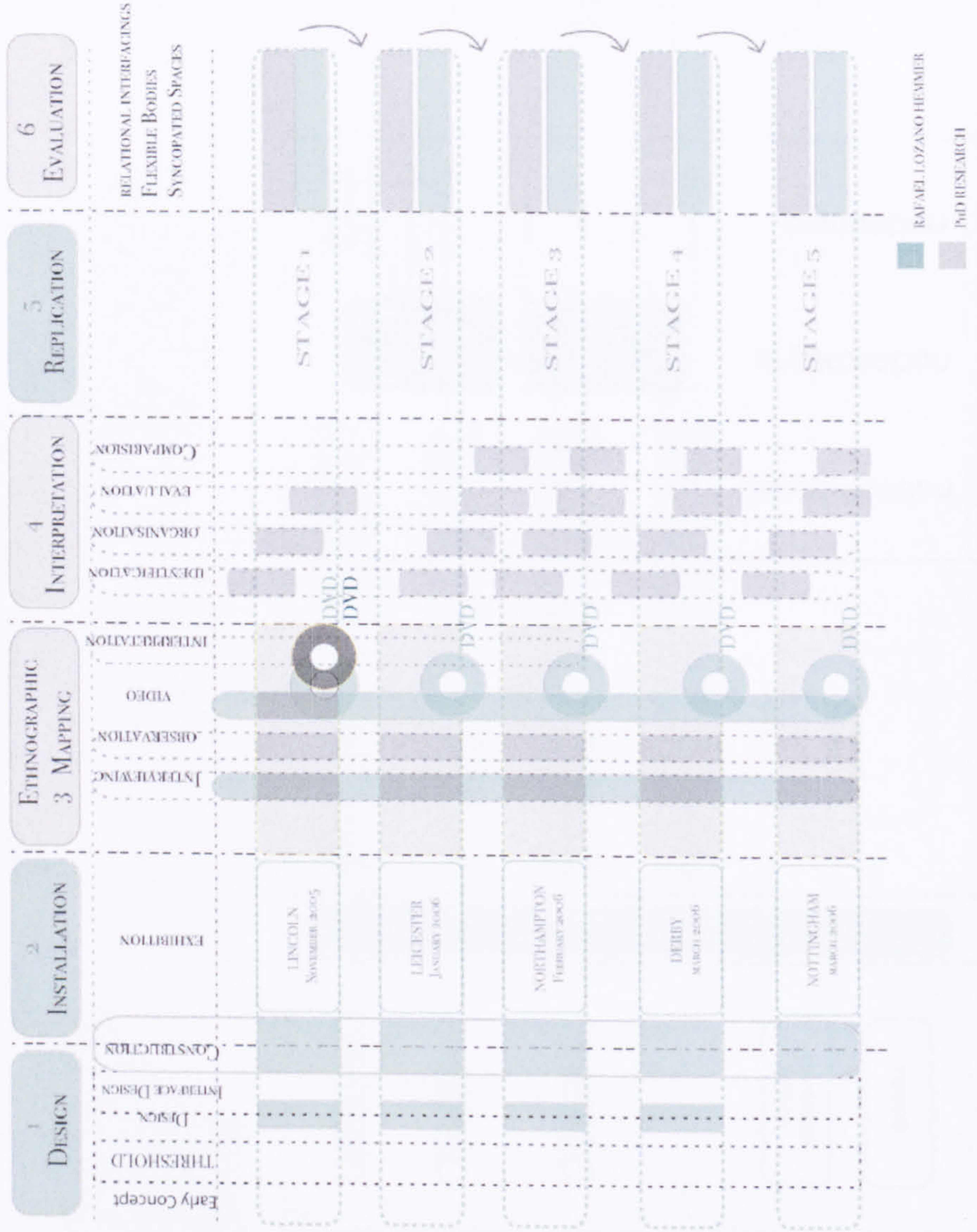


Figure 13 Ethnographic mapping in the context of Under Scan: a parallel process between artist and researcher

## B.1. Production

The commission was presented for ten nights in each location (encompassing two full weekends) and allowing a set up period of one week. A further three days was allowed at the end of each installation to strike the work. This schedule would allow Under Scan to be delivered within the period November 2005—March 2006, as required by the Brief.

In Derby and Northampton, it quickly became clear that the main Market Square areas were the most appropriate locations for the installation of Under Scan. In Leicester there was no large-scale pedestrian area available in the St George's Cultural Quarter and it was agreed to focus on the busy Humberstone Gate West pedestrian thoroughfare. The options in Nottingham were reduced as a result of the already contracted refurbishment of Old Market Square. Following site visits and SWOT analysis, Canal Side, adjacent to the Magistrate's Court, became the preferred location in Nottingham. In Lincoln there was considerable enthusiasm to site the work within the University Campus, supporting the new cultural developments taking place on the campus, and enabling the installation to be presented simultaneously with the city's popular, annual Christmas Market.

A schedule for the tour was agreed as follows:

- Lincoln: University of Lincoln, November 25 to December 4, 2005
- Leicester: Humberstone Gate West, January 12-22, 2006
- Northampton: Market Square, February 3-12, 2006
- Derby: Market Place, February 24 to March 5, 2006
- Nottingham: Canal Side at Castle Wharf, March 16-26, 2006

Following agreement to the framework schedule a detailed Project Delivery Plan was prepared in late June 2006.

Under Scan required:

- A bespoke design for the installation in each location, created to work successfully within the specific architecture and urban space that had been chosen.
- An assessment of infrastructure needs and permission requirements to facilitate the installation in each location
- The creation of a database of 1,000 video portraits of local people. The intention was to film 200 people from each of the five locations.
- The purchase and preparation of specialist equipment required to deliver the work
- Marketing and promotion to disseminate the project to arts communities and the wider public, and to ensure the potential legacy of Under Scan could be maximised
- A detailed installation plan

## B.2. Video Portraiture

The production of Under Scan required the creation of a database of video portraits to be filmed across the East Midlands. This approach to engaging the public within the creative process was fundamental to Lozano-Hemmer's vision, with the content of the installation to be centred on self-representation by local people. Their movements and gestures would provide the unique visual material for Under Scan.

Potential regional camera operators were identified. And a compact touring rig was devised, enabling the portraits to be shot from an aerial perspective of 2.5 metres as members of the public lay beneath the suspended camera and lights. This mobile film studio ensured optimum lighting conditions including temperature and intensity. Final measurements for the rig's structure were agreed and recorded to ensure accurate replication by all five crews to create visual consistency.



Arrangements were made to take the mobile film studio for arts venues, community centres and other public spaces in Derby, Lincoln, Leicester, Northampton and Nottingham. People were invited to take part from the local network of community organisations, but at each venue the public also “discovered,” unexpectedly, the filming opportunity. It was necessary for all participants to be sixteen years old or above in order to legally consent to the use of their image. Every individual signed a release form permitting their image to be edited and used in Under Scan.

Each individual had full responsibility for their own portraiture and content—the filming was totally open to be used as they wished, without censorship. A monitor was placed on the ground directly beside the participant in which they could see themselves and therefore self-direct. It was not possible for individuals to view their portraits once they had been filmed, so there was some technical directorial input from the camera operator.

### B.3. Installation

An individual design was created for each location by Rafael Lozano-Hemmer and the Under Scan production’ team using 3D simulation software. The final design was then used as a template to facilitate work with the Local Authorities, relevant public bodies and local agencies/business to gain licenses and permissions required for the installation to be built and operated in public space.

Each presentation of Under Scan involved an installation period of five days. In Lincoln, the first location for the work, this period was extended to ten days. The process commenced with Stage Right Productions delivering equipment and rigging infrastructure. The computer control room was assembled whilst equipment was safely rigged, powered and calibrated. ArtReach attended issues such as ensuring that light pollution from nearby shops, buildings and streetlights was reduced as much as possible. Preparations were also made for a launch event in each location. The artist and his team arrived on the second day of installation to programme the control systems and ensure that the computer tracking system enabled video portraits to be placed in the path of pedestrians crossing the space. The light projector, at an elevation of over 20 metres, was focused to create the required “interactive space” within which the portraits would appear.

During the presentation of Under Scan, there was an opportunity for practicing artists to meet and work with Lozano-Hemmer, ensuring that the techniques used in Under Scan could be replicated or developed in other artwork within a variety of contexts.

### B.4. Technology

The technology for Under Scan was developed and implemented by a production team from Canada, the US, Austria and the UK. There were four key technologies used in the project:

#### **B.4.1. Computer Vision Tracking System**

Developed by APR inc. in Canada, a computerized surveillance system detected the presence of everyone in the public space by analyzing the feed from a digital camera. The software was programmed in Delphi and C on open computer vision libraries, but was specifically customized for the project with automatic routines that would allow the system to adapt to changing lighting conditions in the public space, to compensate for uneven lighting and to avoid interference from the projections themselves. The system had an extrapolation algorithm so that it could predict where people would be in the near future: the system would automatically point the robotically controlled projectors to the locations where

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they would be likely intercept the trajectory of pedestrians and then cue a sequence of video for them.

The tracking system was connected to the robotic projectors using DMX, to the media servers using Ethernet (both UDP and TCP/IP), to the camera using a fire wire interface, to an external public monitor via VGA and to the Internet for remote maintenance using a second Ethernet port.

#### **B.4.2. Digital Lights**

Fourteen DL1 digital lights by High End Systems were used for projecting the portraits. These are video projectors mounted on a robotic pan and tilt platform that can be controlled by DMX. The lights were calibrated so that the control system had knowledge of the precise 3D location and orientation of each of these so it could automatically point them to match the location of people's shadows.

By using projectors on motorized pan-tilt platforms, very large areas could be covered by a small number of projectors, and varying urban layout could be accommodated.



*Figure 14 The projector used to generate the shadows.*

The projector was lifted twenty metres high over the interactive area, often by means of a scissor lift

### B.4.3. Custom made Media Servers

Each DL1 was connected to a Mac-mini computer that had the entire database of video portraits in its hard drive. The video server software running in the minis was programmed in Xcode and it allowed the video to be rotated, keystoneed, scaled and scrubbed using OpenGL so that the portrait was always oriented in relation to the shadow and with the appropriate geometry corrections. The minis were networked over wireless links or Ethernet to the main control room, from where the videos were queued, triggered and controlled. Apple remote desktop was used to manage each Macintosh and robust network error handling was implemented. The server would also automatically gamma correct the videos so that darker portraits could be seen with more detail.

### B.4.4. 12kW HMI Projector

One PANI BP12 Platin II HMI projector with wide-angle optics was used to generate the shadows with 120,000 ANSI lumens of power and a coverage area of up to 4,000 square meters. The projector was lifted twenty metres high over the interactive area, often by means of a scissor lift. The projector was masked to avoid spilling light that could distract drivers, hit neighbouring windows or otherwise disrupt the safety of the environment. A DMX controlled douser allowed the system to automatically fade out the projector during the interlude sequence.

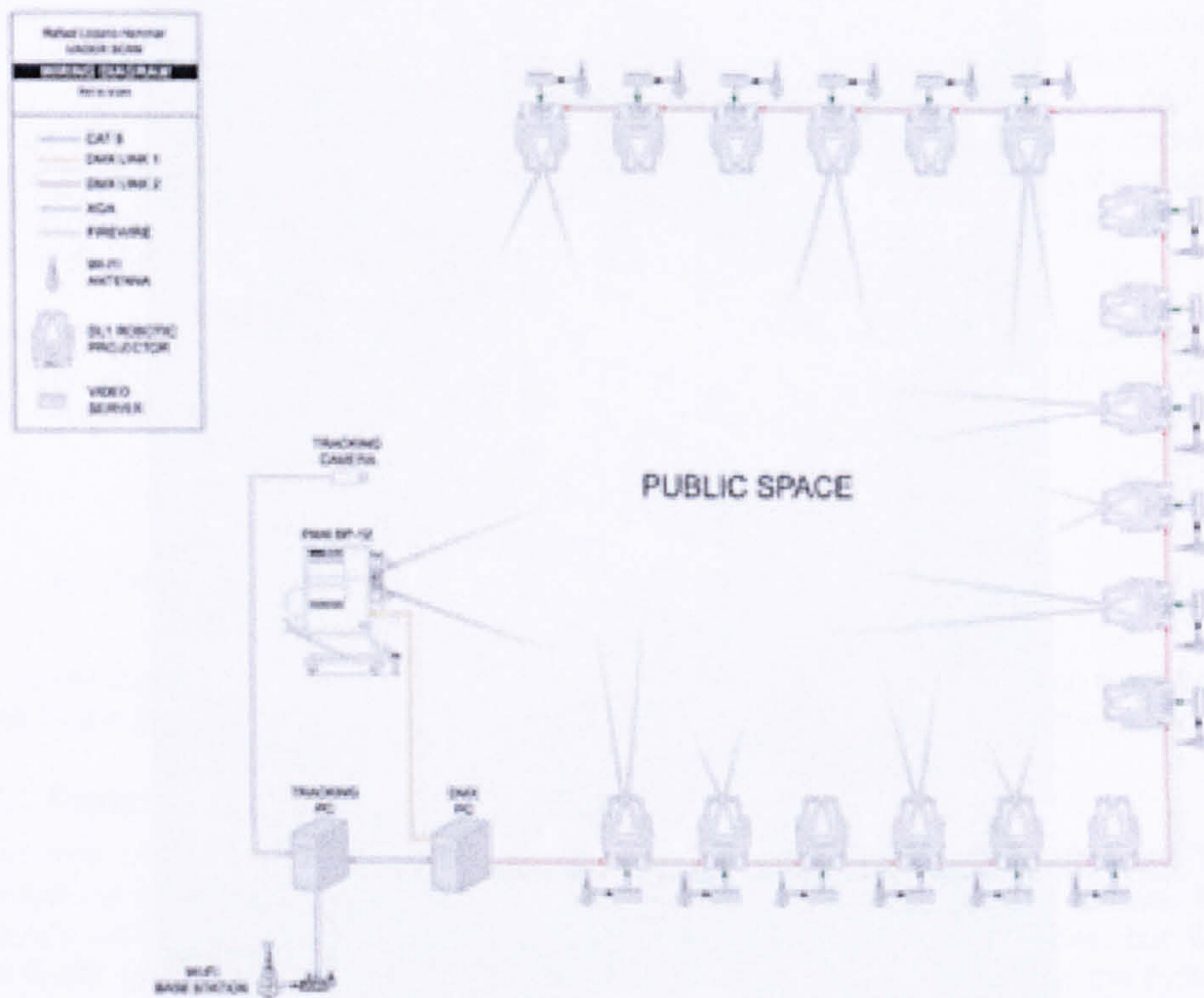
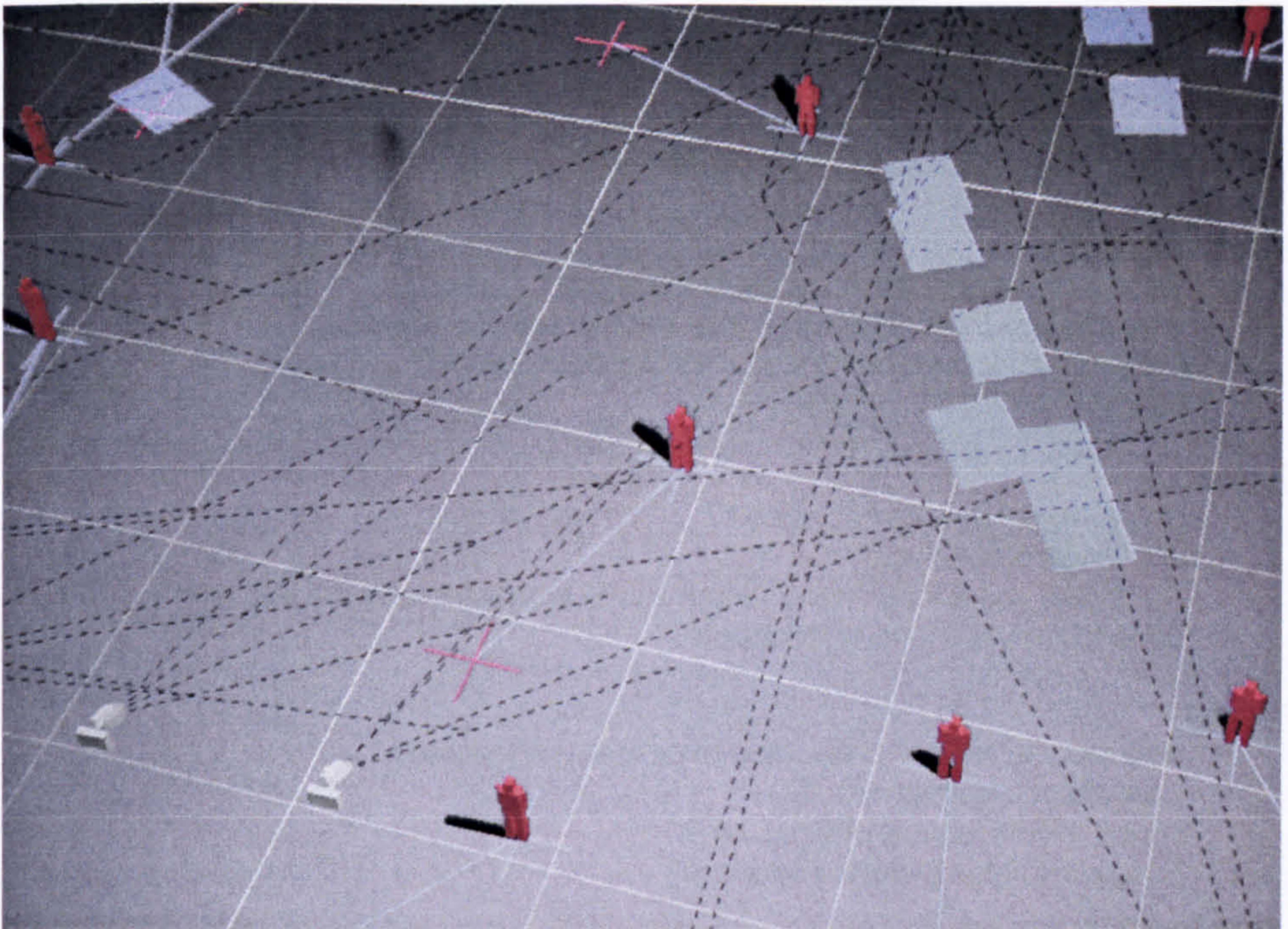


Figure 15 Plan of installation showing the system layout in Under Scan



*Figure 16 live camera view of tracking system in Under Scan.*

A real-time view of the installation and participants experiencing the work. The image shows the participants highlighted in green and related through their path.



*Figure 17 3D view of tracking monitor*

## B.5. Interviewing in Under Scan

This section presents some of the interviews, which I have carried out in Under Scan. I have done 3 special interviews with Rafael Lozano Hemmer (artist of Under Scan), Ian Brame (technician), and with Jose Carlos (video artist). I also interviewed many participants from the public.

Before presenting the actual transcription of the interviews, I note below my questions, which I have prepared to collect specific data from the participants of Under Scan:

### General

- What did you think about the work?
- How did you find the experience?
- Did you like it?
- What was it like for you to be in the installation?

### Psychological significance /impact

- How did you feel about it?

### Architectural relevance

- Are you familiar with the space? Have you been in here before?
- Did it change anything about your perception of the space?
- Were you aware of the building?

### Memory

- What will you take with you from the space? (Memory)
- Will you come back?

### Intensity of engagement

- Duration: How long did you stay there for?
- Did you feel immersed?
- Did you feel separated /isolated from the surrounding environment?
- Did you feel it was engaging experience?

### Social engagement

- Were you aware of other people in the space?
- What did you think of how the other people were behaving?
- Did you feel inspired/ stimulated by other participants?
- Did you feel close to people?

### Technology

- Do you know how he has done it?
- Is it simple technology?
- Did it take you a long time to adapt to the installation and to learn how you should do to make the shadows disappear?

### Stimulus

- How did you find the projections of portraits on the wall?
- How did you interact with it?
- How it affects: space, others ...etc?
- Image: animated picture, interactive?

### Productivity and creativity control & feedback

- Was there anything in the installation that made you feel uneasy or stopped you from doing something?
- Did you feel that you could add change anything in the space?
- Did you feel that you were affecting aspects of the space?

Adaptive experience

How long did it get you to get used to the concept behind the work?  
How long did it get you to get used to the concept behind the work?  
How spontaneous was the work?

Movement

How did you feel aware of your body?  
What did you do, how did you behave?

### **B.5.1. Interview with Rafael Lozano-Hemmer**

*I interviewed with Rafael Lozano-Hemmer on January 13, 2006 in Leicester (UK). The interview lasted for approximately 50 minutes. It was published in Under Scan, by Rafael-Lozano-Hemmer, emda & Antimodualr: Italy, 2007.*

**Nadia Mounajjed:** Did Under Scan turn out as you expected? Did you get the interaction you were aiming for?

**Rafael Lozano-Hemmer:** The only thing that can be predicted about interaction in public space is that there will always be a very wide range of behaviours: some people spent half an hour interacting with the installation, some 10 seconds; some would come in big groups and reveal portraits together, others would just walk alone and have a quiet experience; some found it fun, while others found it frightening or perverse. We had all sorts of participants in the installation, from vintage punk-rockers to members of the "Army of Christ,"—even though it sounds cliché, we had people of all ages, classes and ethnic groups. In addition, the piece changed a lot depending on the city, the time of night, the day of the week, and so on. Typically we would see a lot of people come during the weekends and this made the environment more festive; during weekdays it would be calmer and often people would run into the installation as they went home from the office or had to go across town to do some shopping or go to the pub.

It often took people a while to figure out that the portraits were interactive. But it was preferable in my opinion to have them discover this interaction rather than having someone tell them what to do. I think some people were expecting that the portraits would appear in their shadows wherever they were standing. But I conceived the project specifically so that people had to promenade in the space and walk toward the portraits chasing after the public. I am happy with this decision even if the other way may have been easier to understand or more fun.

**NM:** How were the sites chosen? In Lincoln I talked to people who wondered why it was located outside the city centre.

**RFL:** The site had to be a large area with many pedestrians and without car traffic; for projection, we needed the ground to be even and with a light-coloured tone. Finally, the commission's aim was to highlight the new cultural quarters of cities in the East Midlands so that's where we looked for locations. In Lincoln the site at the University was chosen mostly because all the other large public spaces had a very dark cobblestone, which is an extremely difficult surface to project on. In Nottingham the perfect site would have been Old Market Square but it was being renovated during our tour so the alternative Canal Side site was quite picturesque but a bit out of the way.

**NM:** Did the site affect the feedback you got from participants?

**RFL:** Sure. I think people enjoyed the project more when they just encountered it in their normal activities in town, as a surprise. If the site was further away then often people would go there expecting some kind of son-et-lumière show or a fireworks display and they would be disappointed because Under Scan was not a cathartic spectacle. I like to think of my works as being closer to landscaping in a park, or to a public fountain, than to a pre-programmed show.

**NM:** In my interviews I found that many people actually preferred the interlude light animation shown every 7 minutes rather than interacting with portraits. In almost every interview I heard "I liked when the lights shut down and the grids show on the ground." Do you have an explanation for this?

**RFL:** Yes, that was a big surprise for me! Originally I expected the exact opposite: I thought the interlude was going to be this scary moment when all of the tracking mechanisms would



be revealed, creating an Orwellian environment that would make people aware that they were being scanned with predatory technology. I wanted something that would break the game of representation, like the Brecht play when all the actors stop suddenly and say "wait, this is only a play" and thus make people aware of themselves, of the theatre, of the whole artificiality of the construct. Instead, every time the grids came out people laughed and ran and often danced.

I think this happened because interacting with the portraits turned out to be quite an eerie experience—where someone you don't know was in your shadow making eye contact and maybe sending you kisses or waving or trying to tell you something or frowning at you. The portraits had a lot of power, they had agency, and they could be quite invasive. But during the interlude people were relieved from that gaze, they instead related to one another, to a more familiar situation. This is one of the things that I love about developing this kind of artwork: the piece is really out of my control and I can't predict how people will end up experiencing it.

NM: One of the issues raised by the public is related to how the work "puts them under the spot". Some people seemed to prefer the invisibility in public space. What are your thoughts on this?

RFL: It is especially interesting to me in the context of England because there is such an intensity of CCTV cameras and surveillance in public space. Really, Britain is at the forefront of surveillance to the degree that now we have normalized that and we have accepted it. And I think that if this piece causes a discomfort over these issues then that is a success. If it forces people to understand the degree and the insidiousness of this kind of technology, I think that is a positive thing. I have a statement, which is that my work asks: "What would happen if all surveillance cameras became projectors?" So instead of taking an image away and assuming suspicion they gave you images and they created a reality. To an extent, that is what we are trying to do here; we are trying to misuse surveillance technology to make something that will make it tangible; that this observation is at work.

There is something very literal about video-portraiture and portraiture in general. There also something very figurative or very metaphorical about it. The big question for me is: "How people occupy space?" I think the public space is in crisis. I think that this crisis comes from different urban phenomena and the most important one being 'globalisation'. The idea that buildings and public spaces no longer reflect or represent the character or the identity of people or the inhabitants but rather that it represents some sort of a corporate, global, trans-national, homogeneous ideal. Architects are trying to resolve one problem, which is how to build something most cheaply. Buildings in Leicester or in Mexico-City will be very similar to each other.

This kind of 'de-naturing' or 'homogenization' of features is very problematic, in my opinion, because it is setting up a 'disconnect' between people and their environment. So all of this to say: that the portraiture is a way of folding identity; it is a way of folding presence back into that alienating environment. What I am trying to do in this work is to take over public space and invite people to use it as a canvas and then most importantly 'self represent'. Here, you are kind of complicit with the whole artificiality of the construct and then you make your own choice of self-representation.

NM: In Under Scan, you used the video-portrait as a visual stimulus to produce interaction. Can you tell me a bit more on how the idea came about?

RFL: In 2001 I did a project called Body Movies where people could reveal still, photographic portraits within their shadow projected on a wall. The portraits were "every day" people taken on the streets by a team of photographers. The installation was very successful because passers-by would basically "animate" the stills by moving around and gesticulating. But I felt that the portraits did not have agency, they could not look back and be active. So Under Scan is an attempt to make the interactive experience more bi-directional. The people portrayed in Under Scan knew exactly what the project was about and they were free to do anything they wanted to self-represent as long as at one point they made eye contact with

the camera. Portraiture is a direct way of acting out identity. For me it is crucial to refer to it as “acting,” because self-representation done in a conscious way can be very theatrical and unnatural. I was interested in phantasmagorias, or ghost-like presences that would react to people in an intimate way.

NM: Why did you not use sound?

RFL: There have been some great interactive portraits by Luc Courchesne, Lynn Hershman, Tony Dove, Sharon Grace and others that talk back to you. One problem is that if portraits can talk it is reasonable to expect them to listen and understand you, and this level of simulation is not what I am good at.

I think sound is great. I often use sound in my installations, and in this one the choice not to use sound is an interesting one. What you really want is of course the sound to come from the portrait and then it would be amazing! (I am not 100% convinced about this.) I think there are two reasons: one of them is that we were projecting fourteen portraits at once; I wanted to avoid cacophony. If each one of those were talking to you and they are trying to engage you in that way, the piece would become a very loud kind of thing. It is ok if you had only one speaking or something like that but all fourteen would be noisy in a way. Plus, for Under Scan playback would have been a problem because what would work is for the sound to originate at the projection itself and technologically this was not easy to solve. (When someone is talking to you but in fact the sound is coming from the other end. It really doesn't make sense.) This disconnects between the presence and the voice coming from elsewhere was really disturbing.

In art history, except for the examples I just mentioned, portraits seldom talk. So in this case they didn't either. This added a certain distance, highlighting the ghost-like qualities of the project, the fact that this piece is in a way about loneliness. When people are portrayed you get this sense or this desire to communicate; some of the portraits are doing the sign language (we have two or three that are doing the sign language). We have a couple of people [in the portraits] pulled out little cards with writing on them. Others are speaking to you very slowly so that you can read their lips, and I like that. It is as though they are trying to bridge the distance that the piece creates. Of course, this failure to communicate was often intensely poetic.

NM: Do you think that sound has the potential to create interactive environments?

RFL: When you actually look at the sophistication of the language of the world of sound when you are talking about the world of technology, compared to the world of visuals, it is actually quite more advanced. The degree to which sound has been virtualized and digitized is more sophisticated than visuals. There is a long tradition of electro acoustics, of concrete music, of splicing, of mixing, of collage. I am very interested in ‘spatialization’ of sound and I think a piece like Under Scan could benefit from this. One of the things that I have looked at is a thing called the ‘audio spotlight’. The audio spotlight is a speaker-like machine. It sends a beam of sound. If you are outside of the beam you don't hear it and if you are in the beam you do. One way of adding sound to Under Scan would be to put on top of each projector a beam of sound. They are extremely expensive because they were just invented and then you would have the sounds coming from the portrait itself. So this idea of the embodiment of sound and the portrait would be substantially more satisfying. And I would have definitely have gone for it.

NM: What I find particularly interesting in your work is the way you approach the interface. It seems to me that there is an attempt in your work to look at the interface beyond its technical dimension more into the conceptual level. Can you tell me more about this?

RFL: The interface is central to interactive art because it is the platform for participation. I don't like to think of the interface as a window between two worlds—the view of it as inputs and outputs between the virtual and the real—but rather as a place where disparate realities co-exist and often relate. I tend to prefer intuitive or self-evident interfaces that just

disappear and don't need too much explanation, like a shadow. This adds theatricality to the pieces because already people have a sophisticated vocabulary of what can be done with a shadow. At the same time, I like to always have Brechtian moment where the simulations stop and people are asked to confront the mechanism for the deceit,—the periodic “interlude sequence” in the case of *Under Scan*.

NM: Is it fair to say that *Under Scan* is an elitist work? Some participants found it too complicated technically and others felt that the public information panels with historical references were too dense. Do people need to be familiar with Plato to fully engage in the work?

RFL: Reading Plato is absolutely not essential for the work. I saw 5 year-olds enjoying the piece and that makes me happy because to me an artwork should have multiple entry points: It should be able to appeal on different levels to different people. My decision to state philosophical and artistic precedents is because I like to connect the piece to debates and experiments that have been going on for ages. I don't like to emphasise that the work is “new” but rather the idea of ongoing research. If people don't care about research that is fine with me too, and I believe the work can engage on other levels too.

NM: I also felt children were amongst the most engaged participants, they just go there and they experiment with it instinctively.

RFL: Exactly! Children have fewer reservations in a social context. As we get older we are taught to maintain a physical and psychological space around people: if I am too close to you, you will be uncomfortable because you want your “living space”: people go out of their way to maintain that *lebensraum*. *Under Scan* challenges this concept of *lebensraum* because you are over the person in the video portrait and that is already charged politically, socially and sexually. So this makes adults feel very uncomfortable. Children don't have that to the same extent. They are like: “oh, there is somebody. I am going up to them!”

NM: There is a technical detail, which I have also observed. It is that the portraits don't match the size of the children so some of them had to call their parents to stand with them.

RFL: That is true. Yes, and I just saw it now actually. And the man was like: “ok, I will help you to cover this person”. Although that was really nice actually, what I just saw, because she had to call her dad and it was nice because they had to hug to cover the whole portrait. So, it has an interesting side.

NM: In your work, is there a particular perception or representation of the body you are trying to explore?

RFL: I am interested in the body as a performance—as a process of becoming, of change—and less interested in physiognomy, anatomy, forensics or physical ergonomics. I worked a lot with choreographers and dancers and I am sensitive to the idea that a body is always out of balance, always in motion, even when it is static. Especially in relation to the virtual where, as you know, virtual interfaces are always these monitors that force us to forget the body; you are kind of sitting there and you are completely distanced from it. In Virtual Reality it is even worse like when you are in this helmet, it is just completely ridiculous! My own body split which, in my opinion, should not be so prevalent.

When people uncover a portrait, they align themselves to it; there is a certain ‘puppetry’ that ensues, an embodiment of the representation. But this embodiment is in dynamic equilibrium, where the actors are suspended in an artificial dependency. If people don't use their body to match the representations, these disappear. Also, the glance back at you (the eye contact) that is crucial in this work because it is all about that relationship between the two bodies.

NM: Does that also go further to question the relationship with architecture and the environment?

RFL: That is different. I have a cursory interest in architecture, especially when it involves utilitarian issues of permanence, symbolism or style. But architecture is understood more widely as comprising the architecture of social relations, of surveillance, of fleeting exceptions, then count me in. I have often said that my work is not "site-specific" but rather 'relationship-specific'. Contrary to many artists working in public space I am not trying to understand or criticise the underlying political, aesthetic or historical structures of a specific building, but rather I am seeking to explore the temporary micro-politics of relationships that emerge in an environment that dissimulates being something other than itself. That is why most of my pieces tour. I always look forward to seeing how the same platform will behave in a new architectural context.

NM: What is the potential for relationships between physical architecture and the virtual dimension?

RFL: I think every architect working today considers electronic media to be as fundamental and as inevitable as, say, an elevator. The impact that elevators had on architecture is evident, but what is or will be the impact of media? Hopefully not the so-called "intelligent buildings" that have been designed since the seventies! When architects speak of intelligent buildings, they mean using climate control subsystems that save energy, or fuzzy logic algorithms for the efficient dispatch and so on. An artist Emilio Lopez-Galiacho noted, this intelligence is always towards the inside of the building and deployed in order to optimise worker output. My hope is that we can see what media theorist Derrick de Kerckhove calls "connective intelligence" and can ask ourselves how a building can be connected to the outside, to people, to other buildings, to other stories. Clearly, at any given point disparate realities coexist and I think there are some fascinating architects and artists who are working in interfacing these. The field of architecture is evolving into understanding itself as a processor of all these different connections. Architects are collaborating with media artists, and technologists to make their buildings respond to our reality.

NM: Many of your installations deal with a very specific spatial/ architectural element: the threshold. I understand what you already mentioned that you are not directly dealing with architectural elements but I am wondering if your choice of working in thresholds was that a deliberate choice? Do you think there is something interesting about threshold that is why you worked in such space quite often?

RFL: It is the capability to be in the 'interstices' of the built environment, or the social environment, or the cultural environment. I often said that my work is 'parasitic' because it takes a site and it is not like a construction onto itself. We take into consideration the site and work with it as a host, and we parasite around it. We use the notion of threshold in our interface. In this case, a threshold refers it is these moments of jumping from one to the other. It represents the moment when the virtual and the real overlap. (We have surveillance cameras and then every ten seconds all of a sudden it flips into 3D view of exactly that same representation as seen from the panoptic camera.) Threshold represents the little connections that are made between disparate planes of experience. I am interested in the effect: this irritation or questioning that is happening when you flip /displace a meaning and you put it in a new context. It is this friction is what causes humour, or often it causes poetry to merge, in my opinion, sort of critical grounding to be able to deal with something. In my work, I try to work with thresholds to allow people to experience those disparate planes.

NM: In Lincoln, the square in which you exhibited your work is usually used by skateboarders. It seems that your installations have occupied their space. There is some sort of clash over the occupation of space. Do you have any views on this?

RFL: Every city should just pay a bit more attention to these guys and make places where they can do this really freely. I am most interested in eccentricity like I believe in 'exceptionalism'. The idea that something happening that is exceptional that is the idea of carnival; of a moment where the law is suspended or the normal routine gets a chance to rest. And this moment could be a moment of forensic, could be a moment of party, could be a moment of reflection but it is necessary. Every culture has them, every culture has them and our cities need them (especially because in the light of homogenization and CCTV cameras and all that) so I would say that the use of space is again all about optimising. I am a bit pessimistic about our world, I think that, sadly, our cities are becoming these machines of the production of the capital and that is all that matters. I am not saying that I have a solution to any of this but what I am saying that if I can disrupt a little bit that pattern of efficiency and speed.

NM: One final question: You previously talked a lot in your work about memory. It seems to have an importance in your work. Was memory present in Under Scan in particular?

RFL: Yes. Many years ago I read Francis Yates' "The Art of Memory" and really got into Giulio Camillo, Giordano Bruno, and the idea of memory as a place. But Under Scan was specifically not mnemonic: I decided that the portraits should be able to appear anywhere within the public space and in a way that was not repeatable. A video portrait captured a sequence in time, which in fact became a memory in our database; this memory was activated by passers-by who then shared an experience with a presence from another time. The memories were perpetrated, not preserved, as they played back differently depending on how they were triggered and engaged. Of course the reading is very different if it is a family triggering the portrait or a policeman or the recorded person himself or herself (which was very uncanny thing to see, by the way). The singularity comes not from the memory but from the way it is read and by whom.

## B.5.2. A Dialogue with Jose Carlos

Nottingham, 2006

*Note: This is the edited transcription of an interview which took place in Nottingham, United Kingdom, in March 2006, and which was with Jose Carlos (a good friend of Rafael and a digital video artist.) Since 1996, Jose Carlos worked with Gianni Toti (one of the first contributors in video art).*

NM: Can you tell me how you think of the work?

JC: I am still thinking about it because I read this panel that said: 'world's biggest interactive video art installation' instead of 'interactive installation' so I am trying to think how this connects with video art. And yes indeed, it is a mixture that I am still trying to understand. It is an interesting mixture of many things: first, if you know the project background and you know that these pieces [video images] were done by artists that are working from the region then this is interesting because it is much more collaborative work not only in the production but also in the setting itself; it doesn't work if there is no people (obviously you engage with some kind of emotional relationship with the images; that is perhaps something interesting). But also you start to think about the relationship as a power relationship and it is impressive in many ways: it is interesting to analyse the video art component of the piece itself. I don't think that Rafael has done video art; He may have done those massive installations or some other interactive installations and both kinds of installations are ones that actually engage participants. While what is interesting about this is that it is a mixture of interactive art which is really about engaging the moving image not just a vector or a still. And technically speaking it is amazing, for sure.

NM: Which projects did you see by the artist?

JC: This is the first time I see a real project of him. I have seen the documentation of the majority of his projects. Obviously, I saw the Sao Paulo Biennale [synaptic caguamas] is an amazing impressive installation. But this one is especially significant because usually the interesting thing about video is that it tries to tell a little story then when you mix it with interaction it becomes more interesting and gains new meanings. In the 1990s, when interactive work came up, you could give it up your own linear narrative structure. While in this piece, this kind of settings is really worth consideration, because it draws on this idea

of the 'nonlinearity'. It is not just a control thing of: 'I will choose this and that'. This is a much more open free situation when you just wonder around and then start to see and feel some things.

NM: How did you feel about this bit [the interlude?]

JC: Well this is amazing! Although I think it is a technical thing (it is just the calibration set up) but it is so interesting to see how people are amazed with this. For sure, this is another interpretation that people are always amazed with this kind of electronic vectors and lines and so on. Yes, I was also thinking about that and I think the reason is that this is very electronic in comparison to the images that are much more poetic in some way.

NM: Obviously it is very technically complex; it is electronic. What do you feel about the fact that you don't feel this complexity of technology? when you are standing there, you are just seeing the result of the portraits.

JC: Yes it is subtle in some way. I have seen how he did the project though and I understood the technical side a little bit, I do think that still it works, but sometimes it doesn't work so well for all the images because of the fact that the video is like little pieces that are being composed in real time so sometimes matching one with the other one is not so easy. I mean sometimes is not so understandable or it is much more artificial.

NM: What do you think of the fact that it is being held in a public space and not in a closed space?

JC: that is fundamental. I think that the big mistake of art, the big mistake of museums having to close their doors to people and to forget about the critical discourse. I think it is basic to engage people, not only to engage them to just have something playful, which is nice, but also engage them in a critical discourse. Actually, we are witnessing a change and now there are more possibilities in technology that people really take a real participation in certain things around society. And I think that museums should do that in some way. So yes for sure, I am completely in favour of doing this kind of things. But I still think that sometimes depends on who is in charge and who decides about the location of the project. For example, I think that the location here is a bit out from the main square (I think the main square is closed or something) but perhaps another more public place would have been different. I don't know if they choose the place or if they gave the place to Rafael. This place is ok, but I don't know if the people –although there is a lot of advertising on this – but I don't know if people are that interested in coming. You see, that is always a pity!

NM: You were talking about the society and things like that. Do you think this piece has a social dimension?

JC: For sure, for sure. It depends on who sees it and how you engage with it. The nice thing about kids is that they are fearless you see. They want to try everything. That is interesting. This is always the case. But when you analyse it critically or at least you wonder around. Perhaps you do want to analyse it critically or perhaps you just want to wonder around and feel that you are engaging in a dialogue with somebody that doesn't exist. And that is probably nice. That is poetic, and that is romantic. I do think that there are different ways of engaging this relationship between the artefact and the people. And this is interesting because really each person use their own way, there is an identity or there is a relationship between people that is being developed in this kind of dynamic temporary relationship. In this case, the relationship is very open. It is very poetic in some way. Could be analysed in critical ways in many ways. But there are other works that are much more specific, which doesn't mean that this one doesn't go to a certain point. I think it is interesting. It depends. I think it is an amazing piece. And technically speaking perhaps it is one of the most complex projects, which despite its complexity, it still arises to a simple installation, and this is interesting.

NM: How can you see works like this developing for future? Can you see a potential of the concept of having such interactive work in public spaces?

JC: Well we have been witnessing interactive installations for twenty years or even for fifteen years perhaps of interactive installations. There is really a lot of things a lot of rubbish in some way, a lot of things that didn't work or where just a part of the artist's ego that didn't express itself to the public. That is one of the crises about interactive art; I think that interactive art is still in a state of crisis but there are some people like Rafael and a few other artists that are really engaging interactive art as a public participation – which is the only way of doing it, I think, because if you are narcissist and just do the thing because it is trendy to do an interactive piece but there is no clear meaning or it is not easy to see, then ... because we have so many new technologies and this thing on the graphic user-interface and human-computer interaction has really developed so much and it is so much stupid to do things that are not clearly [...] there are many ideas that could understand what interactive is in many other ways. But I think for me interactive is public participation and that is very difficult but very important also.

NM: Do you think it has a dimension related to memory?

JC: I am not a specialist in cognition but for sure you engage into some kind of relationship with the image which is also what sometimes cinema or video art gives you. This brings me back to this thing about the mixture I was talking about; to think about it in other ways: first of course think about it as a little story and it is interactive and we can choose the pieces, but also, this is a subtle relation. This mix is interesting because there is a narrative (for instance when you see a movie you start engaging into a relationship) here, you are interested in this guy who didn't do anything and interested in other ones that is more subtle or funnier. Yes.

NM: Do you think sound would make a difference to it, any type of sound?

JC: I see it in 3 dimensions. Yes, for sure it could be an interesting dimension though it is less metaphoric because if we say there is a narrative (they are speaking for example, they just want to tell things, which is technically complicated as well because it is cut to pieces, so you should also cut the words into certain semantics, it is completely crazy. I don't know it is impossible, well not impossible but I can't image how it would be possible). It is a good question in some way because you can approach it in two ways: technically, and interactively it would make a big difference if the person were speaking. Let's say that we can produce certain semantic relationships, it would not be as metaphoric as it is just the image without any sound without any kind of speech. If it is sound, I don't think it would make a difference if there is some kind of ambience. I think it is better if there is nothing so that you can concentrate on your own relationship with the image. Then you are just in an image context; there are no words, there is no speech: well words and speech or even a text. Probably this would be the same result, running the text instead of the person speaking would not make that much difference to what you will understand. Though here it is an open space, if you want to engage into a relationship through talking, the public space is not the right space. You need a much more intimate environment. I remember a woman, a friend of mine, who actually recently has done a selection of works from video. And she did small boxes in which the people came in so they are really engaging with the work; she didn't like the idea of just having a lot of monitor or something. So yes, it is interesting because it depends on the kind of relationship you want to engage with the image. For example, you will need some kind of infrared workout on this, instead of having this white light, to just have the dark atmosphere, I think that it could be much more...

– End of interview –

NM: In the next pieces, are they also going to be projected onto public spaces as well?

IB: Yes

NM: And is it going to be a frequented area like here? The reason I am asking you this is because in Lincoln the piece was a located in quite a remote site, wasn't it?

IB: Yes, in Lincoln. It was a bit funny in Lincoln! Because there wasn't really anywhere suitable for it – I think Rafael wanted it actually around the cathedral – but it wasn't ideal because of the surface there was a bit old and dark really, so the university was the best surface. But obviously, it is a bit out of the way, but it was a good opportunity for Lincoln to try to encourage people to go down there really so it worked well for them, it worked well for us. But in Northampton, it is going to be in the Market Square; in Nottingham, it is outside the Magistrate Court; there are quite a few bars and restaurants down there. And in derby, it is outside the Assembly Rooms which is again [...] you have got bars and clubs all around it, so it is the sort of place where people walk through quite regularly. It should be quite good!

NM: I didn't see this screen in Lincoln. Did you have it there?

[Pointing at the screen which shows a simulation of site] IB: Yes, we did, near the end of the week. Yes. It was a different format to this. But yes, it was there.

Nadia: and are you going to keep in every installation?

IB: Yes, I suppose so. That is the idea. Yes.

Nadia: Because people are interacting with it a lot, you know.

IB: Yes

NM: They really want to see where they are on the screen. And then they try to test it; somebody goes and starts moving on site and his friends try to find and locate him/her on the screen

### B.5.3. A Dialogue with Ian Brame

Leicester, 2006

*Notes: This is the edited transcription of an interview which took place in Leicester, on the 21<sup>st</sup> of January 2006, with Ian Brame (the local technician). Brame stays in and manages the work when Rafael and his group are not around. He is managing the show most of the time so he can give a good insight on the work. Length of [recording]: 14 minutes and 20.9 seconds. [The Interview started with a question on how the installation works technically].*

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IB: It has got a reference image that it compares, you see, so it has saved in all the surroundings; so it knows that that is part of the structure but when it notices that something is different, for instance like those people there, [pointing at a group of people] it works that those must be people and it tracks them and then it projects images into their shadows.

NM: Are there any kind of sensors in there?

IB: I tell you what it is; there is one camera sitting up there [pointing at one of the cameras on the structure] and then it sends an image into a PC ...

[...]

NM: How is the work going in general and how did it go last week?

IB: It has gone all right, yes. It has not been too busy the last two nights, but last weekend it was quite busy, and I think that this has been the best out of the two that we have done so far. We are going to Northampton for next week, then to Nottingham and Derby and see how it goes in there. But I think it has done well here!



IB: Yes

NM: I was wondering about this switching which Rafael told me about; this flipping between the simulation and the real recordings it has just now started I think. [Showing the screen] Is that right?

IB: Yes, sometimes when I am up monitoring. Because that [pointing at the simulation on the screen] is a relay of the screen that I have got upstairs, so sometimes when it is black and white that is when I am monitoring it to check the levels [...] and the references etc.

NM: Ok, I see. So this is the reflection of a technical thing? Just like the interval with the grid. Is that right?

IB: Yes

NM: So what are you exactly involved in?

IB: I am actually the technician that [manages] the show and [...] productions. Because obviously when Rafael and his group are away you are going to need somebody here to make sure everything runs smoothly and [to keep under control. So, that is my job basically.

NM: Did you have any technical problems this week?

IB: There has been few. Well there was one issue, when Conroy from Canada [...]. But nothing major really, just few small little things that you would expect anyway.

NM: What sort of things?

IB: just slight little things, like when computer restarts or stop, and little things like that. Anyway, when you are working with all these technologies, it is not going to be all hundred percent all the time.

NM: So Rafael's group comes here, they set the times and they leave it to you for the rest of the week. Is that how it works?

IB: Eh, pretty much. like in Northampton, when [...] we are going to start bringing it in on a Sunday; we will put the lights and the trussing and the programs; and then the programmers will get there probably by Monday or Tuesday; and they will program all the movements and work out all the calibrations and they will try to work out where the portraits need to go. And once those are finished, they will probably program them till the opening night; this should be Friday. And then they will probably stay until Saturday night and then go back to Canada. And then I myself or one of our guys will [take care of it]

NM: I am just wondering about the intensity of engagement or the number of people; does it differ from day to day.

IB: Yes. And also, I mean, generally at six o'clock [6:00 pm.], when it first starts, it is busy. But it does depend on what day. For instance, mid-week- on a day like Wednesday time, it does turn off about nine o'clock [9:00 pm.] because there is not many people about, there is still fair few people but not as many as on Friday night or on Saturday night or like in peak times.

NM: So the peak times are Friday and Saturday?

IB: Yes, generally, because there are more people out on Friday and Saturday, because it would be in the weekend.

NM: Do you think this is just because there are many people in the area anyway? Or is it because people come specifically to see it on these two days?

IB: Eh, I think it is a mixture between either the people who are walking through and stop or people who come down to see it. Because obviously, more people are likely to come and see it in the weekend – because they have more time off or whatever – but it has been a good turn all through the week I think. It is only at midweek that it just drops a little bit.

NM: How about Lincoln? Was it the same also in Fridays and Saturdays?

IB: Pretty much, yes. We do have a lot of students in Lincoln; obviously, we were working around the university. But yes, it follows the same sorts of patterns.

NM: and when you don't have any more people after nine o'clock, do you turn it off?

IB: No, it carries on going because people do tend to come. Like there are groups of four or five people who come all the way through and right up till the end most nights so we would keep it open for them.

NM: How did you find it yourself, was it as you expected?

IB: Eh, I think... I didn't know what to expect to be honest because x and I have been working on this project for so long now that we had all got used to it. And then when we saw it, it was like: 'ok, yes, that is what we thought it was going to be!' So yes, it was a bit different because it wasn't like I was seeing [...] or leaflets or whatever; it weren't like 'guess what it is going to be like?' We actually worked intensely on it. So I think overall it was what we expected.

NM: what do you know about how people responded, in terms of liking it or not?

IB: Eh, every person is different to be honest. You get different reactions depending on what the people are; some people have got a lot of time for it; other people think that this is just a waste of time or a waste of money. It is interesting to see what they think!

NM: Anything else you would like to add about the work?

IB: Eh, it is a shame that it couldn't be done in the summer! But it wouldn't be practical in the summer because obviously the whole piece evolves around light and dark so it has to be done during the day. But this is a shame, because obviously in the summer it doesn't get dark properly until eleven or twelve so you wouldn't be able to start until then, and then it starts getting light again around four o'clock. So, there is just no time to do it!

NM: Yes, you are right actually. In this case, it could only be done for a couple of hours at night so.

IB: Yes. But people wouldn't turn out at that sort of time, so...

NM: How was the reaction to it in general? Some people where talking that it is too expensive – I am just wondering if you have any idea on how it was generally perceived on the level of the city, both in Lincoln and in Leicester.

IB: Eh, in Lincoln: over all, I think most people liked it, from what I saw. The people who didn't (sort of) like it where more just like students types who were just like walking through, and didn't really take the time to actually understand what it was about. They just didn't have time for it. They just thought it is a waste of time; they couldn't be bothered to actually stay and work out what was going on to them. But the normal public, I think they were all – because obviously of what or where it was – there was more people who would come down to see it so they got a better outlook when they got there. Whereas here, it has been I would say: a lot more people just passing through it, so it has been more (just like) general people that haven't necessarily heard about the piece, that come but not just come to see it, which is how you get more of varied reactions I suppose!

NM: From what I saw, a lot of people don't really understand how they should play with it. Is that something that you sort of know how you are going to go about? Most people I talked to expressed that they didn't really understand it. I had the feeling that many of them just can't be bothered to go to the posters and read ...etc.

IB: Eh, yes. I think that it is a shame that this happens. But it is quite funny to watch to be honest! I don't think that there is a problem with that because the whole point about the piece is that somebody appears in their shadows. So if they think about it and they put their shadow over the image then that is when it comes to live. So it is probably more a failure on the person's part rather than on the piece's part to be honest. I think it is achieving what it is set up to achieve

NM: How does it look like from above? You know, you are sitting for a long time watching it. How does it really look like, or feel like from that point of view?

IB: It is really interesting. Because obviously, you can see all of what is happening at one point. It is interesting to see the different people and how they react to it. It is interesting to see how the little kids running from piece to piece trying to [get the portraits]; the old couples tend to slightly stand back taking all in. It is interesting. Good to have that view point.

NM: Are there any patterns of behaviour that you have observed all this time; like patterns repeating when people come together or so?

IB: The smaller kids, as I said, tend to run: running to other people's images and stand over it and then, because they would always stand in the right place [...], so they look for another one in front of that and run to that as well. The younger (like the mid-teens) tend to quite [strut] really like stand on them when they appear and stuff like that. But ADULTS tend to, well it is varied again, but some people get quite freaked out about it, by the fact that somebody appears and then starts waving at them or whatever. But others: like this person is just taking it slow, taking a walk to experience it.

NM: It must be more obvious to you from above how a lot of people you know gather up or scatter. You know when you look at the body of the audience as a whole, what do you see? And is there logic behind it as to why too many people come together at some point and then other times they disperse?

IB: I think it is just 'human instinct' because I think the more people that are standing at one space are obviously the more people are going to come and join them. It is just 'human curiosity'. If you see a lot of people standing and looking at something, then you are going to go over there and try to work out what they are looking at. So obviously this, if at any point there is nobody on the piece, then that is when there is not likely to be a big crowd on because it takes a while to build up again. But when it starts at six o'clock, obviously the town centre is quite busy still, with people just doing their shopping so they tend to stop; and that is when you get the big build up: they stop; and see other people that stop and join in and wonder around and see what is happening; that is why, because obviously, only fourteen images can get through at one time. More people stop because they haven't got an image so they stop to get an image, and then they like it, and then they stay a bit longer, until you get a bit more and more people arriving and so on.

NM: Did you notice any pattern of in grouping, moving or gathering of people. For instance, are people gathering in groups with a certain number or are they scattered?

IB: During the busy period, yes there tends to be like groups of three or four people, standing together in groups over one portrait, because there are only fourteen portraits so obviously not everyone is getting one. So they tend to wonder around; wondering around portrait. But apart from that I am can't think of anything now.

[Interrupted by looking at a group of four or five teenagers jumping and stepping over the portrait, beating it and laughing]

IB: See what I mean?

NM: That is what all the teenagers are doing that is how they respond to the portrait they simply start stepping at it and beating it. One more question, you don't always have the fourteen portraits projected at the same time. Do you?

IB: Eh, potentially it could happen, yes. I think most of them are on at the moment [Trying to look at them and check]. There is one there; most of these ones down there are there.

NM: Ok. Well, anything you would like to add?

IB: No. I think we pretty much covered it all. Didn't we?

NM: I think so. Thanks a lot. I will probably see you in the next show as I will be touring with you to study the work.

NM: Ok, thanks.

– End of interview –

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### B.5.4. Sample Interview from the Public

Lincoln, 2006

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*This interview was held on Saturday the 3rd of December 2005 in Lincoln – Bradford campus where the Under Scan installation took place.*

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Interviewer: How did you find this installation?

Respondent 1: I thought it would be more predictive. I thought that it was going to 'magically' appear in your shadow. So, I was disappointed that you could see them if you're not near them. What is actually happening is this: people are actually seeing them and then walking to them and then seeing if they interact with them or discover what they do. But I was expecting to walk around, and then for them to appear in the shadow; that is how I understood the explanation I have been given, so it could be my mistake. But I think actually the most exciting moment that people seem to be enjoying is when it shuts down, and the grid appears, and the cameras relocate to the next set of portraits and then fill up the centre because that is like an activity; there is an impact, or an event, or something, and [people] go: 'ooh!'. That is interesting! Yes, and then I think it is a slow contemplative piece, but people are coming expecting something more, so there is definitely, for me, a feeling of disappointment! I think if it had been presented to me as a contemplative piece where I was going into a quiet area just to possibly encounter, I would be interested to approach it in that way. But this way, I came expecting 'magic'! I have heard him speak. He is a fantastic man. I really think his work is marvellous. I have looked it online. I have seen him present it in lectures. So I am not arguing with his work or his abilities rather the reverse; just that I think this is still finding the way to be working well; I think it isn't working well at the moment.

I: Are you familiar with this space at all?

R1: Not at all. I have never been here before.

I: Because it would have been interesting to see if you found a difference in the space with or without the work.

R1: I can see it is a walkway. But I think they will have difficulty to get people in the city to cross and come here.

Respondent2: It is a very bad space; it is really hard to find!

R1: There is no signage; no... nothing! Online, on the website, it doesn't even tell you the street name. And you know we came from another city to see this, so ...

I: Would you think that this piece may affect your memory of this space, if you come again in the future. Will you remember this in association with the space?

R1: Yes, but not significantly; not different from encountering any random event or person in a place. I don't think it is going to make me feel 'nostalgic' or, 'special' about this space and ...

R2: I think it will be more the disappointment, to be honest, if I remember anything then it will be that!

R1: Maybe later it is busier and there is more feeling of activity and interest between people and the work, but at the moment...

R2: yes, it is a dead space; it feels dead now.

R1: it feels less, not more!

I: Yes. There are peak times. It really depends; sometimes it is really busy and sometimes not; but this is how public space is, isn't it?

R1: Of course, yes. I really like the one where he projects onto the wall and people find the portraits on the wall and then also use their shadows with each other in interaction,

and comedy; great inventiveness! And I think that was wonderful! I expected something in that standard of interactivity really. I couldn't understand how it was going to work, which is one of the reasons I have [...]. But I don't think it's here in this setting. The interactivity between you and the portraits is not working the way it was explained; they disappear even if you stand there; they don't necessarily move on to the three sections (I know each portrait has three sections). And even though you are there, it will go when you have only momentarily been in the last section. So, those kinds of things I don't understand why it is different to the explanation.

R2: And the filmed portraits are way too dark so you don't have any sense of engaging with the people; they are like 'ghostly' presence not real people at all; they are too pale on the ...

R1: I don't mind that as much as you do because it is like a shadow. It is not real!

R2: that, it makes less impact.

R1: I don't want it to be Disney! I don't mind that.

R2: No, in some of them you can barely see the people. You see what I mean?

R1: Yeah, some of them are too dark. But, I don't mind them not being brighter!

I: How did you find the portraits as a stimulus: as a visual stimulus?

R1: I think, again, there are limited numbers of things that people [in the portrait] can do to great you lying on the ground. And I think I might have seen most of them [laughing]; I have that feeling. I don't have a feeling of: 'Ooh, what else could I discover'. And I think the lying down is a problem; that is part of the problem; the fact that they have to be lying down because they are going to be projected on the floor, whereas, I think let's say, if they could jump even or turn right over – maybe somebody has done that, I don't know – I know that one man was bouncing back on his bottom, but that was in the lecture, I haven't seen it here.

I: There were few people here also lying on the floor trying match their shadows to the portraits.

R1: Oh right. Oh that is nice! I saw a girl doing the arms and I did try that thing...

I: Yes. It seems that the children are actually making the best of it here, don't you think? While in the 'Body Movies', everyone was acting crazy

R1: Yes. And you could interact with the people you didn't know, which was very funny! Because people would also sit and watch (they were sitting and watching) there is a lovely wall here where you could sit and watch but there is nothing really to watch whereas in those [Body Movies] projections, passive audience could enjoy the activity that was being created by audience, and I think that was really wonderful. You know, I saw pictures of [Body Movies] where one little person who was standing far away and a person who was standing much near the projector with a big shadow/ and the big person is going: "Duh, Duh, and Duh!" with the little person [imitating interactive movements from 'Body Movies' installation]. And I think that is lovely, you know; they don't know each other. And I think releasing the capacity for that was 'magic'! And it isn't here.

R2: There is an expectation going into there telling people: "look, if you move towards him [the portrait] then he would move, but then he didn't, and then he did, but he moved because actually that is what the film does, they didn't move because they [participants] did anything!

R1: They don't feel in control or in engagement with the portrait

R2: Well, but that is not interaction!

R1: No, it is not. It is a 'switch'; you are a 'switch'!

I: Did you not feel like you were getting feedback from the portrait?

R1: No, I felt like a 'switch', not like an 'exchange'; it is very different.

I: some people suggested that it might be better with a sound, what do you think?

R1: I don't mind. I am happy without sound. Yeah. You can bring headphones and music if you want I guess, [Laughing]. But no don't need. I actually prefer not; I like my own head! [Laughing]

I: Anything more you would like to add?

R1: Well, I don't want to be discouraging to him. I want to be open with my feedback but I am not critical of him or his invention and his work. Because I am sure he will review this and then develop it and it will find a way to be, because potentially, it is lovely and very interesting. but I just think perhaps he hasn't found the form yet for it to be. I really like his work; I like the principles through which he works and what he is searching for to interact with his audience in a way that gives ownership equally to that audience; I think these are very, very hard things to do. And I admire him for trying to explore that, and I don't mind that he is learning as well as making.

I: Can you see a potential for something like that in the future in architectural spaces?

R1: Oh definitely. Oh, absolutely! I think it will be there, oh yes. Absolutely! We will be walking along spaces that talk to us or show us things as we move, connect us to things that we're passing, remind us of things that were once present. It will be on the sides of building, through the windows of buildings; it will be that way, absolutely. I mean it already is in many settings!

R2: The difference is you see: You think that is a nice, I think that is a nightmare!

R1: It won't be everywhere literally, but it will be possible.

I: That is a good point, is this good or a bad thing?

R2: I don't want to be talked to!

R1: Well, there you are, now, look [pointing at the cinema across the river]: 'Odeon, Odeon, Odeon!' [Pointing at the river]: 'PARTY BOAT, PARTY BOAT, PARTY BOAT, PARTY BOAT!'

R2: I think one of the problems with public space is that: People have forgotten that one of the points of public space is that you can be private in it. That you can be anonymous in it...

R1: If you want to be private you go home!

R2: there is an Edgar Allan Poe story called 'The Man in the Crowd]' which is all about the invisibility of people in an urban context, and it is a very powerful thing...

R1: But they aren't going to be any less invisible in an orated public space! They are really not!

R2: What was this film that we saw – was it called 'Minority Report' – where there are adverts that talk to you. And I just think that we are heading to a really unpleasant place, eventually!

R1: I don't think so. No, because people will filter that in the same way they filter billboards and TV adverts. People are clever you know. It won't matter!

I: So, do you feel this piece is similar to the 'Minority Report'?

R2: No, because first of all, it is very small scale. Secondly, you choose to come here. And thirdly, it is not very well done. So, it doesn't have an impact on you. I agree with everything C. said about his work and so on. But this piece does not work. It doesn't exist. Flat: it doesn't work! –I think. And so no it is not like 'Minority Report' because it doesn't work. But I think it wouldn't be even then, if you choose to come here; it is not trying to sell you something; it has got a whole different set of meanings and values to it and so on.

I: How long have you been here, interacting with the space?

R2: About half an hour

R1: Half an hour

R2: but it is partly because we drove down to get to here, so you kind of think: "oh I came all this way!"

R1: But our son was ready to go after 15 minutes, I think.

I: Well I won't keep you longer. Anything else you would like to say about the piece?

R1: I think that we have probably used enough of your recorder

I: Thank you very much.

R1: Bye

- *End of interview* -

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## B.6. Images from Under Scan



*Figure 18 Participants Interacting with video-portraits in Lincoln*





Figure 19 Interactions with video-portraits in Under Scan



Figure 20 Interactions with the Interlude

## B.7. Interpretation

Figures below demonstrate how data was compared, organized, and discussed in relation to the research question. In the interpretation phase, the mapping process reported that activities in Under Scan depended on the participants' age and on the difference in projection setting between the video portraiture and the interlude. Older people took a contemplative (observer) role, while younger adults and children were more playful and engaged with, and curious about, the piece. Users' behaviour and interactivity changed when the grid was projected during the interlude.

## B.7.1. Interpreting Data

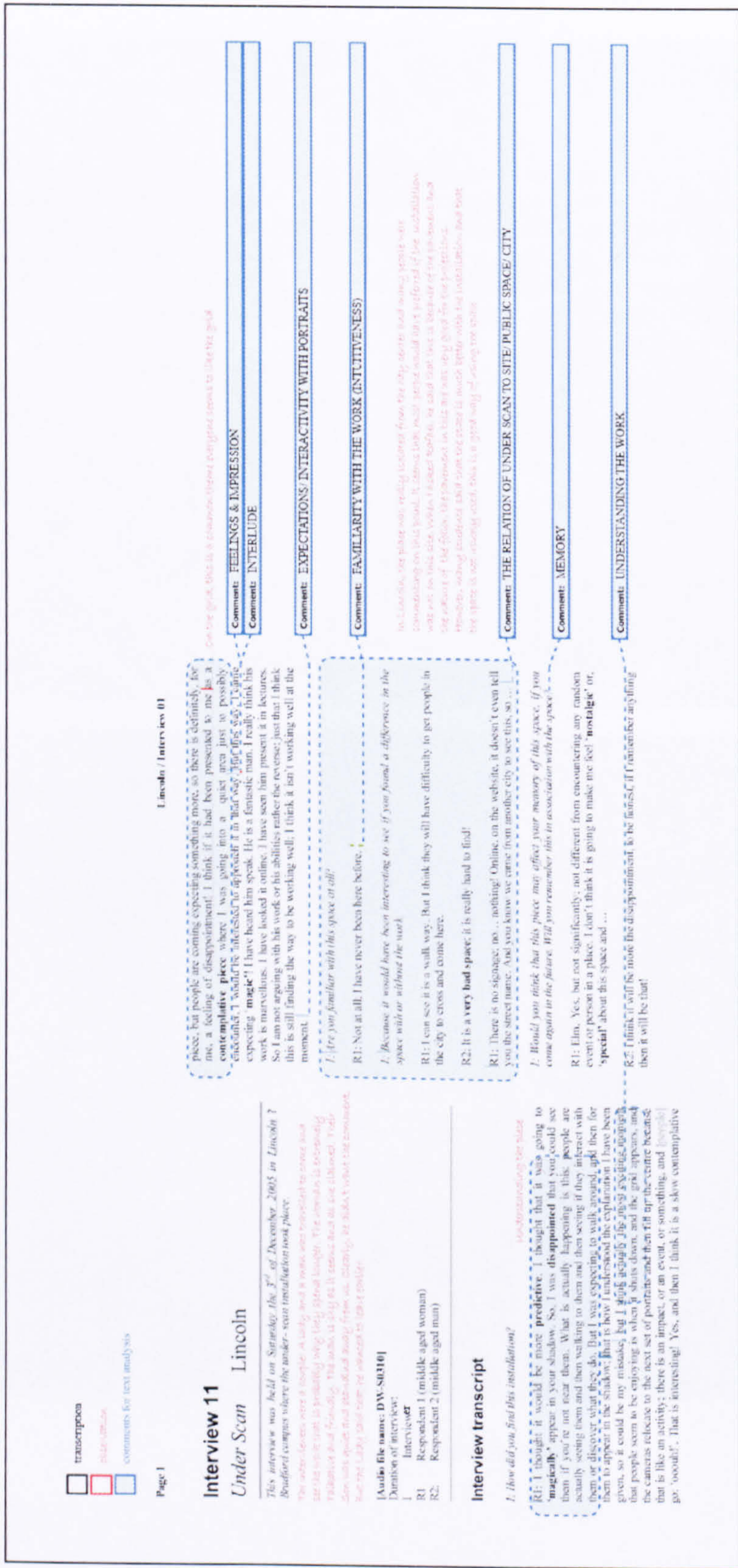


Figure 21 Interview analysis

The image demonstrates the process of transcribing the interviews, then analysing the text to relate it to the main themes of the research. The most important ideas are highlighted in light blue and sometimes summarised. The image also demonstrates some notes, which I recorded in red colour during the interview or on site.

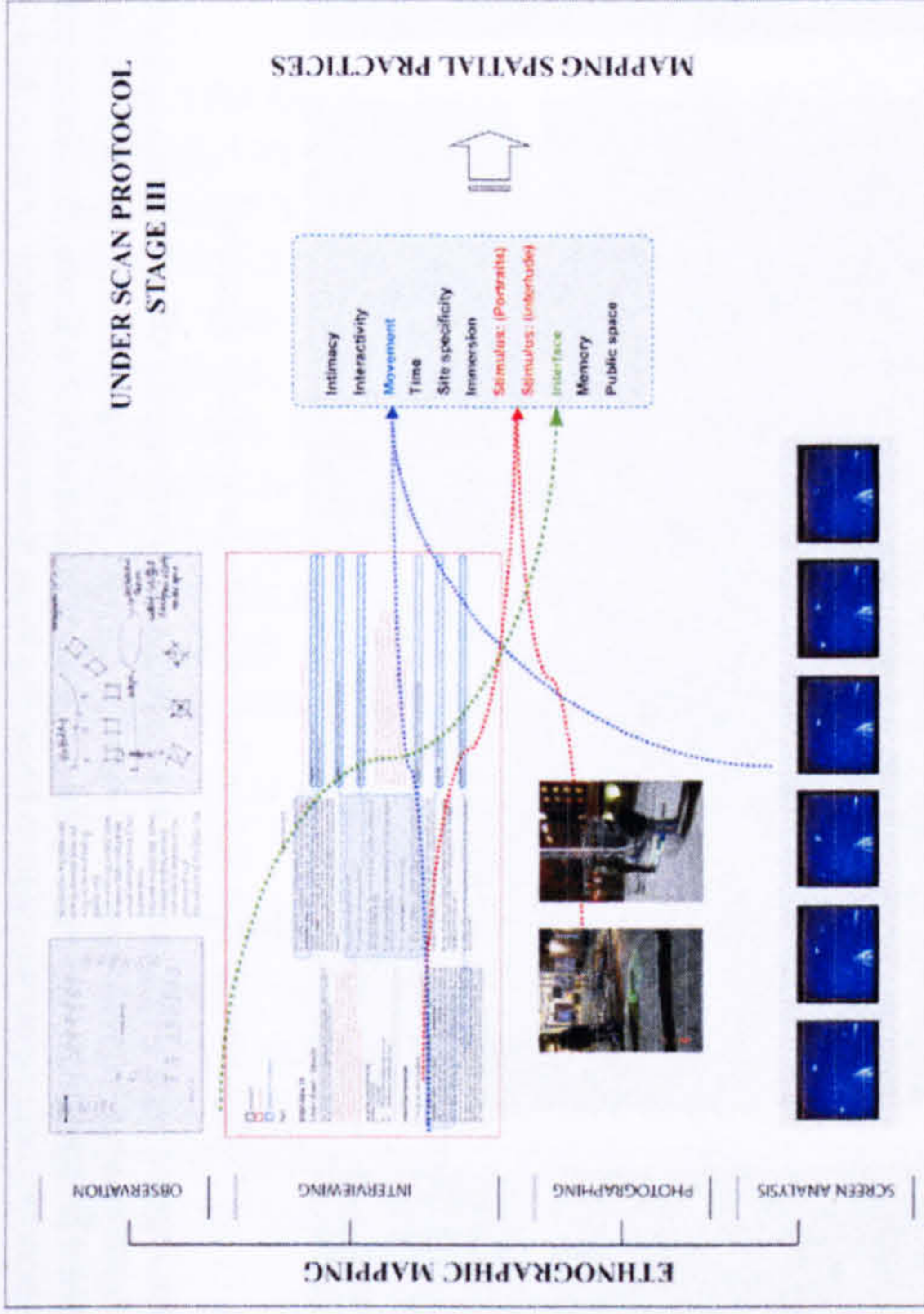


Figure 22 Interpretation of different data and findings in Under Scan

Images show a general overview of the ethnographic mapping process in Under Scan leading to analysis. It illustrates the different ethnographic methods of observation, interviewing, and interpretation.

### B.7.2. The Surveillance Camera Inverted

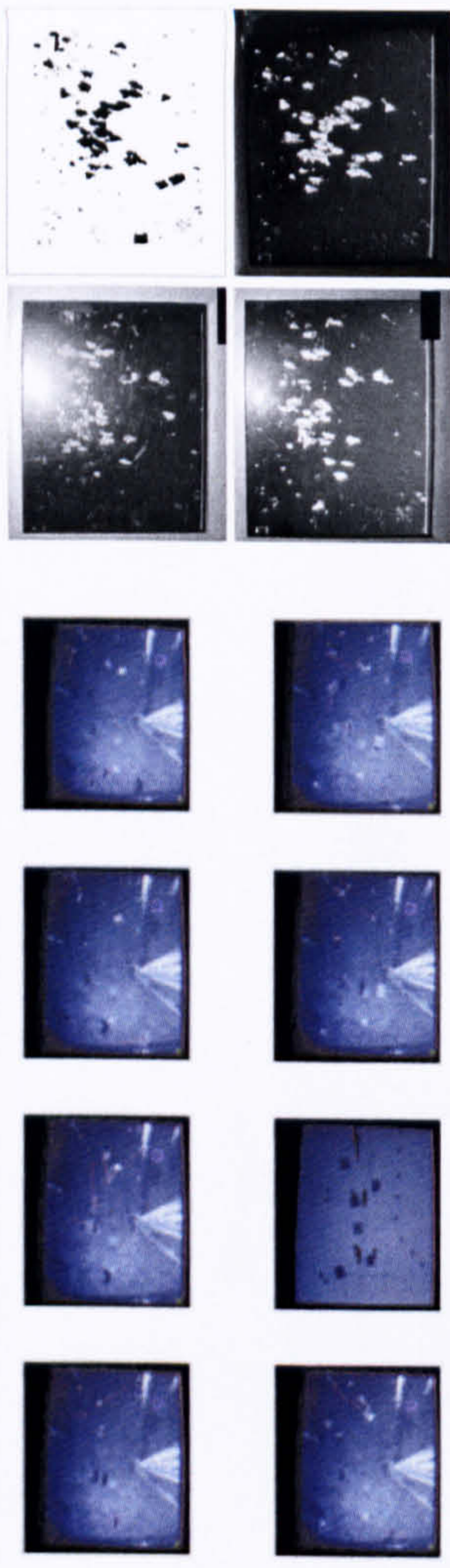


Figure 23 The surveillance camera as data source

Under Scan, Nottingham, March 10, 2006. Three sequence images were photographed from a monitor for the display of surveillance system. The artist shows these real images captured from the cameras surveillance of the site. Those were real-time images taken from above by a surveillance camera and projected onto an exhibited screen. The bright spots on the pavement reflecting the video portraits in action; the different silhouettes also reflect people gathering around the portraits or scattered in the space. This forms data from the video feed and then showing it in 3D. To position the portraits accurately we need to know the three dimensional location of the actual projectors

### B.7.3. Interviews with the Public

Compiled by Nadia Mounajjed

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*Essay published in Under Scan, by Rafael-Lozano Hemmer, emda and Antimodular: Italy, 2007.*

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*Under Scan* was exhibited in different spaces in the United Kingdom during a five-month period, in winter 2005-2006. At that time, I carried out a close investigation of the project. I followed the installation in different contexts and cities and interviewed participants from all ages and categories (children, students and adults; women and men). This article aims to qualify and classify aspects of peoples' experiences and practices in the space of *Under Scan* –as expressed by the users of the installation. Here, I report findings, which were collected during the interviewing process.

Sixty interviews were made differing in depth and length (from 3 to 30 minutes). I interrogated participants on their individual and collective experiences. I wanted to know how they responded, felt and interacted with *Under Scan*. More specifically, I was keen to know what they thought of the different virtual settings which were projected during the installation, and if this changed their perception of the original space. Questions were designed thematically and focused on the following issues: socio-spatial practices (interactivity, movement, and social integration), the virtual setting (video portraiture/interlude) as well as questions on memory and time—or the duration of engagement. Interviewing was very useful for gathering key data, which conveyed the thoughts and feelings of people concerning the different aspects of the work. Feedback was generally constructive, and interviews were later transcribed and classified for further interpretation. The following discussion will illustrate people's views, interviews and expressions concerning the *Under Scan* project.

#### B.5.1. Public Space in Under Scan

In general, findings from the five cities confirmed that the *Under Scan* project improved the quality of spatial experience and the use of public space. On the one hand, few people argued that the installation allowed relating the users with public space by means of communication and digital technology as well as introducing interactivity and representation as part of our everyday spatial experiences. In this context, two young students argued:

"Nowadays, people sort of use images to communicate through video conferencing, emails ...etc. What this artist is doing is that he is questioning how we interact with each other through the media. I think he is sort of playing with us. Instead of meeting up with people, we are meeting with images of people, they act, they move and they talk like real things. So maybe, it is like a parody of meeting a real person in a public square – even if it is not with a real person".

"I think what is quite interesting is the self-representation of local people in a public space. This is something of an unusual/unexpected setting where it is not just any kind of projections but there is a reasoning behind these characters – of why they are there and what they are doing. But I am not sure people realize it. I think most public think that it is just fun!"

On the other hand, many users confirmed that the installation has changed their perception of the site; for these people, the space became 'friendlier', 'livelier', more intimate and inviting. One person in Leicester told me: *'I think it is much better now. I think it is lively; Leicester was not like this before! It was only for pubs and nightclubs but now it is ordinary public that are around. This was not the case before. So, I think it is good, good for the city!'* In Lincoln, the installation was set up on the threshold of one of the University buildings. I talked to a lady there who also confirmed that *Under Scan* changed the site. She said: *'It is*

*obviously located in the entrance – which is an outside/inside space. Normally, this is just an empty space that people would walk through or sit in ... But now, this installation is bridging this area. It has become busier. It brings people to the building in that respect.* Another participant from Leicester explained that she wouldn't normally come to the city centre by herself, but this was a good reason to walk to the square. She said:

"If one doesn't want to come in by oneself then it would be nice to have things like that. But walking through it, I think it is very interesting, it is unusual, I never heard of or seen anything like it. And I think it would be interesting later in the evening when people are coming from clubs and pubs, how they would interact with it."

*Under Scan* brought to light a new public playful activity and a practice that lies in-between gaming, art and the media. Users describe how they play with the portraits: *"We were trying to move around, trying to make ourselves bigger to cover the image. It is like we have become actors in a way, as we wander around interacting with it!"* One participant explains why this kind of work can actually invite for interactivity:

"It is nice. You can play with it. I am sure kids will love it and when you have art works in which you can interact, not just like a static paintings in modern galleries – which is often cool but it can be also quite boring sometimes and in this kind of stuff outside, it is good, I think it is nice."

Also, the piece revealed a social dimension. Some regarded it as a conversational piece—bringing people together from different ethnic groups, ages and background, and giving them something to talk about and play with. As a result, *'It made the space more social and more intimate for people to integrate socially'* as one participant said. He continued: *'It is beautiful; the space has become more users friendly. Perhaps, if these things weren't here then we wouldn't come.'* Another participant indicated:

"I think it might have social dimensions because it is changing some aspects of the social engagement in public space. People would not be here if it wasn't for this. So it needs something else not just the space. It needs something to bring people to the space; to get kids out in the space. I don't know what this is doing but people are still coming. Certainly tonight it is working!"

Another woman expressed that the piece allowed for more intimacy in public space, which is not always available nowadays, she argued:

"I found this really amazing because the interaction is very intimate. Suddenly, you are with a person who is looking at you, doing things to you or pointing at you. So, you feel really involved with it. I mean it is like an intimate moment. Not only that, but you feel complicity with the image because suddenly s/he is doing something at you and you are the only one who is really seeing it. It is demanding something from you. So, you feel involved really."

This moment of complicity, which the woman was describing, was clearly reflected in the behaviour, movements and activities of participants in response to *Under Scan*. The following section will discuss further the impact of *Under Scan* on socio-spatial practices.

### **B.5.2. Mapping Spatial Practices in *Under Scan***

Findings showed that the way people moved during the projections were different from normal behaviour in public space. The fact that the whole concept was centred on the idea of the shadow (lighting up and inviting for interactivity) can be directly linked to body movement. One participant in Lincoln said: *'I saw many people behaving and interacting differently with the piece through their bodies. This almost prescribes that rather than being a piece of art that affects your body movement because of it.... You know, that is just part of the interaction with it, I think.'* In Derby one participant told me:



"The space has obviously changed. Usually, it isn't used. I don't think there would normally be anybody here this time at night. The space has changed. Usually, we are down here without children. You wouldn't see children normally. But this gives them a reason to come. Doesn't it? ... I am glad it is being used for some artwork. If this weren't here, I would just walk through. There is no reason to stand here unless there was a market. The market is also good. I don't know which is better: the market or this? I think if this piece was selling olives then I would stay even longer..."

Indeed, several interviewees confirmed that the projections changed the general behaviour of passers-by – particularly body movement. I met a lady in Lincoln who said:

"Usually in concrete spaces like this one, you usually wander through. Normally you wouldn't walk through an area in Lincoln and do things that you do with your body generally. You wouldn't do that this time at night in a Saturday evening in Lincoln. Would you?"

Interactivity depended on a participant's age and on projection setting. Older people took a contemplative role (an observer role) – watching other people interacting – while younger adults and kids were more playful, engaged and curious about the piece. An old lady from Leicester explains this further: *'I did play a little bit and I probably would play with it a little bit more, but it is for younger people they would interact with it – not for an adult. I think the children are enjoying it... You see it is mainly children at the moment.'* But even having a contemplative behaviour is also enjoyable for some participants: *'I think it is really interesting to see how people perform when they see the shadows or how they move or how they interact with the shadows'*. On the other hand, peoples' behaviour also depended radically on the setting since the work included two settings: (1) the video portraiture and (2) the interlude.

#### **4.5.2.2. Interactivity with the Video Portraiture**

Interactivity with the portraits was the key issue behind the work. Most people interacted and played with the different characters in the portraits. During the projections of video portraiture, the act of mimicking the portrait and checking their response was the focus of their attention. One participant was explaining to me how the video portraiture stimulates interactivity:

"I was copying one myself. They do seem to be asking you to do something, don't they? Most of them are trying to get you involved. The movement that they do is quite funny really because I don't know what they were asked to do when they were being filmed. I mean a lot of them seem to be sort of asking for things. Somebody down there was taking photographs. Nobody was trying to frighten you!"

People appreciated the intuitiveness and spontaneity of the piece, one man was telling me: *'I like the spontaneity of the piece, so that when you are walking around upon it then people would do these different things.'* Other people thought that the filmed characters were quite interesting, yet intriguing at the same time. Like this young student who was expressing his reaction to the video portraits:

"What I don't get is that they are all there. And you have to come to them, but if they appear in your shadow then that would be a lot more shocking. But I don't know if they have the telepathy to detect shadows. It is obviously detecting something because it is supposed to react when you move on them, I like that, and I just wonder if there is more than that! 'Hello is there anyone there?' I thought the whole point was like a ghost thing, and he is undisturbed and you disturb it and then it goes: 'Help me, hello...!' That doesn't seem to be what is going on. It just seems completely random."

Actually, many people were wanting to communicate with the character in the video portraits, as one girl told me: *'I want the images to talk: "Hello!" One should have a conversation with it! I want it to do some good things but that would be too hard, I think'*. Moreover, the video

portraiture stimulated contemplation, awareness and curiosity for the people: one lady was telling me:

"You felt that they were seeing you as you were seeing them! That was quite strange really! Because we know that they are not, but we thought that. But I did say, now thinking about it, that they are all laid down for the actual in the video they take of them –I don't know how they do– but I think that they are all laying down anyway to start off with, when they actually put the whole thing together."

In the interviews, each participant was telling me about the characters they met in *Under Scan*. For example: *'There was a woman who was trying to get up and there was another one who was shouting'* or *'that girl is crazy with the hair'* or *'There was a man rubbing his back, He looked like he was dancing on the floor, and weaving; it was a bit of a Michael Jackson thing'*. One lady described the video portraits, which she saw:

"I haven't picked that one, I picked the one over there that did the tongue out at you when you are there they lied down but I haven't realised about the others. I didn't know that as you stand in front of them and cover with your shadow, then they kind of do things and then you should go".

Other people expressed their feelings when they saw the different characters. In Nottingham, one man told me: *'We had one that scared us because it stood up really suddenly. We had one that flashed at us. And there was a track with three. Some people didn't seem to do much.'* Another one said:

"There is one that was feeding something in her mouth, I didn't know what. At first I was quite shocked to find it was people. And it quite real as well if you are standing over them it is like they are there! And this portrait: he is angry – about what, I don't know! But it is cool."

However, the majority of people enjoyed the variety of the characters and tried to imitate them as one explained: *'we have done the rowing with one of the portraits over there! The guy was rowing and I rowed'*. Another participant explained her movement in response to the portrait: *'when you are playing with them then you would automatically move your head closer. I was behaving stupidly because I wanted to stand on them. I don't know why but when you see them it just brings out this feeling inside that you want to jump on them I don't know why.'*

Generally, observation and interviewing revealed a certain pattern of movement or behaviour as users approached the space. First, the participant would start looking; then shuffling; stopping; staring; standing on the portrait; mimicking the portrait's movements, talking to others and looking at it – at this point s/he was clearly engaged and became part of the installation. The portraits initiated conversations between participants; some were talking with the portrait or about it with others while interacting with it. The following is an extract of conversation between three young girls (*P1*, *P2* and *P3*) while playing with the portraits in Northampton:

"P1: These are fantastic. But there was this girl in the portrait; she wouldn't play with us anymore; she just went back to sleep again!

P3: This one is our favourite. He is quite cute!

P2: They are really good. But I thought it was going to be us!

P3: He switched off and went back to sleep again for a little while, but we only played with him a bit... Oh, here he is back again!

P1: She is really looking at us!

P3: That is a man. He is cute...

P1: No, it is a woman. I don't know what is going on, it is a girl!

P3: But I think it is a pretty boy..."

However, many users thought, at the start, that their images would be projected among the portraits. They expected a camera to film them and constantly project the images in real time. As one participant explained:

"Some people thought they might see themselves, which is again fun. Everybody is having fun with it and it is light-hearted... people would like it if it could transmit their image. If the camera was there and they transmitted your image, then that would be really good! But we don't know if it could work like that. That would be really good."

At the same time, the people who participated in the production were looking for themselves or for people they knew: *'I definitely haven't seen any one that we know yet. It might be a bit scary to see someone you know in the portraits. I think it can be disconcerting'* one man said. Another was looking for his own portrait because he was filmed previously for the projections:

"I am hunting to find me. It is taking ages. How long do people spend here looking for themselves? ... I would like to see myself in the floor. I have been filmed for this, and I have been waiting for being projected on the floor – thinking that I will be the lucky one. I need to go around and keep going round to find it. But, that is interesting!"

Yet, the most interesting interactions came from children. Kids would shout, jump and stamp on portraits as one boy told me: *'I like to jump on their heads; I go around and jump on all their heads!'* I talked to other children and got their views on the portraits. One child answered:

"It is nice. I am watching the spirits! I like the spirits. I think they should do some Christmassy ones... How do they do these movements? ... How do they make humans on there ... Do they go to bed and then they come on in the morning?"

However, many kids found their shadows to be smaller than the actual size of the portraits. The issue of size was twice noted in the interviews by parents, one woman told me: *'I have got my kids with me and their shadows aren't big enough so we had to stand with them to get the interaction. So, on little people it is not working'*. But even so, this did not affect the interactivity of the children. They still expressed as much interest and fascination with the video portraits. One girl told me:

"That one scared me. But I am not scared now ... but it is strange! You look at them and, in one way, they look like they are real people and then they disappear or they move or something and then they kind of pop up again. They look like they are real, and they see you doing that. It just feels like they are seeing me when they wake up and they suddenly start moving. They are real people! But they are not actually there but it is like they are. It is strange!"

#### **4.5.2.3 Interactivity within the Interlude**

In order to highlight the tracking system, the system was programmed to periodically stop the projections for a couple of minutes. During this period, the lights were shut down and a moving grid appeared on the floor: this in-between time is called 'the interlude'. Initially, the projection of portraits was intended to be the dominant part of the interaction, yet surprisingly, the interlude proved to be highly popular and enjoyable amongst the users, which was a surprising result. The artist relates this to the fact that the interlude allowed a breather or *"a moment when participants could suspend their engagement"* (Lozano-Hemmer, 2006).

In the interlude, the participants' behaviour switched from a calm/contemplative attitude to a more active and intuitive way of behaving. Users were running with the moving projection and the space suddenly came to life. People would give different names to this setting: they call it "scanning" or "grid". Someone else called it the 'check board', he told me: *'I like when it all gets dark and all the check board comes around and moves!'* Nonetheless, feedbacks reported that the interlude provided a more intimate and immersive experience for the users than the video portraiture setting. One participant argues:

"... All these grids become your reference of movement, so even if you are standing still you feel like swimming in the space and these grids dance around you. You feel like you are moving through the darkness. I don't know what he is trying to achieve with that but it is a very interesting approach".

This engagement with the interlude was intriguing to many. People compared it with the experience that was provided by the video portraiture setting, as one participant told me:

"I like the interlude bit; it is like the best bit, it is a really cool! I did find this bit when you suddenly go: 'Ooh!' This is interesting! And when it is like that and it is all around you, you do feel immersed. But with the little pockets [portraits] you don't. "

This was an even more interesting point for people who knew that the interlude was just an added part to the *Under Scan* setting.

"Just a video projection of a computer screen can have all that effect... It is frightening that most people like the interlude better! Because we don't have a history of video installation, we are behind Germany, we are behind North America in video installation and video work; we just don't get it, do we? You know that is why. Just put shining patterns of colours and things just like in traditional video projections style. Or projection of moving image on the floor with lots of patterns then people would like that. This installation is trying to say something more than that!"

It seems that the interlude provided an unusual experience for the people in public space, more than the video portraits. And perhaps this is the reason why most participants really liked it. The following quote is from another participant describing the interlude:

"I think actually the most exciting moment that people seem to be enjoying is when it shuts down, and the grid appears, and the cameras relocate to the next set of portraits and then fill up the centre because that is like an activity; there is an impact, or an event, or something, and people go: 'Ooh!'. That is interesting!"

I heard different people explaining their experience of the Interlude: *'I quite like the grid thing that comes zipping around!'* One participant said, and he continued: *'I like it when it all sorts of goes off and they have the lights where; the way that makes you feel, because it is very strange feeling. All I can say is that it is strange and weird. I think I will remember this feeling'*. The following quotes are few feedbacks on the interlude from Lincoln and Leicester:

"It was really good, pretty fun with all the lights and stuff ... and then they had all the squares and stuff. That felt really wicked because they were moving but you were not and it makes you sense that you should move but you are not actually moving. So, it is really exciting; you should come and try it!"

"...As soon as that light went out you get the whole effect! So you see it comes to life then. You see this bit. Wait... stand... Stay in one old place! Oh, there it is! Oh wait it comes back! You see that square, let's go!"

"That was pretty impressive! I think the interlude gets your attention then you kind of notice the rest of it as well. Because if you don't know that it is here, then you could just easily walk past it without noticing, and there were no signs directing people here, so..."

Also the interlude stimulated interesting conversation with people, I was talking to a little girl with her mother and the conversation conveyed the kid's fascination with the interlude:

\*Child: Oh...This is the scanning it is scanning!

Mother: My daughter has got a fascination with the grids when they happen. The video screen also intrigued us and we were trying to figure out where the images are going to appear. But this grid... the kids like it, they run with the lines.

Child: I like the way it moved around! Well, it is confusing; I try to run with the lines but it is too quick!"

Again, the children seemed to be the most involved in the interlude, a girl was telling me that the interlude was such an unusual experience, for her this was fascinating but also scary, she said:

"...And it is dead freaky, you know, when the squares start and it makes you dead dizzy when the squares comes and then if you follow the squares, it is like you just go round and round and this is strange. I like it so much, I wish I could be here all the time because this is really, really cool, and I wish to have it everywhere and things like that"

Generally, people enjoyed the two experiences offered by the video portraiture and the interlude. The video portraiture offered a more sophisticated experience for the users whilst the interlude was found to be more fascinating to people.

### **B.5.3. Memory in Under Scan**

Like many other works by Lozano-Hemmer, *Under Scan* carried some references to memory. Although the artist himself noted, in a previous interview, that this is not particularly a mnemonic piece (Lozano-Hemmer, 2006). However, the piece may be interpreted as a reflection on the anonymity, ephemerality and immateriality of the encounters in public spaces or '*rencontres*'— if we use Henri Lefebvre terminology. *Under Scan* became a representation of the memory of such encounters. A lady was arguing that "*Instead of meeting up with people we are meeting with images of people: they act, they move and they talk like real people, so maybe it is like a parody of meeting a real person in a public square*". The installation could be retained as a 'moment' in time to be recalled or re-presented, as one participant suggested: *I am a painter and I have taken some really fantastic pictures of my children with lights and patterns in the back. Now, I have got that on my camera. So, I might be able to use this in my paintings...*

Most users expressed that they would remember some aspects of the installation — particularly in relation to the characters filmed in the video portraiture: '*I will remember the concept of it and the portraits*', one participant said. Another lady explained:

"It is quite an intimate sort of experience. These persons, whatever they are giving you, it is not conditioned by anything material you just have a little bit of them. It has no beginning and no end. It is a representation of the ephemeral process in the memory – something like that I don't know how to explain it..."

Another participant interpreted the piece differently; his reading was that *Under Scan* symbolically made use of video portraiture to provide an interpretation of the nature of our existence. Through video representation of different human characters in public space, Rafael Lozano Hemmer succeeded in representing aspects of human life, and thus, contributed to collective memory:

"For me, this installation is a kind of representation of the memory. It is a kind of representation of how we remember things and how things are inside us. You know how memory works ... when you found each person ... all this kind of iceberg theory; of a lot of people behind the square or whatever place that they were."

#### **B.5.4. Time in Under Scan**

The installation had a temporality of its own in relation to the interlude. The interface was set up to switch to the interlude every 7.5 minutes. And I observed that some users developed a certain 'sense of time' in relation to this timeframe. What was particularly interesting, in this context, is that few people started thinking about time relatively linking it to the interlude. For instance, when they were asked how they would estimate the time they spent, some participants answered: "well, it reset twice since we arrived" or "is it on a timer?"

Additionally, time was considered as a measure of the involvement and engagement of users in *Under Scan*. I asked twenty people about the approximate duration of their experience and tried to evaluate how long people spent in the space of installation. Findings showed that the average duration that participants spent in *Under Scan* was around 21 minutes.

However, most of the interviewees stayed between (5-10 minutes) longer after they gave me their answers. As a result, I suggest the duration of experience to be around 25 minutes. Whilst the maximum time spent was 40 minutes from personal observation. But this does not mean that participants were all the time interacting with the piece, many were just standing or chatting to others. Also, one has to take into account the conditions of the space. The installation was set up outdoors and the weather at this time of year is very cold. In Derby, for example, everyone was associating leaving with being cold. Perhaps, if it were warmer they would stay longer. Also the time people spend depended on the fact that they are alone or accompanied—generally, they would stay longer to chat with others if they are coming in groups. One more issue is related to the day (mid week, or weekend). *Under Scan* is an evening event. So, during the weekends people are more relaxed I think they would stay longer.

A number of participants answered that they stayed longer than they thought; they estimated the duration of their experience as less than the actual time. This is further evidence of their concentration and engagement in the work.

#### **B.5.5. General Notes on Under Scan**

Generally, findings showed that most users expressed approval and enthusiasm for the work. However, it must be noted that I also had some critical feedback. A few responses were based on traditionalist preconceptions against digital artworks in public spaces as well as cost issues. More relevant to the topic of this discussion are the constructive comments, which were related to the design of the video portraiture as well as views on the interface and interactivity within *Under Scan*. I shall note some of these comments briefly as they may be considered for future developments of the piece or even in other similar interactive projects.

For instance, I talked to a few people who complained about the quality of projection. They wanted them to be clearer and described the video portraits as "too dark so you don't have any sense of engaging with the people; they are like 'ghostly' presence, not real people at all; they are too pale; in some of them, you can barely see the people". I believe that this may be due to the nature of the site floor as the artist suggested (Lozano-Hemmer & Hill (eds.), 2007). However, this point is particularly important as it poses broader question on the design of projections in relation to the architectural configurations of the site, and on the dual coexistence of the virtual versus the physical/real.

Furthermore, some participants thought that the video portraits were too short or too few. This uncovered a certain misunderstanding of the piece because *Under Scan* had a big archive of videos and was constantly changing the set of portraits. Indeed, a number of participants expressed their misunderstanding of the interactive aspect of *Under Scan*.

Sometimes, one would not see many people overlaying their shadows over the portraits. This was partly because they did not realise how they should interact with the piece – as one woman indicated: “...we didn’t realise at first that the people in the portraits were sensitive to our presence. So, we were kind of hoping that they would do something and wake up but then the artist said that if you cover it with your shadow then it would work.” I had a number of similar comments, like:

“Now I got more of the concept of what you need to do. Initially, I was just wandering around a little bit and a bit aimless and a little bit lost but I think that was part of the discovery as well that made it interesting than if it worked straight away. Perhaps you can put effort in what can work and how it can work.”

A frequent feedback from participants asked for the video portraits to be more stimulating, particularly when compared with the interlude. Whilst few others expressed that the work is better when it is delicately overlaid in public space. However, this is a significant point, which is worth consideration if the project hopes to create a more stimulating environment for the users in public space.

To conclude, this article examined how Under Scan enhanced public space. The work transformed the socio-spatial use of some places into sites for exchange, dialogue and intimate experiences. The installation provided creative lively ‘moments’ in the space of the city where the body would get engaged in new site narratives and unique experience. Users acted and interacted with each other and with the environment in enjoyable and playful encounters.





# Appendix C

## Threshold

By Nadia Mounajjed, Chengzhi Peng, Stephen Walker,  
Nick Bryan-Kinns and Jennifer G. Sheridan

June 2006  
September 2006

The Foyer, Queen Mary College  
University of London

# Appendix 1

## Table 1

Table 1: Description of the variables used in the analysis.

Variable  
Description

Age  
Age in years

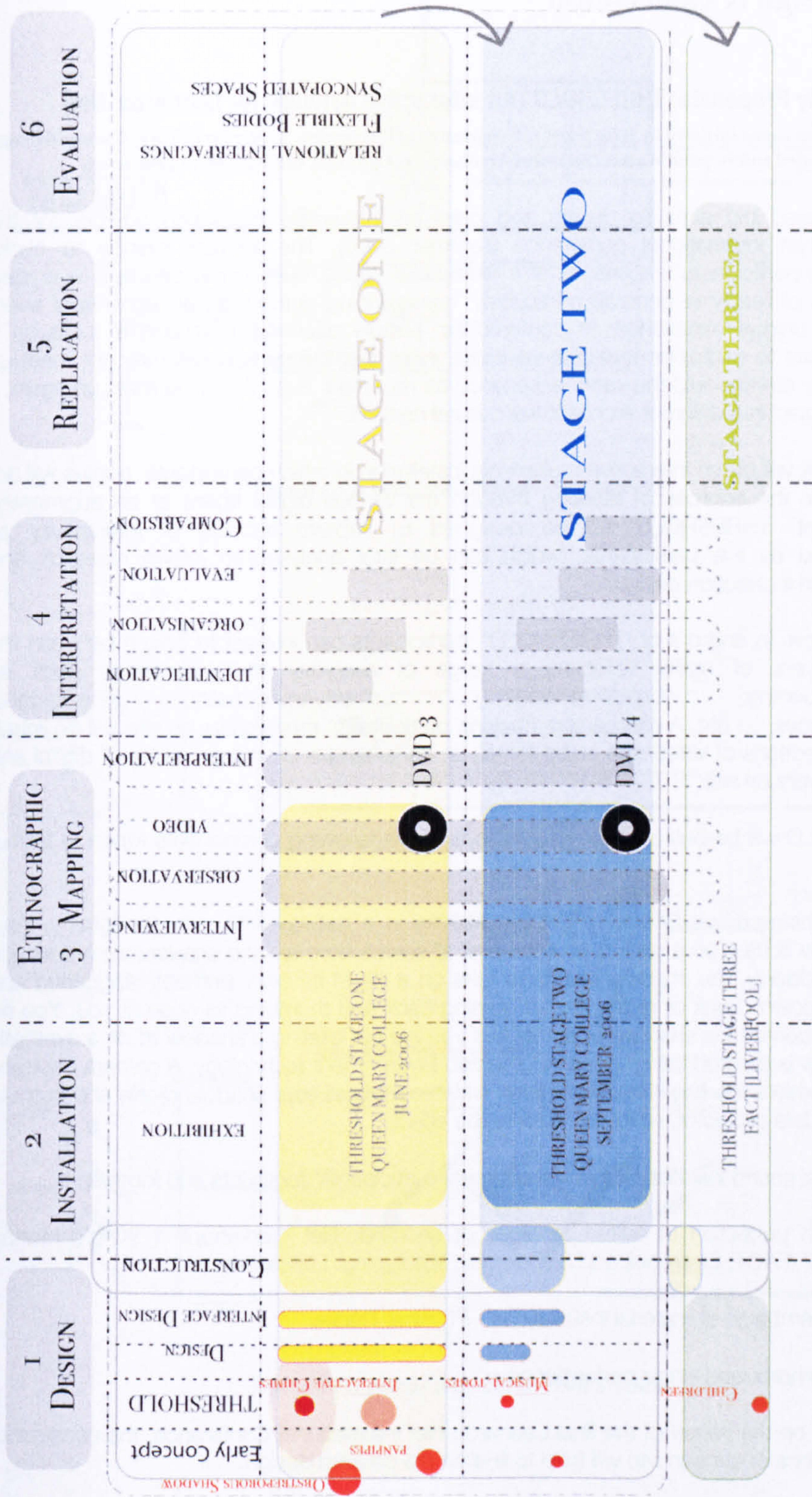


Figure 24 A plan for ethnographic mapping in Threshold

## C.1. Design & Conception

### C.1.1. Early Proposals: THRESHOLD (An Interactive Artwork for Leonardo-Net)

(A *Note for Discussion* initiated by John Mateer, Department of Electronics, University of York; Chengzhi Peng, Nadia Mounajjed and Stephen Walker, School of Architecture, University of Sheffield; 21 June 2005)

The proposed bid aims to design and build an interactive installation artwork for the Leonardo-Net international conference (summer 2006). The artwork intends to evoke conference participants' experience of a 'threshold' space, questioning people's (everyday) perception of reality in general, particularly 'conferencing activity' as an ephemeral event offering a unique experience. In conferences, people often gather round a topic on a particular site to exchange and discuss ideas. After this, the participants may not meet up again—very rarely would the same experience be repeated. Even if they do meet up again, it will be situated in a different architectural/cultural context.

The artwork will be an interactive multimedia installation in which participants' bodies will act or react as the sources of steering through the various digital layers of an augmented environment. THRESHOLD will be designed to capture aspects of interactivity as experienced by the participants, which can be later analysed to inform research and education in interaction design.

As they move in and out of 'THRESHOLD', participants can interact to switch between the various layers of reality reflecting a range of everyday life experiences such as arriving/departing, controlling/releasing, normality/abnormality, kinetic/static, origins/echoes, ... etc. A mechanism tracking participants' movements on site will be linked to the projections of video and audio footages, generating a changing overlay of digital and physical layers on site.

THRESHOLD will be built by a novel synthesis of the following components (open to further additions):

1. The Obstreperous Shadow. Imagine walking in a hallway with a bright lighting. Your shadow is cast on a wall to your left and all seems normal - the shadow moves as you do. Suddenly, the shadow seems to take on a life of its own, perhaps staggering and falling down drunk or racing ahead, turning back and thumbing its nose at you. You no longer control the shadow. In actual fact you are not casting a shadow at all; a synthetic shadow is created using Video Augmented Environment technology. A camera captures your motion, feeding it to a computer, which calculates your shadow profile and outputs it to a data projector, which completes the effect.
2. A digital sound installation that will augment participants' footprints and footstep'.
3. A video projection of edited footages of Leonardo-Net Workshops 1 (King's Manor, York), 2 (FACT, Liverpool) and 3 (Extreme Prototyping, Lancaster)
4. An assemblage of material installations - Physical Traces
5. Some improvised stage performance

Depending on the venue of the final Leonardo-Net International Conference, the constraints and conditions of chosen site will help to finalise the detailed design.

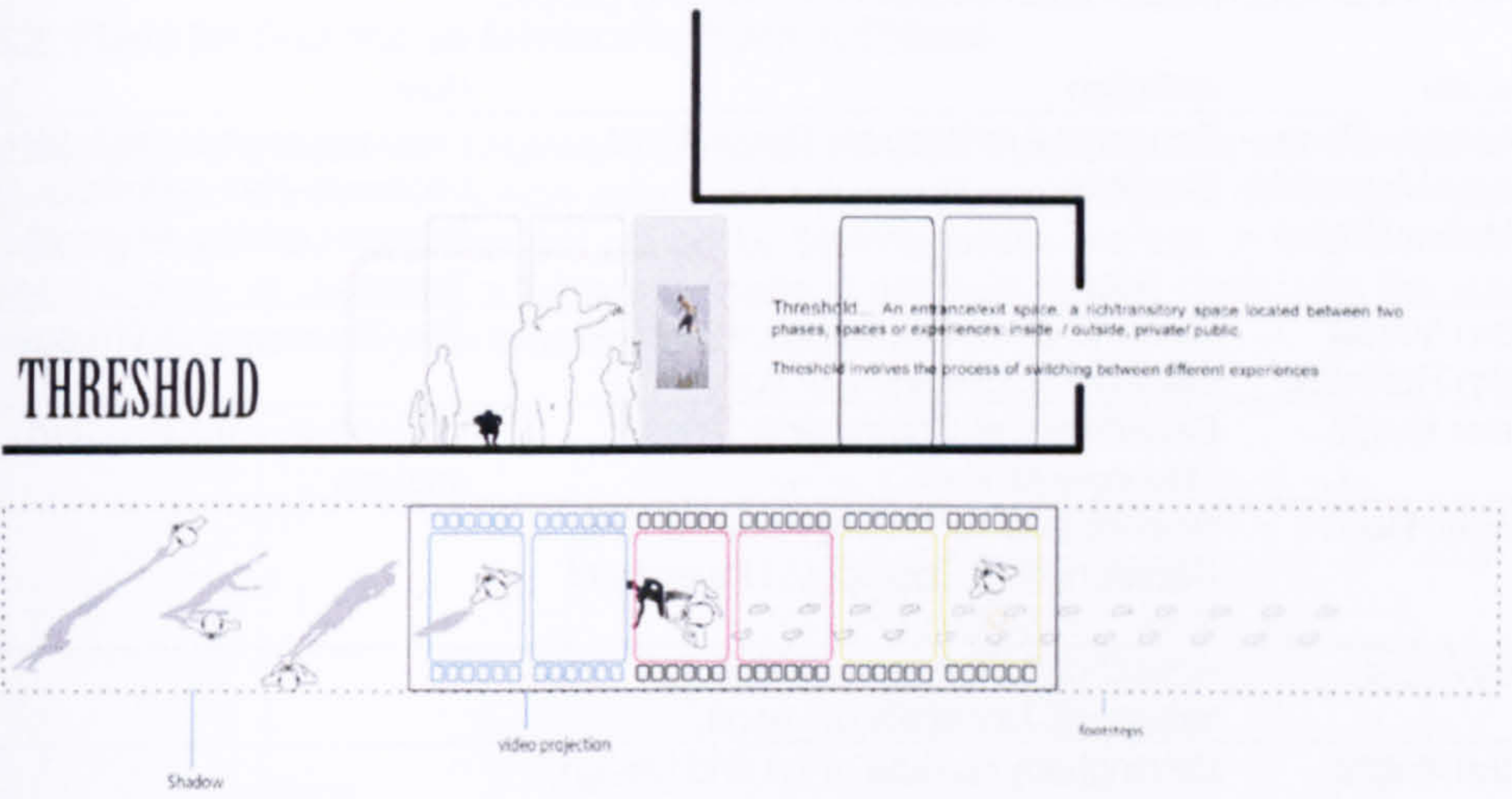


Figure 25 A sectional diagram of Threshold

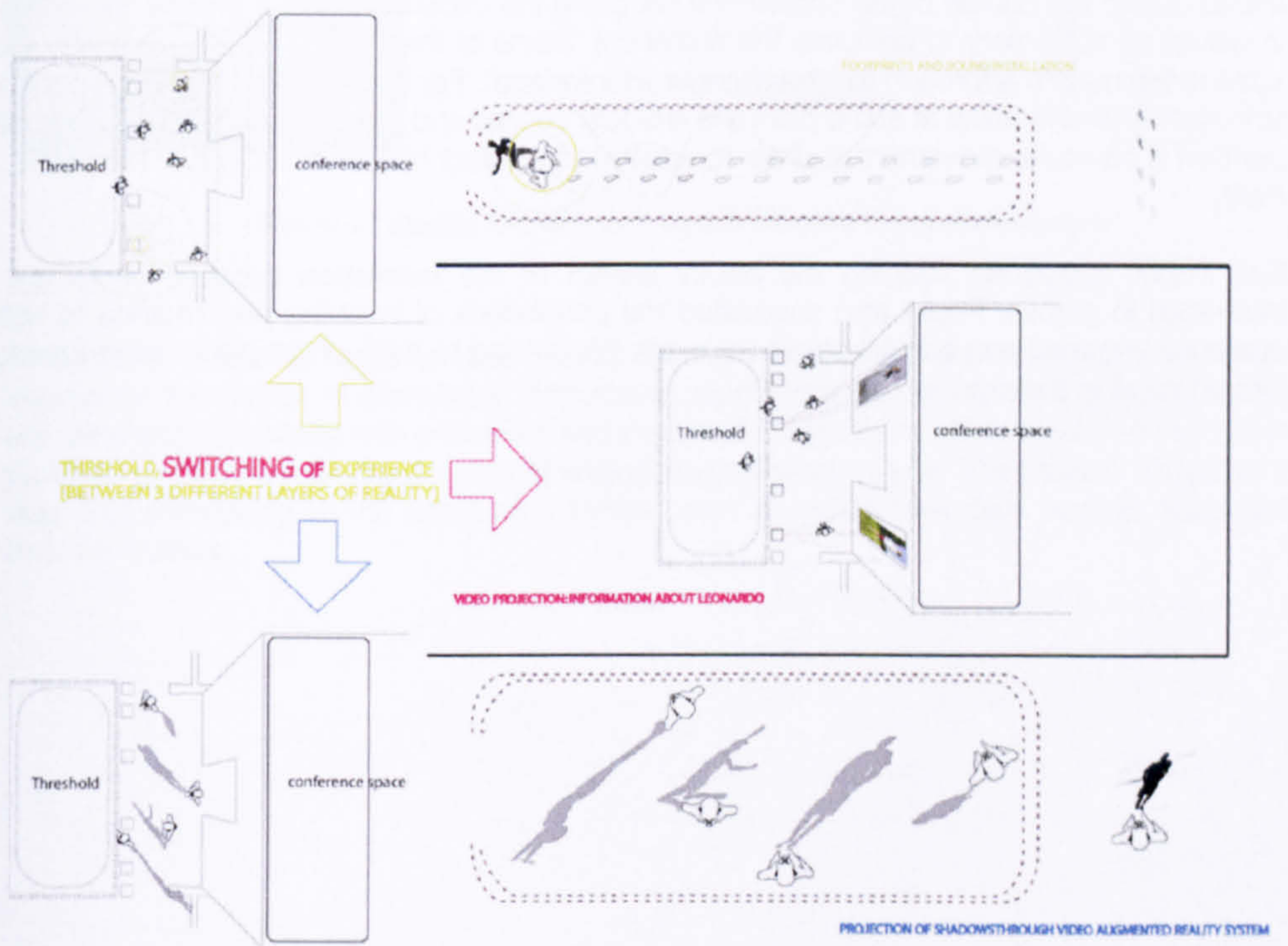


Figure 26 A planar diagram of THRESHOLD

The THRESHOLD project team involved the following people:

People	Affiliation	Role
Chengzhi Peng Nadia Mounajjed Stephen Walker	School of Architecture, University of Sheffield	Footstep sound installation, Leonardo-Net workshop footages editing, Physical Traces
John Mateer John Robinson	Media Engineering, Department of Electronics, University of York	The Obstreperous Shadow
Peter Wright	Department of Computer Science, University of York	Interactivity capturing and analysis
Darren Reed	Science and Technology Studies Unit, Department of Sociology, University of York	
Sita Popat	School of Performance & Cultural Industries, University of Leeds	
John Knight	Birmingham Institute of Art and Design, University of Central England	

Many ideas emerged from this group in relation to shadow. The relationship between experience, memory and virtual traces has also been raised. The installation can also focus on other traces/tracings such as shadows or footprints (material and acoustics). The accumulation of the traces during the course of the conference will make the experience richer (traces can come back in waves as a memory to stimulate the audience). Some of these suggestions were very close to Lozano-Hemmer's approach to "the shadow as interface". For instance, the audience could come to collect their shadows: at some point the shadow freezes and the user comes back and needs to perform a particular movement in order to release and collect his/her shadow (i.e. Nietzsche, Peter Pan).

Sita Popat suggested keeping the playful aspect of the installation because users are really interested in games. Popat also suggested the possibilities of involving performance to keep the audience engaged and curious about the work. We started to think of the piece being transformed into an invisible theatre.

**C.3.2. Plans for Creating an Interactive Musical Chimes**

The design of the piece was originally inspired by Panpipe musical instrument. As shown in Figure 27, The Panpipe is a musical instrument. It is usually made from a row of short pipes of varying length fixed together and played by blowing across the top. In a similar way, I started to think of designing a huge instrument is made of several pipes with the same diameter but different length to create different rhythms.

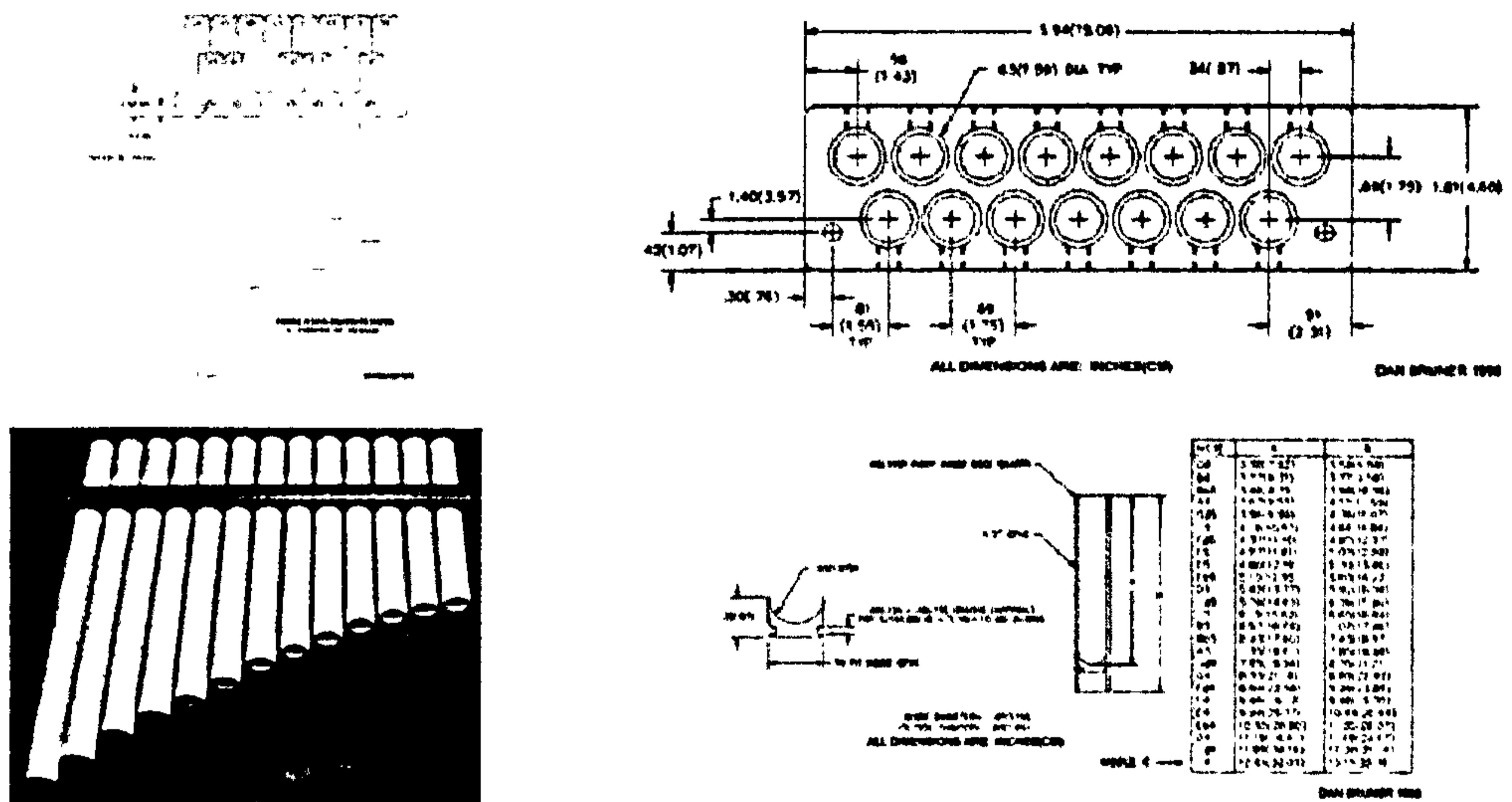


Figure 27 Design drawing of a typical panpipe musical instrument

Since it was difficult to focus on breathing as the main drive of the work. I started to consider instead on the design of percussion instruments, and more specifically wind chime. Chimes are generally associated with entrances and threshold. They are made of a set of metal tubes tuned to produce a melodious series of ringing sounds when struck. The musical aspect of it was also stimulating to the users as it invites them to create their own soundscapes and touch the piece.

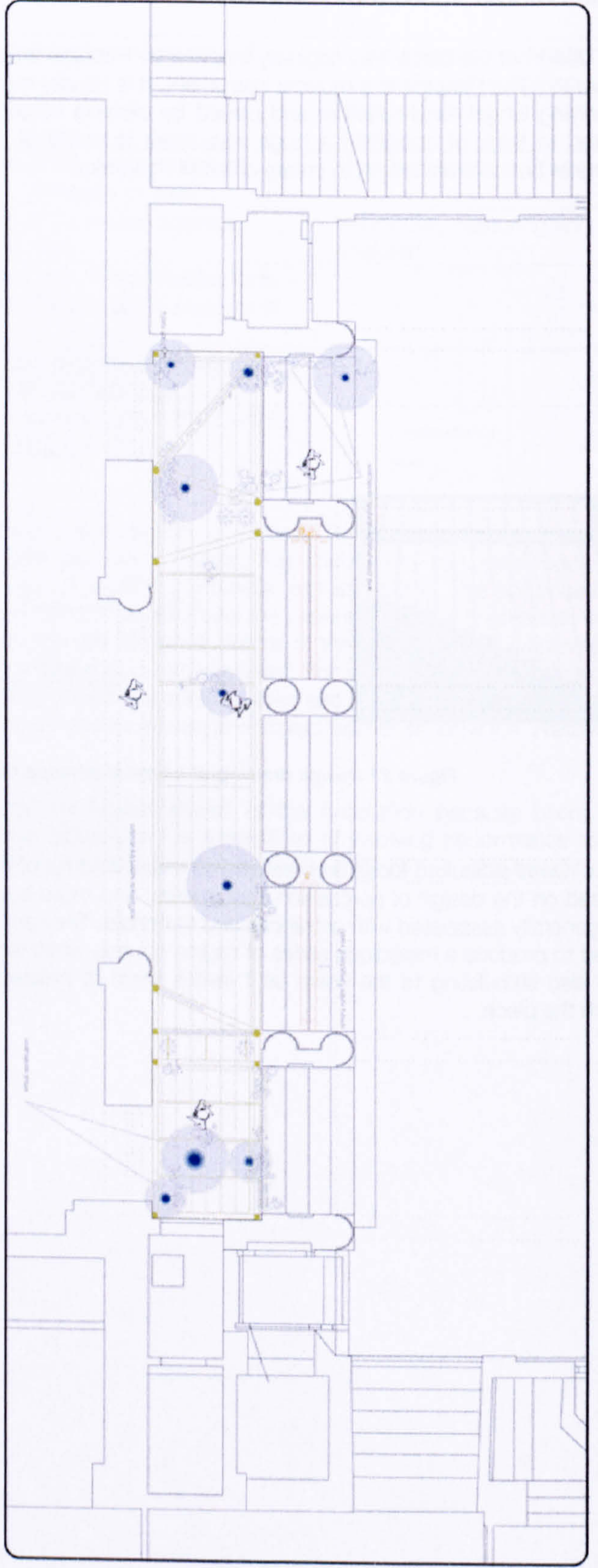
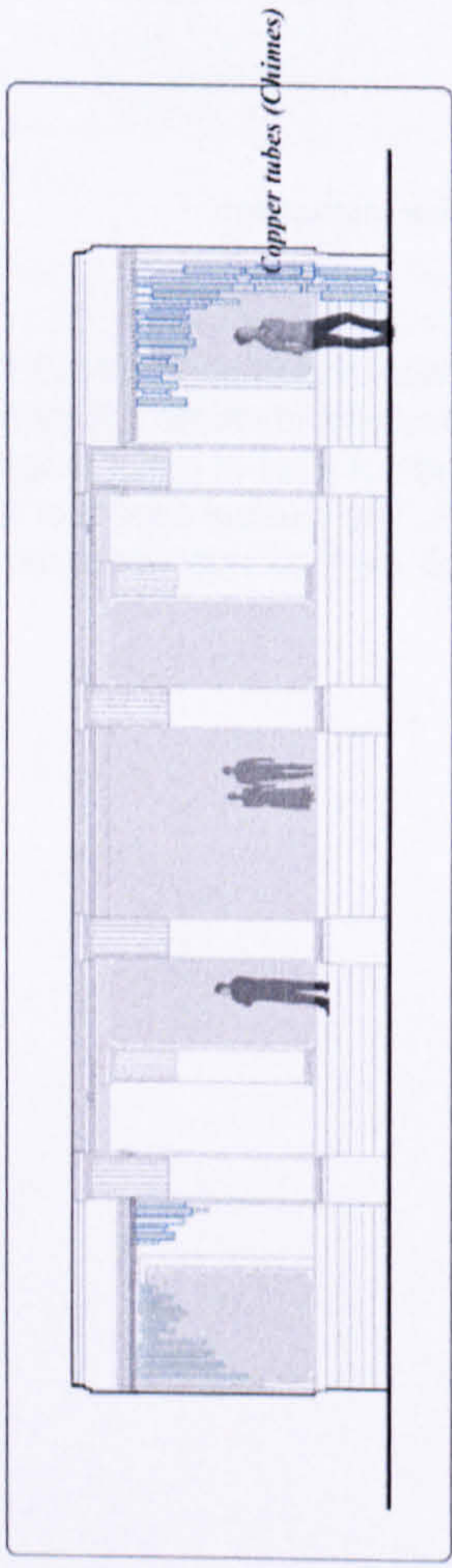


Figure 28 Early drawings for Threshold



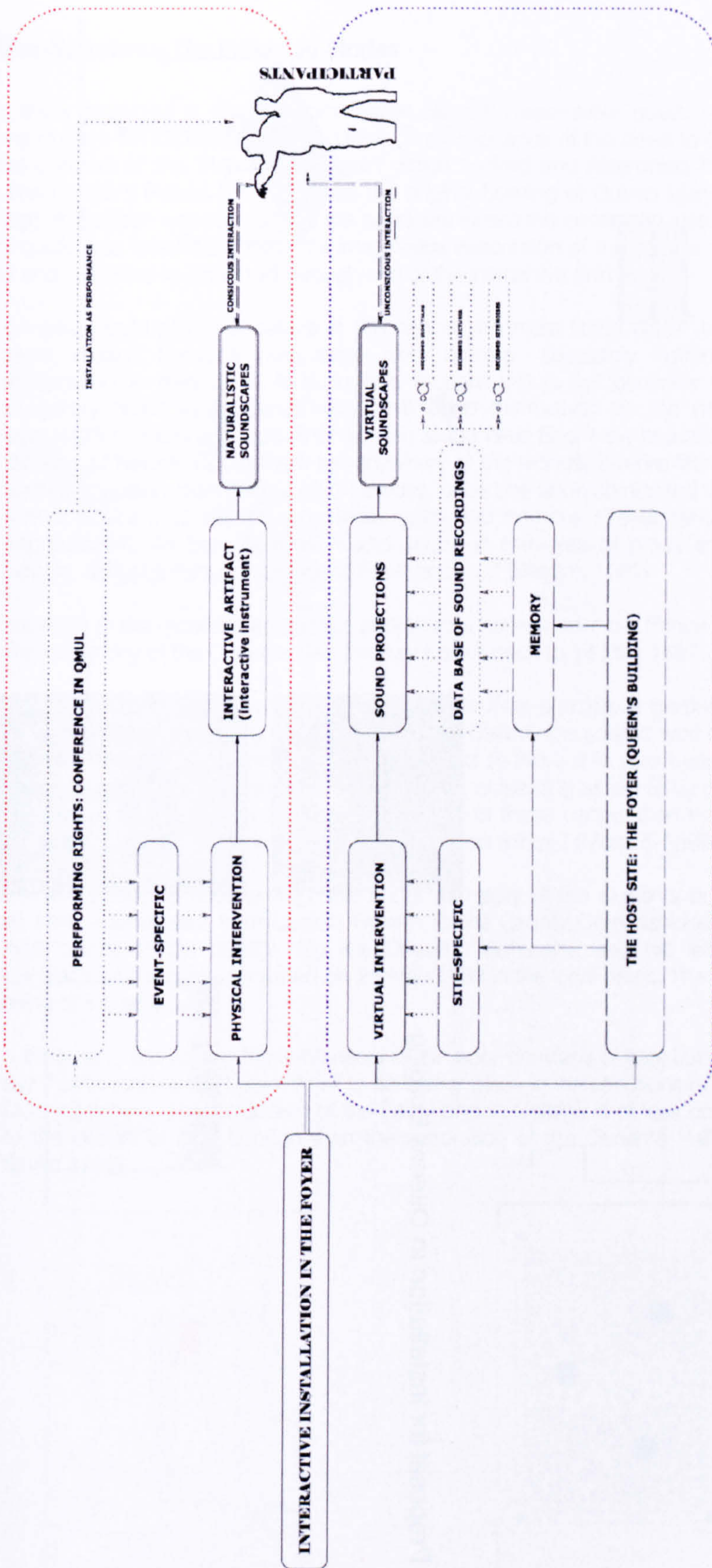
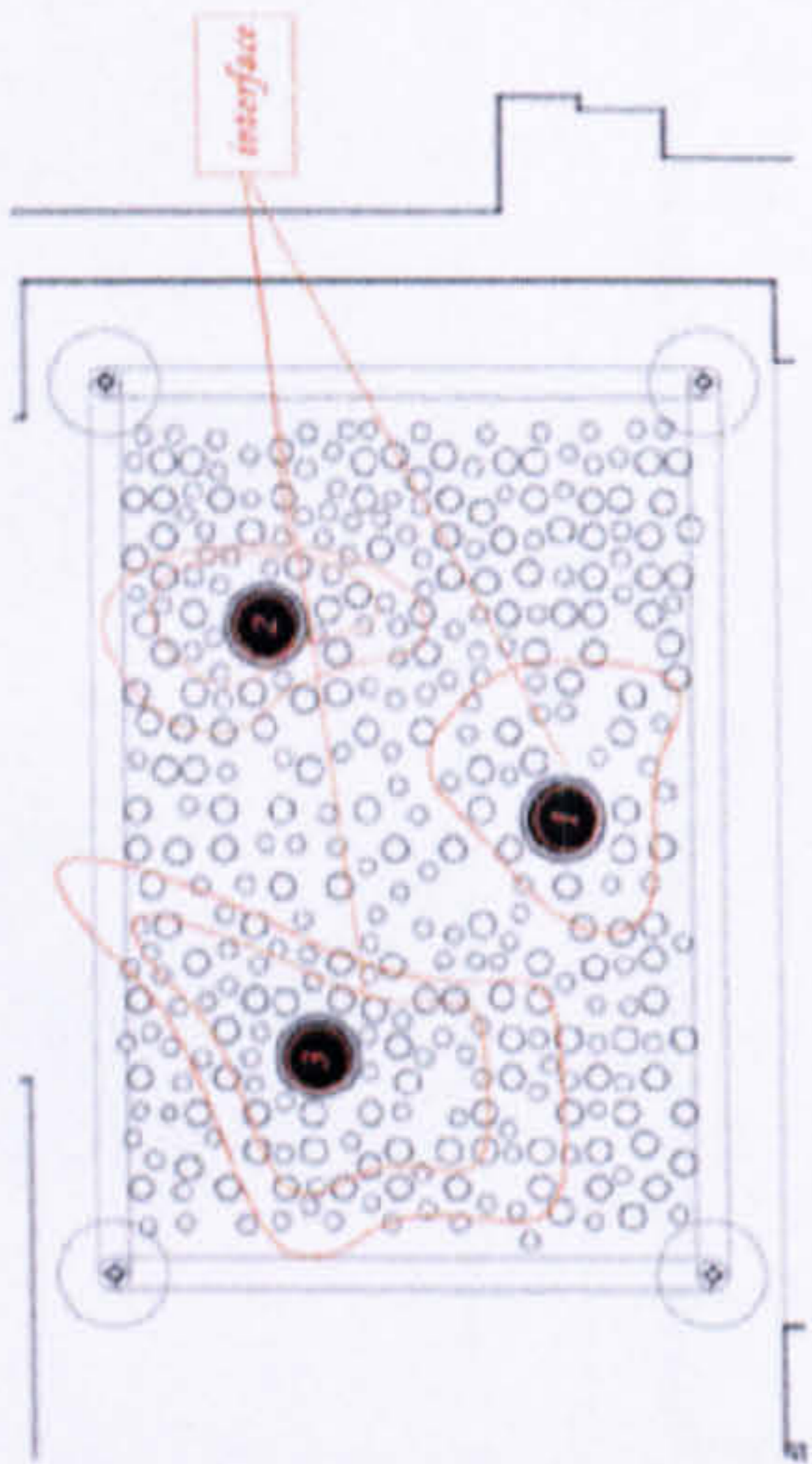
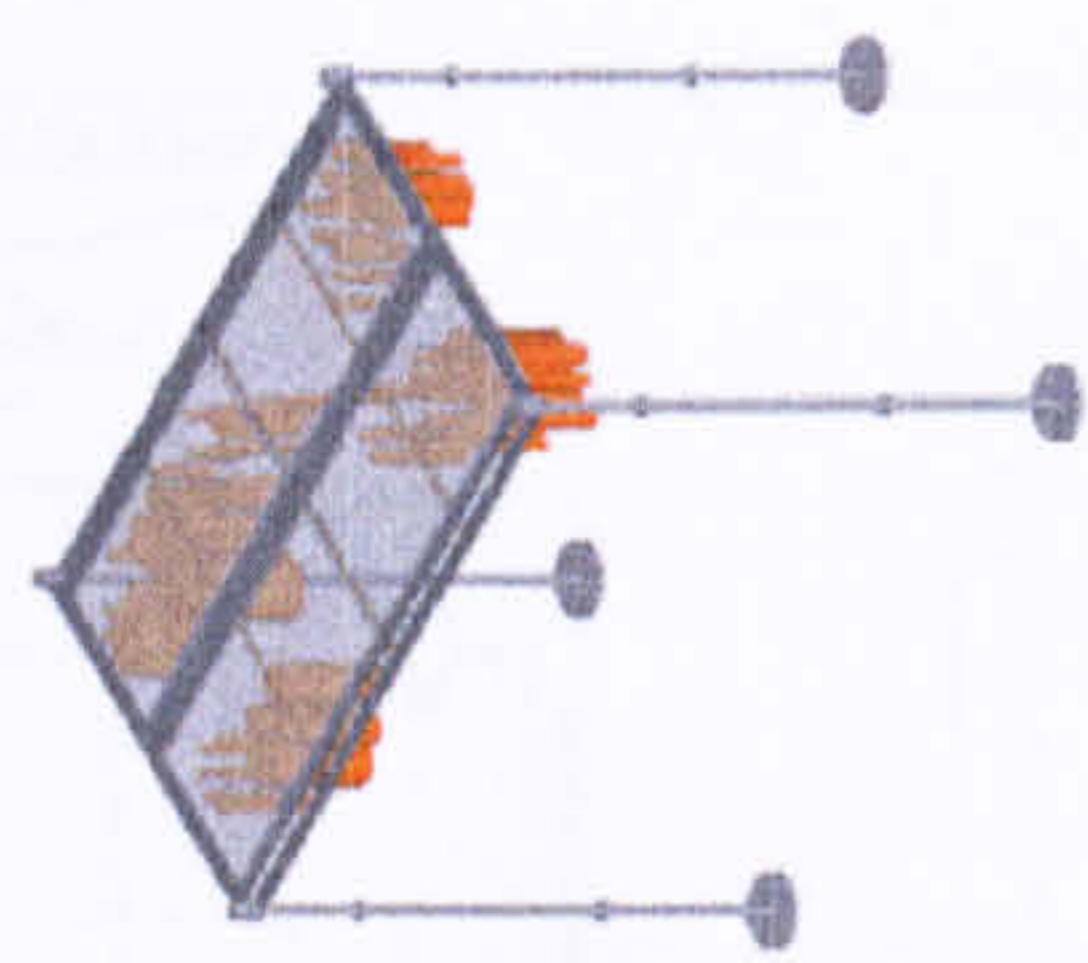
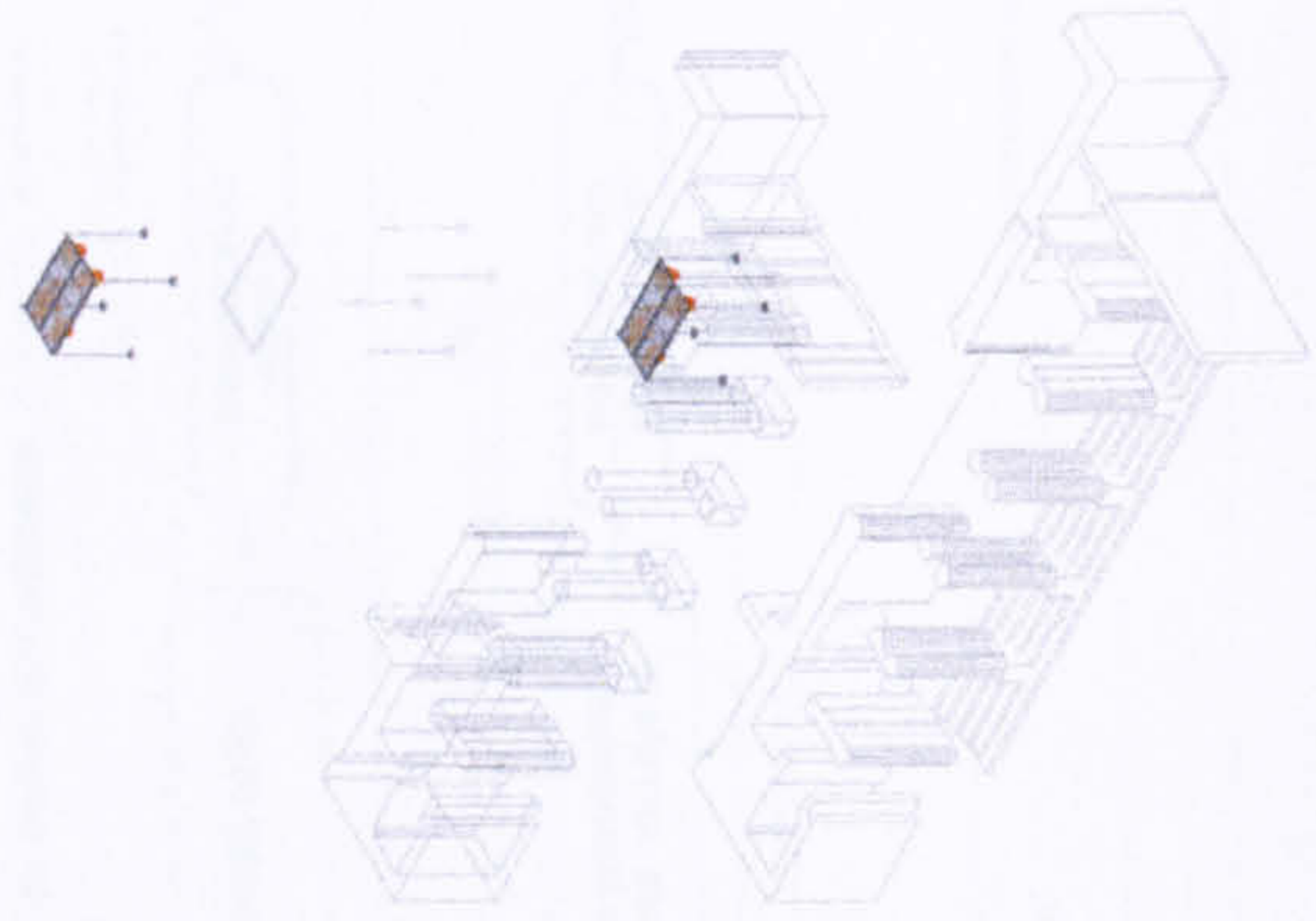
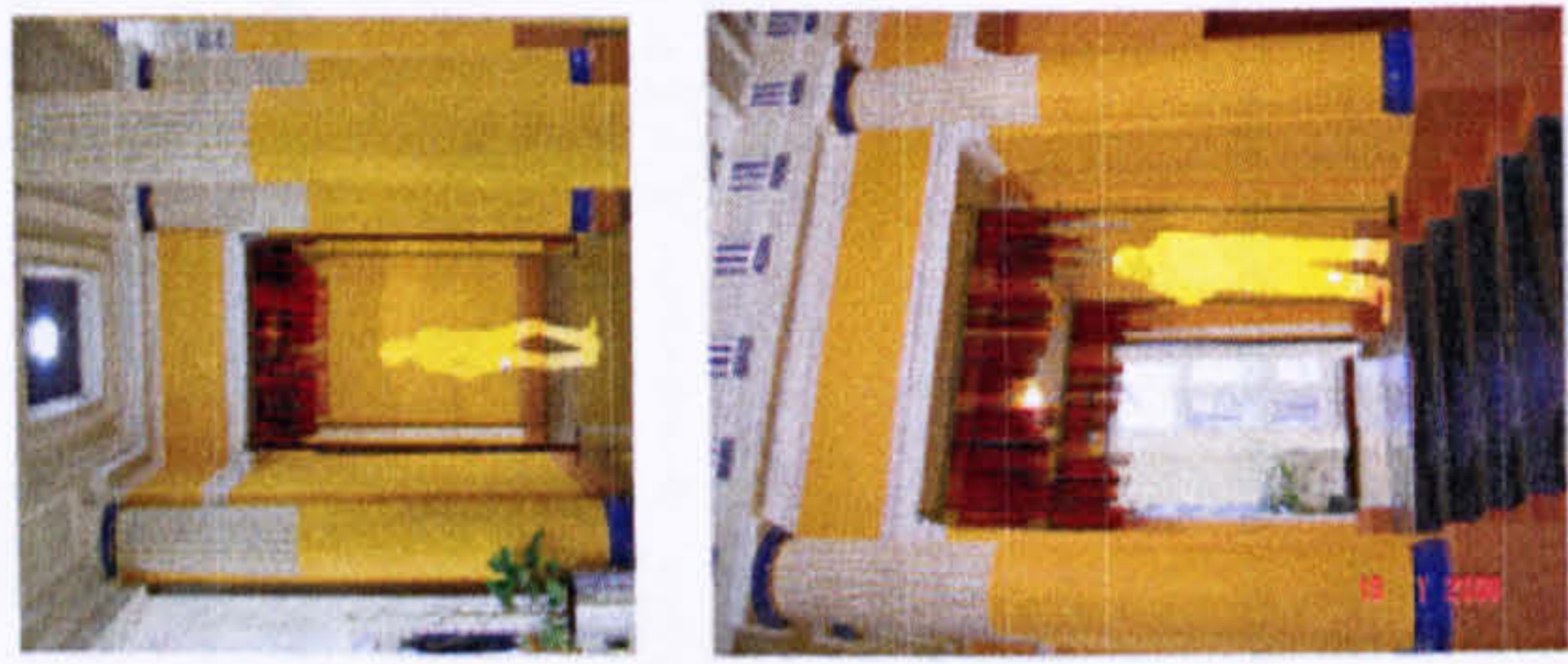
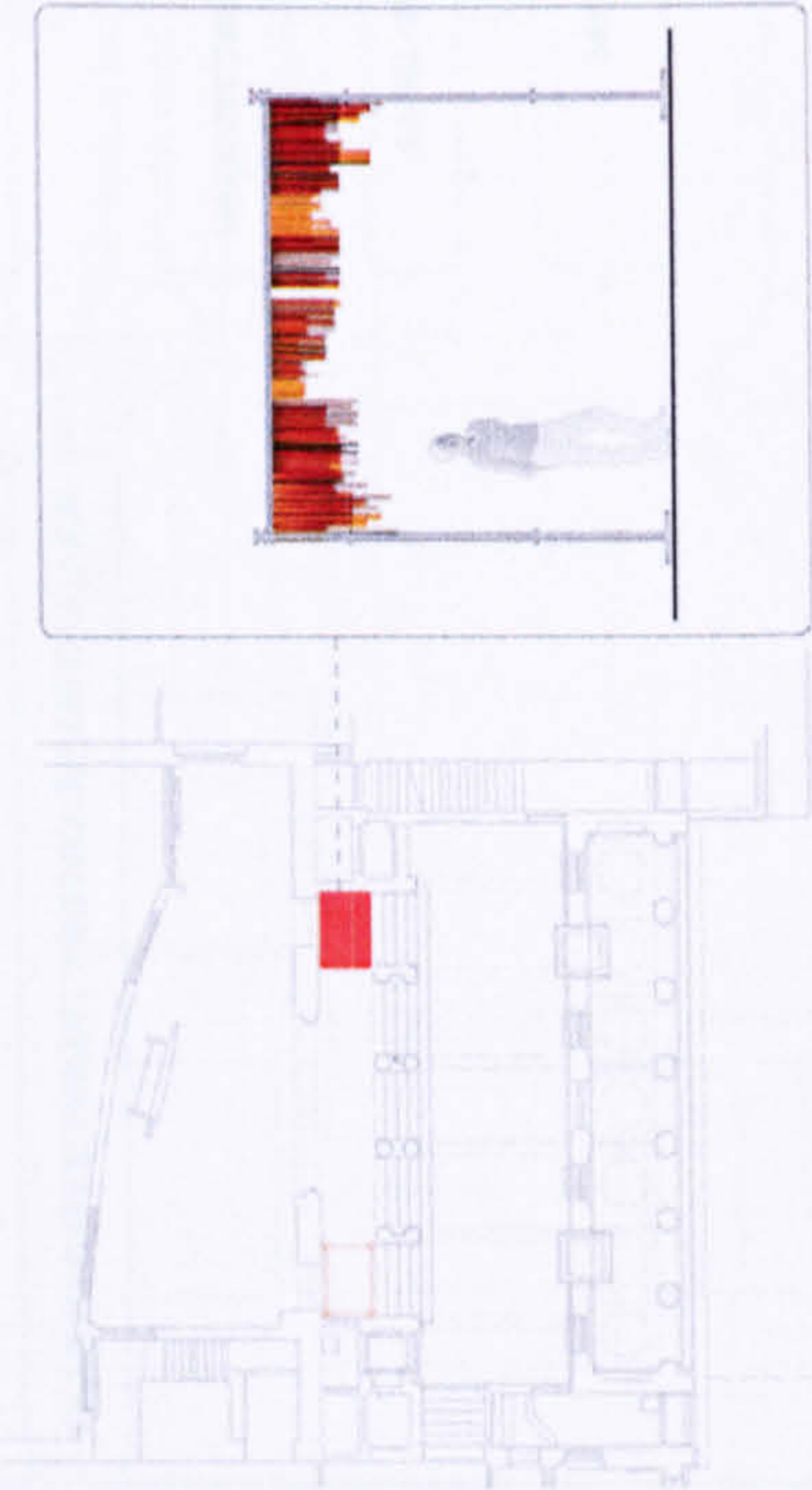


Figure 29 The concept behind the articulations between virtual and physical



**Proposal for installation in Queens Building**



Model of the structure used for the installation

Figure 30 Proposal for the installation

### C.1.3. Mini-Narratives: The Projected Stories

The first track projected a reading from Walter Besant's best-seller novel: *'All Sorts of Conditions of Men- An Impossible Story'* (1882). The importance of the novel to Queen Mary lied in the concept of the 'Palace of Delight', which evoked and resembled the People's Palace. The People's Palace (1887-92) was the original building of Queen Mary College. A century ago, the palace was standing on the same site where the installation was set up. The following quote was taken from Besant's imaginative description of the palace of delight; it was read and projected in Threshold through one of the interactive chimes:

"Angela would plant her palace in this region, the most fitting place, because the most dreary; because here there exists nothing, absolutely nothing, for the imagination to feed upon. It is, in fact, thought this is not generally known, the purgatory prepared for those who have given themselves up too much to the enjoyment of roses and rapture while living at the West End. How beautiful are all the designs of Nature! Could there be, anywhere in the worlds, a more fitting place for such a purgatory than such a city? Besides, once one understands the thing, one is further enabled to explain why these grim and sombre streets remain without improvement. To beautify them would seem, in the eyes of pious and religious people, almost a flying in the face of Providence...." (Besant, 1882)

Another example of the recorded audio clips contained a speech from the Prince of Wales at the opening ceremony of the Queen's Hall; the event goes back to 14 May 1887:

"Nothing, we know too well, can really turn the East-end into a garden, can take away the dismal monotony of its streets, or can destroy the squalid type of life which the vast majority of the inhabitants are doomed to live... it is also true that a little brightness, a little enjoyment, and such chances of learning as are to be given by the people's palace count for far more in the case of these people than they would in the case of people more richly furnished with good things." (Moss & Saville 1985)

The third chime projected another fragment about the story of the Queen's building. This was taken from a letter sent from Barnett Hyman to the Charity Commissioners in 1932. Barnett was critical of the college and the Drapers' Company, and his letter was of importance that it was actually published on 28 May 1932 in the local press. The following is the beginning of the letter:

"I think, sir, I am voicing the sentiments of the poor denizens of east London when I say that to restore the Queen's hall to its former place in the affections of the Charity Commissioners. The expansion of the East London College is of less consequence to the people of East London than the restoration of the Queen's Hall." (Moss & Saville 1985)

## C.2. Installation

The installation to be exhibited at the Foyer of Queen's Building, QMUL, in June 2006 during the Performance Studies International conference

### C.2.1 Building the Structure

I have constructed the installation in the workshop at the University of Sheffield. The intention was the construct a pre-made structure to be collected on site in London. During my construction I have prepared a manual to construct the pipes and the wooden and metallic structure supporting the musical instrument.

#### Materials needed for the structure:

8 X bases (Piers): metallic (adjustable?) Legs  
 Diameter: 2.5 cm  
 Length: 212.5 cm

4 X bridges: horizontal wooden sticks  
 Length: 240 cm

4 X bridges: horizontal wooden sticks  
 Length: 161.5 cm

8 X T-junctions (to attach the base to the horizontal frame)

2 X Mesh to support the wind chimes (Chicken Wire)  
 240 cm X 161 cm

200 X Copper pipes (for the wind chimes)  
 Diameter: 2 cm  
 Length: ~ 60 cm

#### In the workshop manual, I repeated the steps for making the individual chimes

*Using a plumber's pipe cutter cut the copper pipes to these specific lengths:*

*52.7 cm  
 32.1 cm  
 39.4 cm  
 31.4 cm  
 45.7 cm  
 36.2 cm  
 42.55 cm  
 27.94 cm*

*Approximately 6.5mm from the end of each pipe section, drill a 1.25mm (1/8") all the way through the pipe. You may want to use a large nail to create a starter spot- this will keep the drill from sliding around.*

### C.2.2. Installing the Piece

We discovered that the building materials in the wall separating the room from the foyer, the thickness of the wall, the materials used for the chimes, the top surface of the *Threshold* structure, and people themselves conspired to interfere with the wireless signal in certain configurations. Therefore we spent a considerable amount of time fine tuning the position of the Tmotes and the laptop PC to reduce the amount of interference encountered.

During the installation we finely tuned the motion sensors to ensure that sounds were triggered with the slightest touch in order to encourage interaction. We had originally augmented the soundscape with an evolving soundscape of bells and chants but this proved to be too distracting for the communal space and was removed for the duration of the installation.

The Threshold installation may be the first wireless installation (The control / computers inside the storage room while the piece was set up in the foyer). We think that no previously wireless installations were done. Threshold may also be the first time wireless technology is used. Today, wireless speakers are still new technology; they are expensive, restricted with certain sizes and are not easily available in the market. So, we decided to use FM Radio as wireless speakers for the stage 1, this may be developed for stage 2.

The first day, sound projections were very fuzzy. Once we set the first Moted Tube it was working ok, but we realized that any other Moted Tube installed was interfering with the first making sounds fuzzy. Apparently, there was interference between the different Moted Tubes. In order to solve this, we tuned them simultaneously to different frequencies to make sure they don't interfere

Other issues came up with tuning the radios. For example, sometimes outside interference would affect the sound projections; for example, if someone else using device in the area. Moreover, it was difficult to find three or four strong signals (high frequency) in the short range we were using. So some tubes had clearer and stronger signals than the others. We think that using wireless speakers instead of FM radios may solve this problem. In this context, Jennifer suggests getting digital MP3s, wireless speakers or wireless hubs and plugging them into the back of 'Hercules' sound card then there would be no need for FM transmitters.

The second day there was no problem. We left the control / computers inside so we can say it is completely wireless; although we still don't know how many wireless installations were done like this. (Jen herself never did any real wireless installations, she did wearable stuff that connect wirelessly to computers in another room to persons putting information, but she wouldn't call it wireless. This is the first time FM technology wireless speakers.

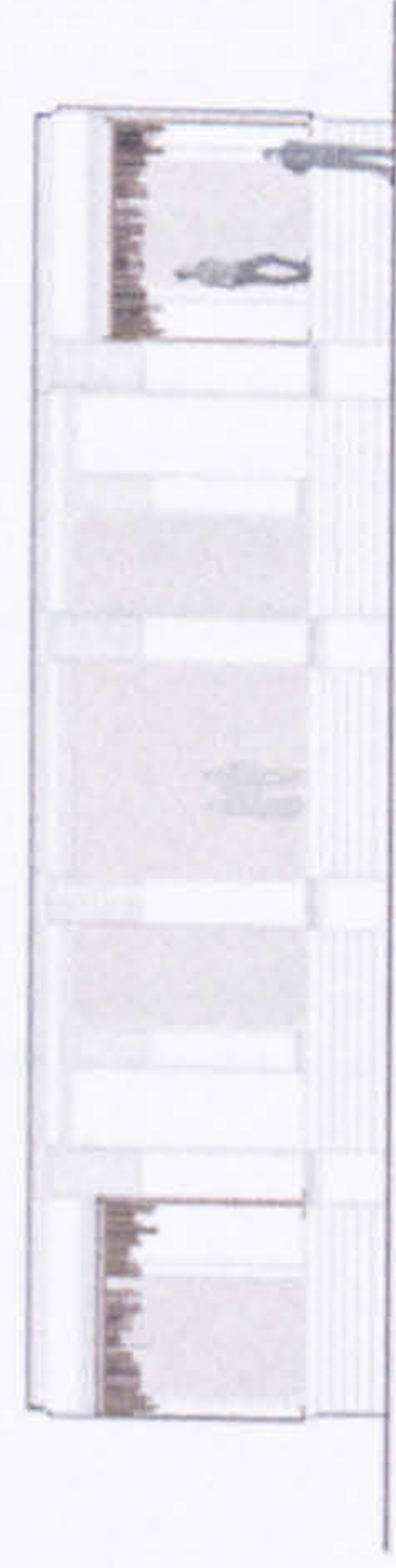
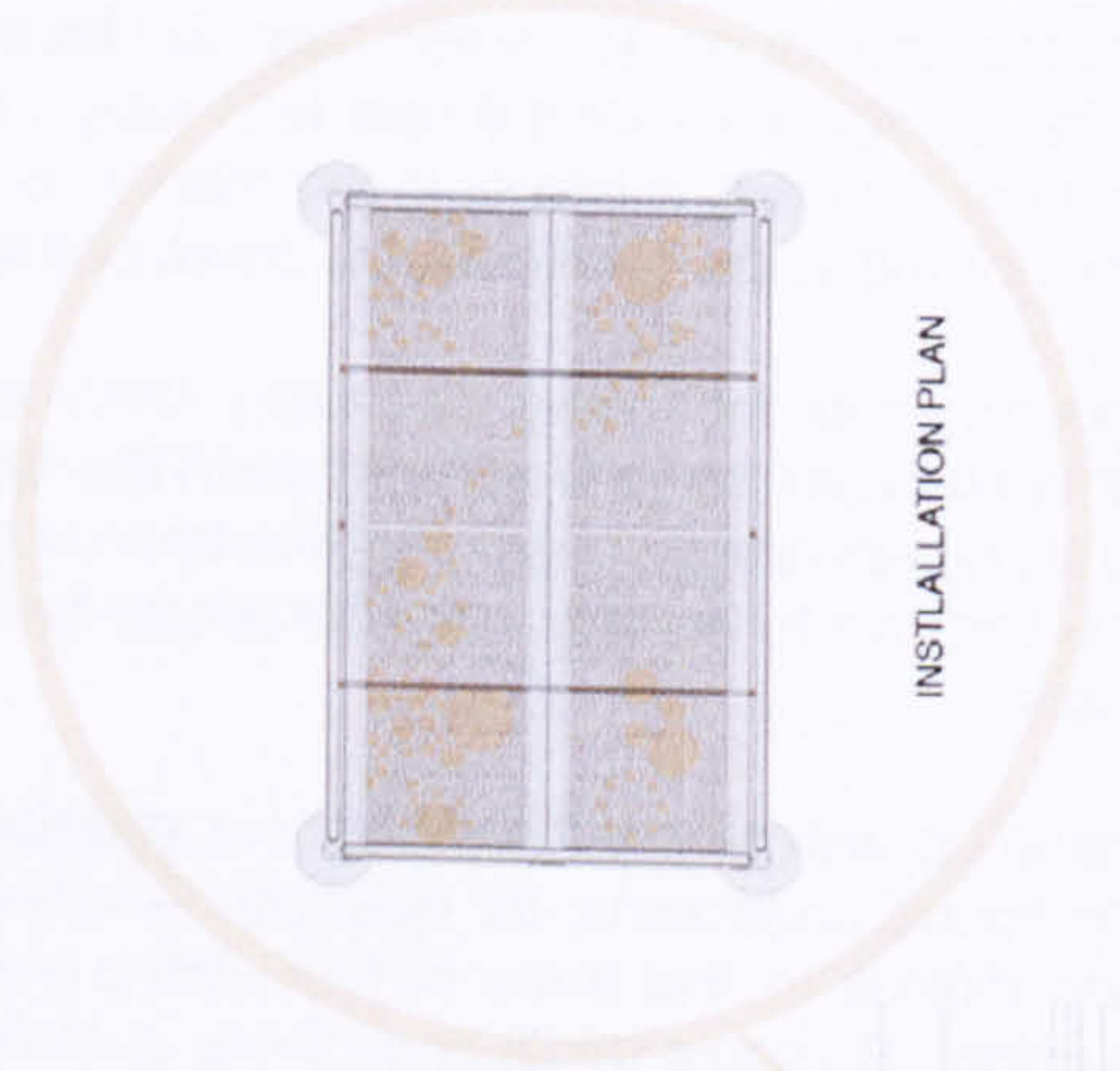
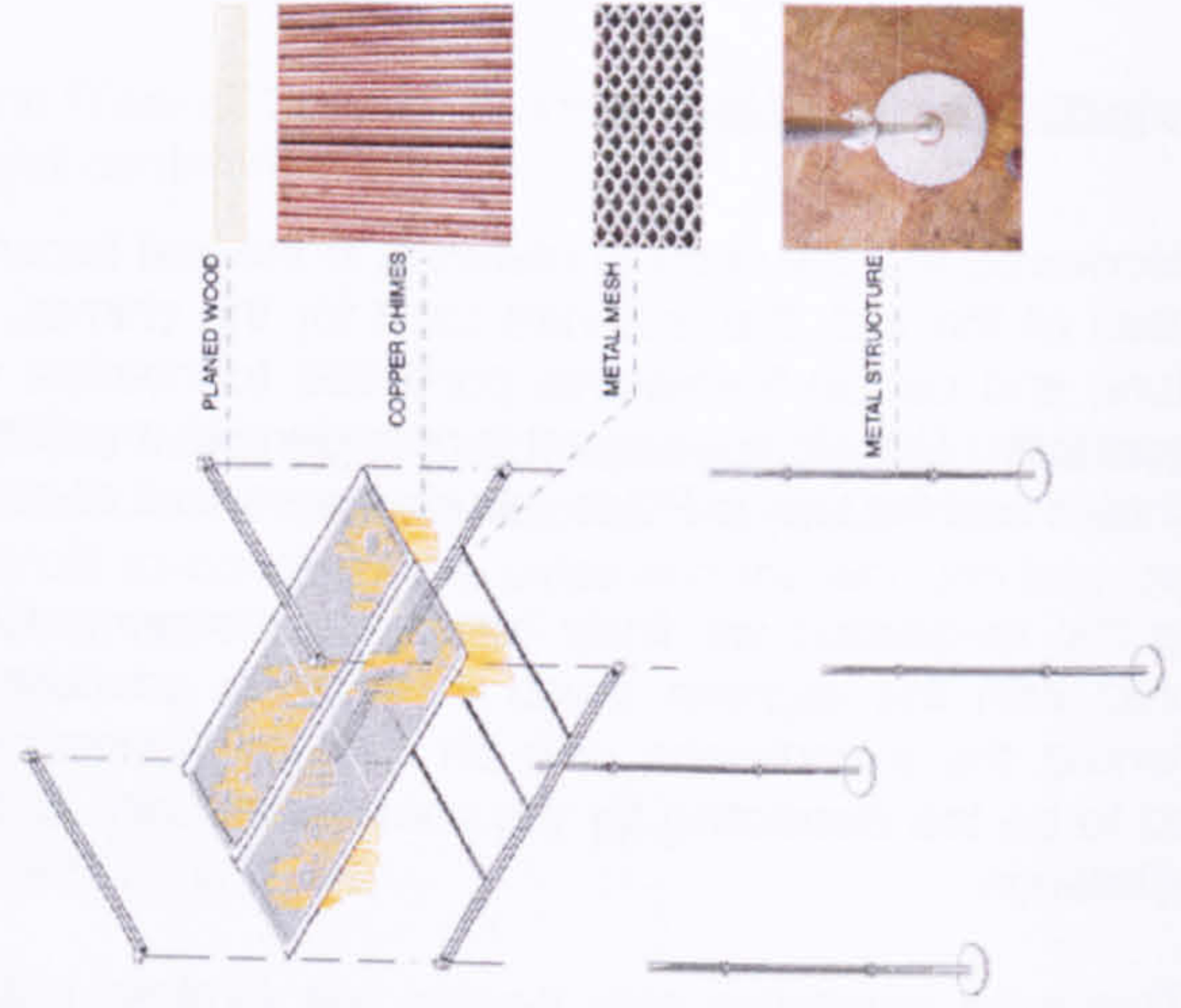
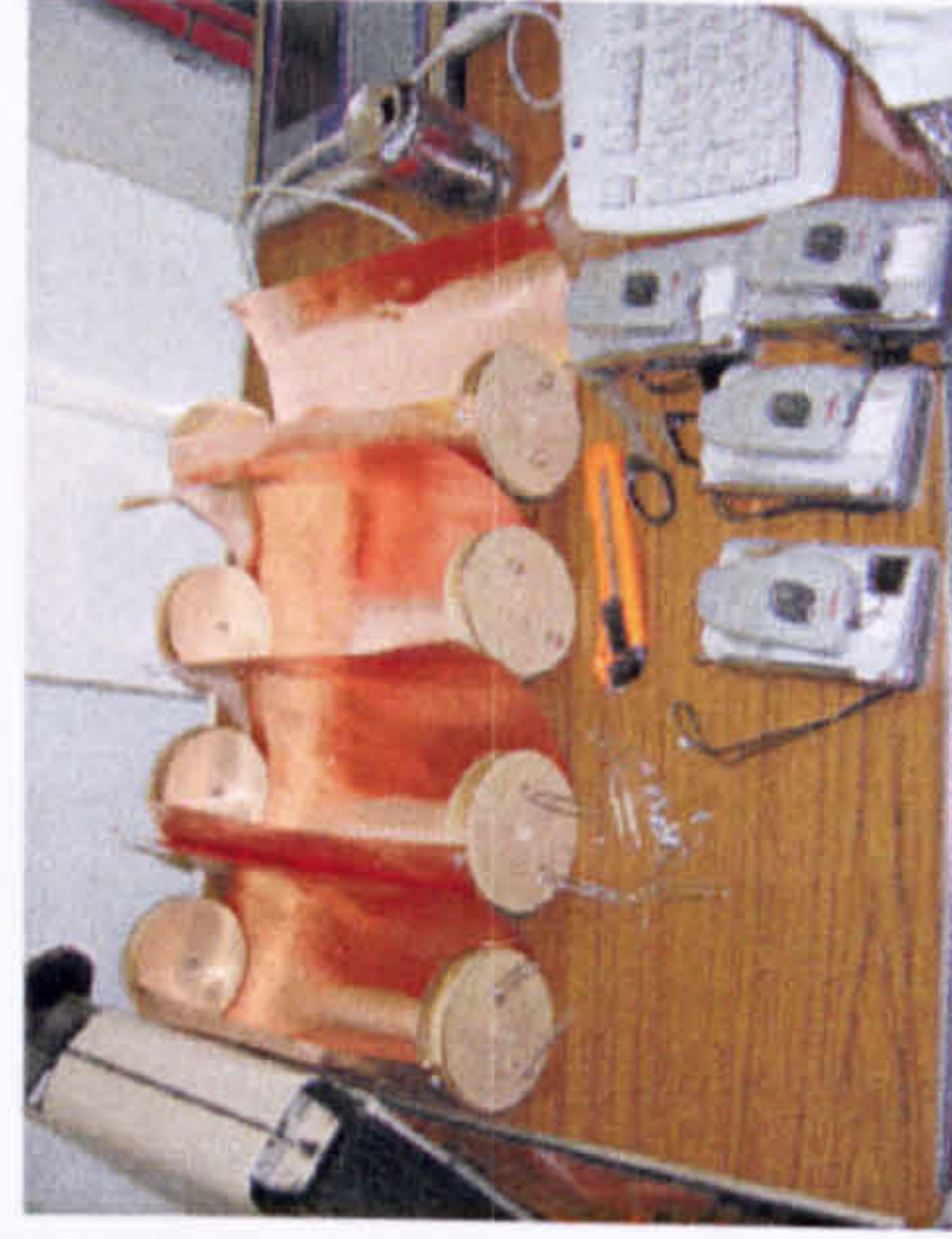
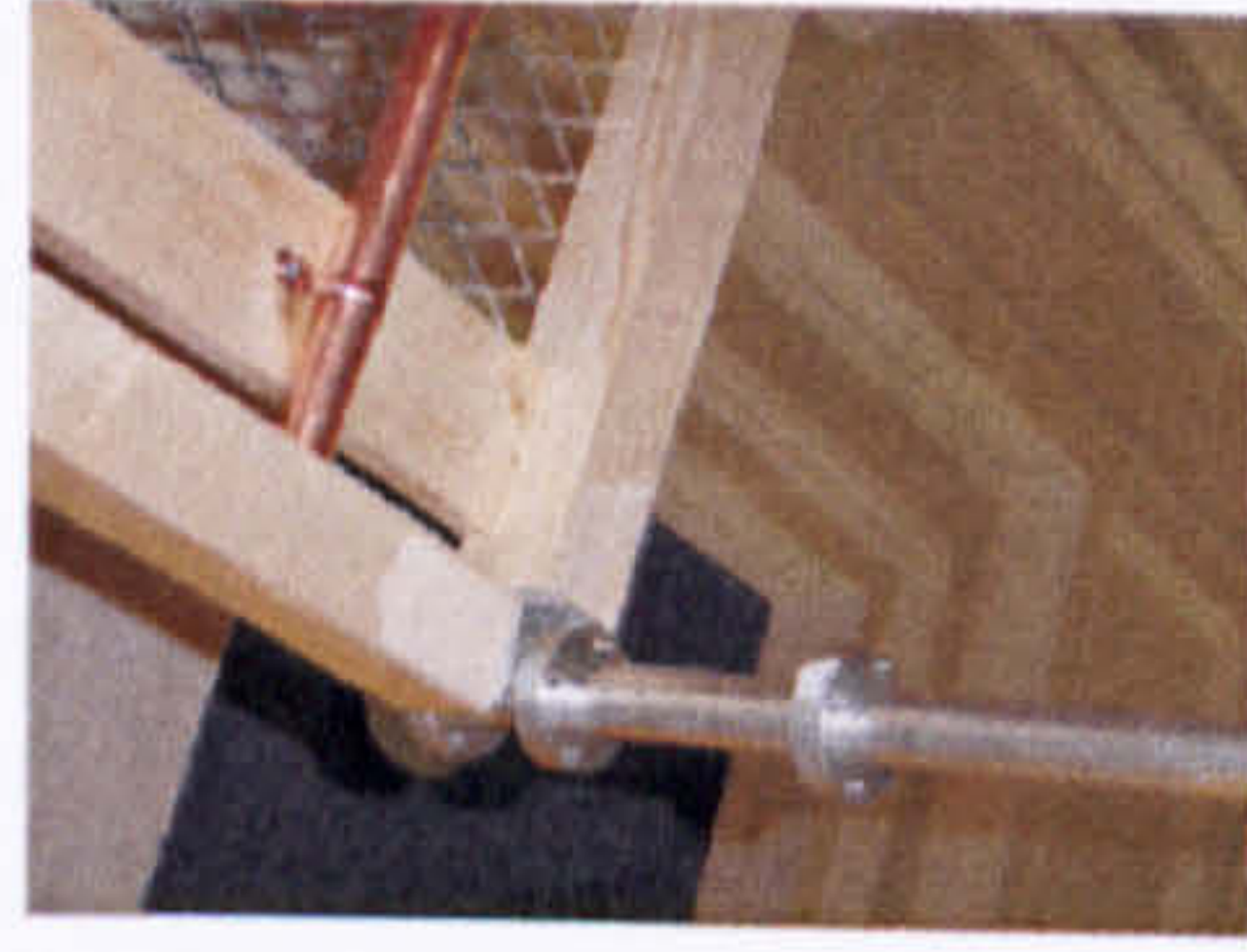
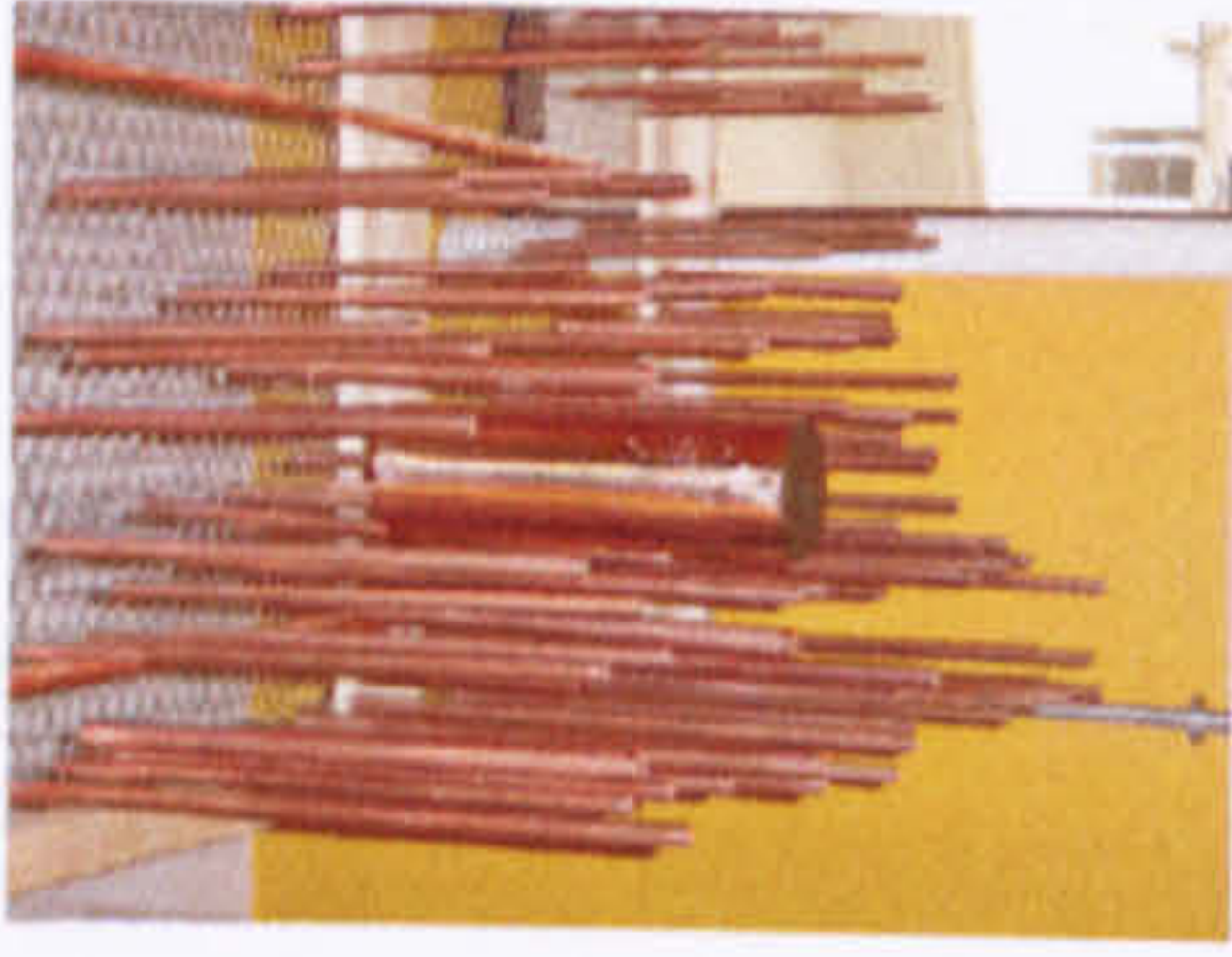


Figure 31 Constructing the Installation

### C.2.3. Technology: The Interactive Chimes

Figure 32 illustrates the technical setup for the installation. As discussed in the previous section, the architecture consisted of Tmote Invent artefacts installed in 3 of the chimes. These were programmed using TinyOS to send tilt information wirelessly to a central laptop located in a room next to the installation. When motion was detected in a Tmote the laptop triggered playback of an associated audio track; when no motion was detected the associated playback was paused. Audio was wirelessly transmitted to the chimes on three separate audio channels from the laptop PC. We used Max/MSP to control the sound without any noticeable lag in interaction.

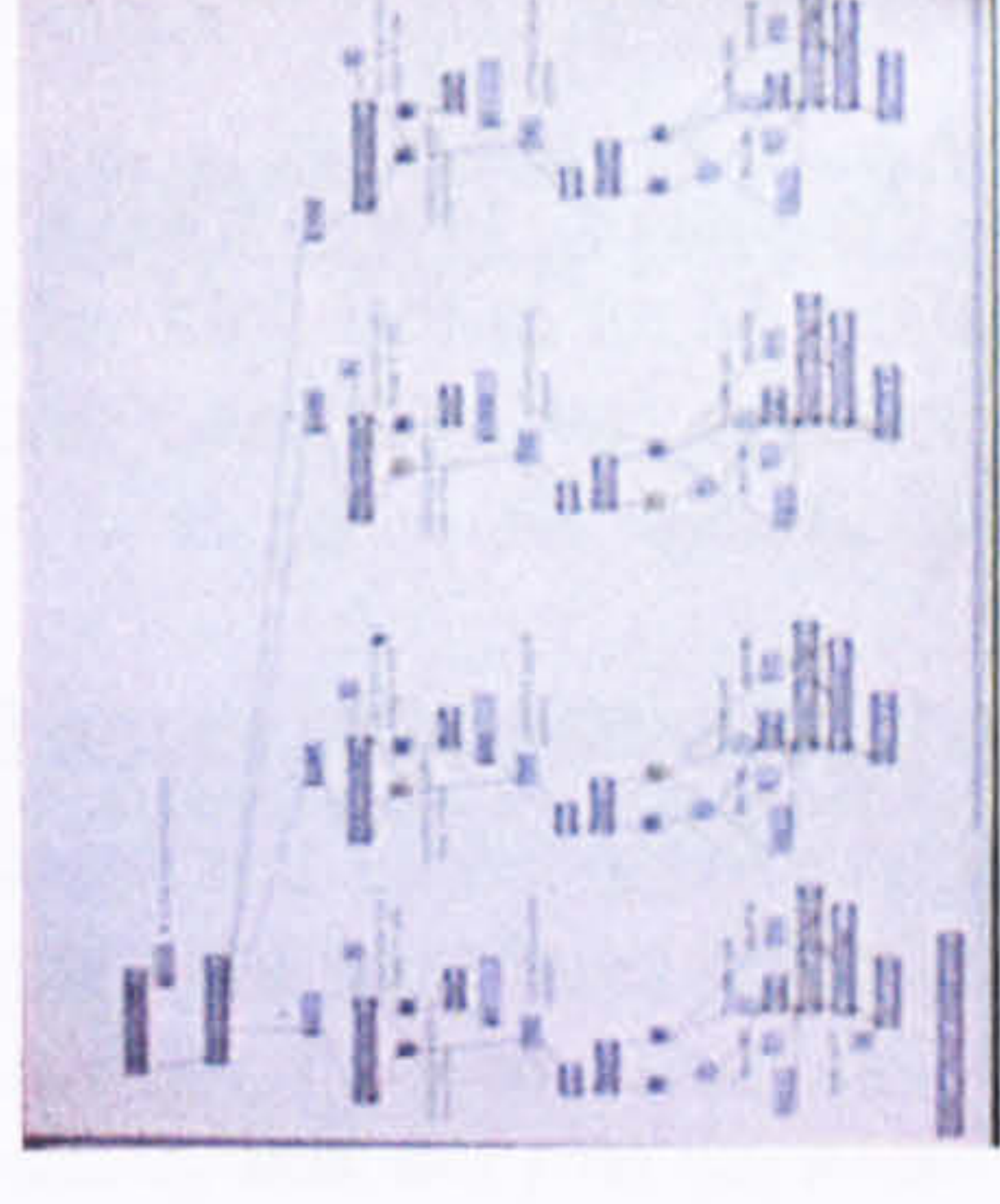
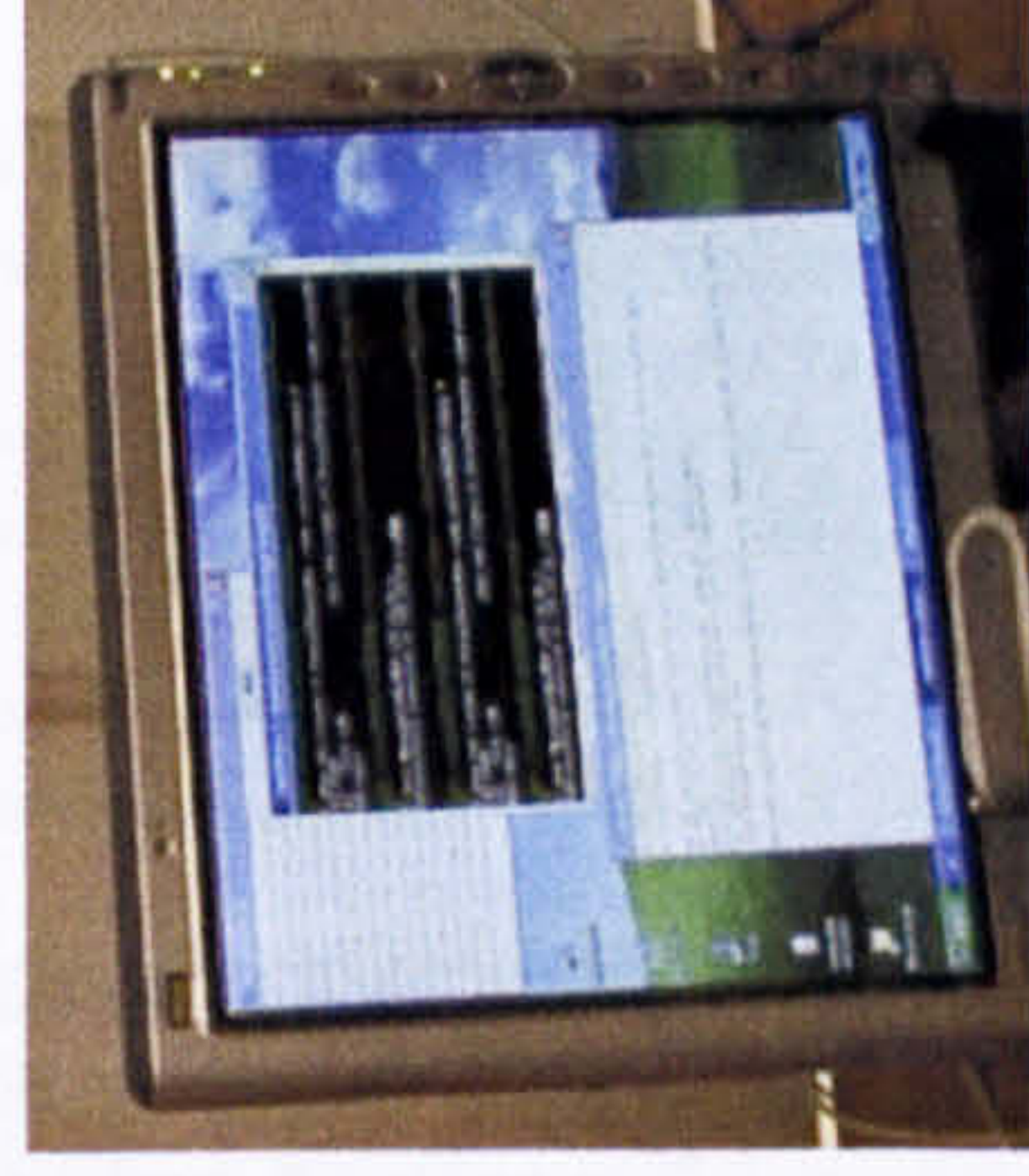
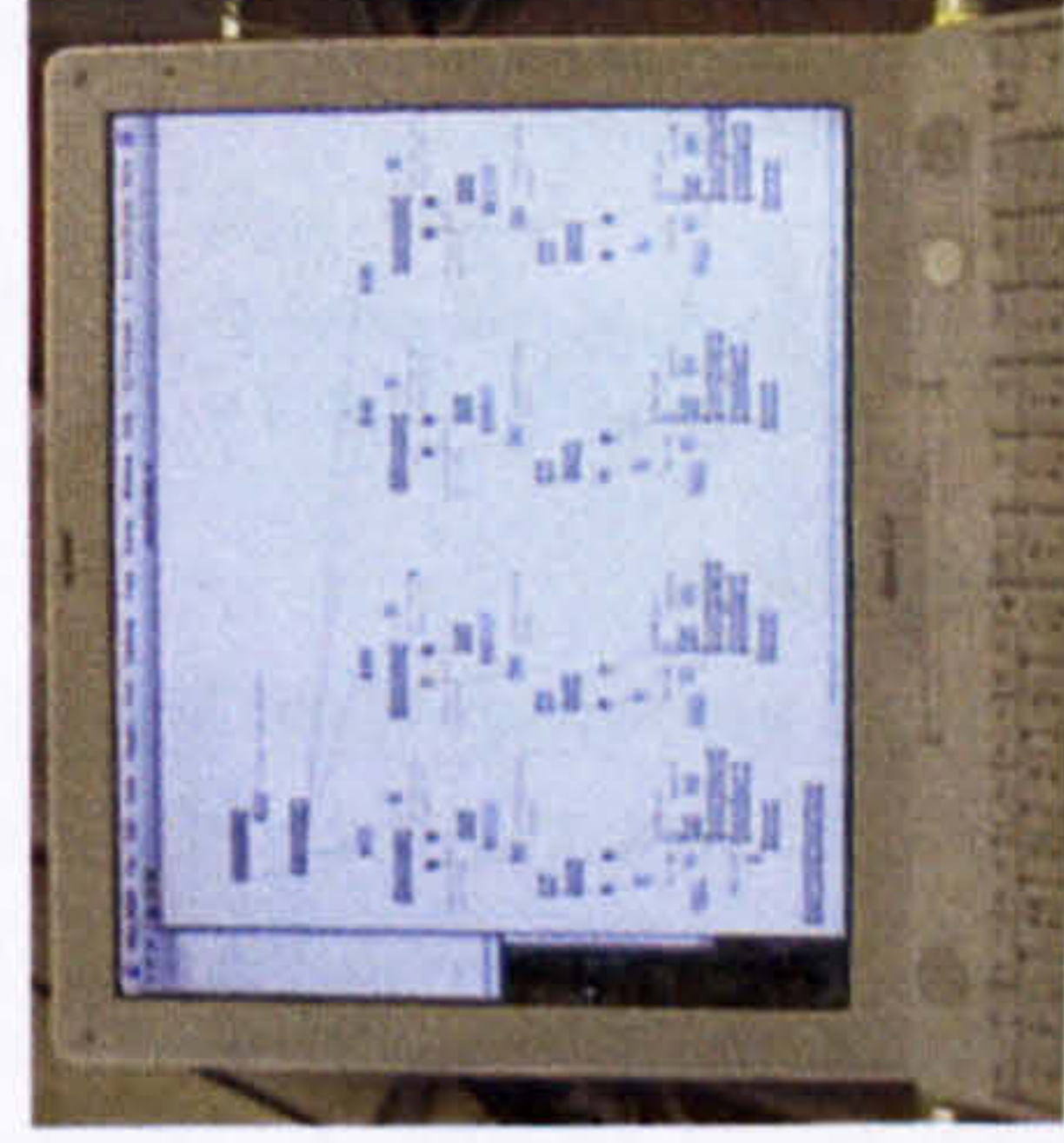
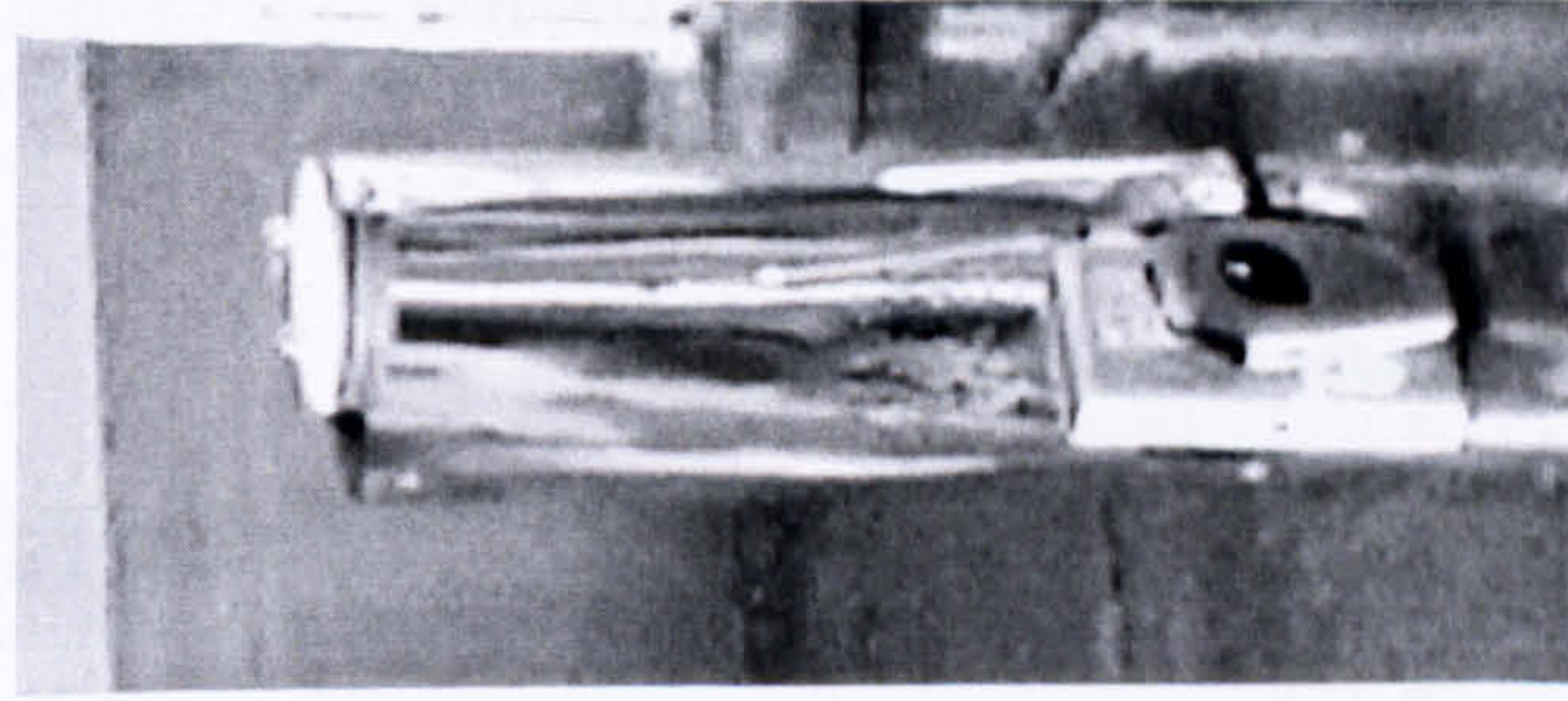


Figure 32 The interface. See: Appendix D: DVD 3: About the interface

## C.3. Ethnographic Mapping

During the installation, I have tried to collect as much data as possible to document the installation. Most of the data was available from personal observations and from the video footage, few interviews and some users comments were also noted down or recorded.

### C.3.1. The Intervention Database Design

Data collected must follow the research framework. Interviewing, observations and data are collected leading to a better understanding of the following issues (directly or indirectly):

- Duration of interaction / time spent in the installation
- Intervention and spatial perception
- Memory
- Soundscapes
- Intensity of engagement
- Interactivity (Passive < > Active < > Interactive)
- Psychological impact on users (emotion, feelings)
- Productivity and creativity
- Control & feedback
- Number and type of users
- Socio-spatial practices
- Virtual interventions

Most data will be ethnographical and will be collected on site. Data is qualitative involving: interviewing, observation, video recording, photography and sound recordings.

The main three tactics and methods were used in this project involved:

1. Observation
2. Interviewing
3. Video-recording

### C.3.2. Observation

Observation is an important aspect of data collection. I recorded and analysed all observations and remarks from the contributors. For instance, I have noted my discussions with Jennifer Sheridan and Nick Bryan-Kinns to be taken into consideration during the replication stage. I also noted down my personal observations about users movements and behaved with some sketches. This type of data is collected for the different aspects of the installation including the design, users' behaviour and interactivity as well as possibilities for future developments.

During the exhibition of Threshold (15-19 June, 2006), I was constantly observing the work and recording my notes and other people's comments. The following are extracts from my notes recorded at different times in June 2006. I was also sketching some of the users paths and movement directions when they saw the piece.

#### Notes on Thursday Afternoon 15.06.06

*6.30 pm.*

*Today, we could not make the piece completely wireless because nick and Jennifer had to put the laptop and the notes in a box to reduce the fuzzy noises produced.*

*I had a chat with New-Yorker performance artist at the reception.*



The artist thought that the design works perfectly well. She asked how the voices related to the building. This was a common comment made by many.

"Are you a musician? Was this designed according to musical rhythms? It might be interesting to develop the piece in this direction in the future. Did you collaborate with a musician to create different patterns of rhythms?"

It might be interesting to develop the piece in this direction in the future. For example, by collaborating with a musician to create different patterns of music.

We also talked about museum culture and how it made people scared to touch an artwork:

"You know. We are all overcome by museum culture where people are not allowed to touch the piece! This is crazy... At the beginning, when I came here, I had this impression too. This is a very sensitive issue and it really affects the interactivity with this piece you know!"

## Notes on Friday 16.06.06

10.00 a.m. (Solving the technical problem)

Yesterday, the sounds were getting fuzzy and we could only use three noted tubes instead of four. So today, Jennifer and I tried to solve the problem which emerged with the notes. We believe that perhaps the problem is related to the material used, it was probably the metal mesh in the structure or the copper material used in the chimes. However after this, it was becoming clear that the reason was the interference of the different frequencies among the different interactive chimes (or another device in the area).

We used four different FM Radios as wireless speakers in each of the interactive chimes. Each one of these was fine tuned at a different frequency. However, with the small range of frequency, it was difficult to use the four radios. The strongest sound came from the chime with higher frequency and it was difficult to find three more high frequencies for the three.

Generally, wireless radios worked for this intervention but there was an issue of interference and distance. One solution would be to use wireless hubs and plug it into the back of Hercules sound card then there would be no need for FM transmitters. Digital MP3 => tuner / everything would go around tuning.

Using a MP3 digital would be more costly, but would provide best connection and a better control.

Observing and recording people's interactions with the piece on Friday 16.06.06 around lunchtime:

Interview with a man, he said it is a great piece, and suggested that it should be exhibited in another space. He said that he took his girl to the Tate modern recently to show her what installation art is about, and that if his daughter came with him she would love the Threshold work. However, he noted that his girl would probably not be able to reach the pipes (again the same issue that came up in under scan with the size of the portraits). In this case maybe the chimes would be lowered to match the height of children. He liked the fact that it is related to the memory and said: "When you are inside it feels great, you feel completely immersed in it"

6.30-7.00 pm.

Today, a student told me that the piece seems randomly assembled or arbitrary. He suggested setting the tubes in order to get a crescendo effect or something like that. I have to define in the future what was the intention of the piece, to make the users actually create their own patterns or for the piece to dictate how they will interact with it?

### **C.3.3. Interviewing**

I prepared the following questions to be asked to threshold users. Not all were used. Each depends on the participants:

#### Opening questions

- Can you tell me what you think about the piece?
- Was it easy actually to know how it works quickly?

#### Intervention and spatial perception

- Are you familiar with the space? Do you come here very often?
- Did it change your perception of the space? If yes, then please say how.

#### Memory

- Anything in the piece that suggests a relationship to memory (collective, personal or building's memory)?

#### Soundscapes

- How did you find the sound projections produced by the chimes?
- Did you hear the recorded sounds? If yes, what do you think of them?
- What are the projected sounds about?
- How do they affect your perception of the sound?
- Is there any difference between the sound of the chimes and the projected sounds?

#### Socio-spatial practices

- When you touched the piece did this stimulate any feedback? How?
- Did you feel observed and did that disrupt your interaction?
- Did you observe other people's behaviour and interactions with the piece?
- If yes how did you find their behaviour and interaction?
- Did you play with the piece with other people?
- Did you feel engaged within the space of the piece?

#### Time / duration of engagement

- How long have you been here? Interacting with the space?

Interviews were transcribed and provide a range of data representing users' views of the work.

## Sample Interview

[File name: DW-A0434]

*Note: This interview held on Saturday June 16, 2006 with a student and part-timer at the Queen Mary College. At the beginning I watched him play with the chime before talking with him about the work. Here I refer to the interviewee with the letter S.*

---

NM: how did you find it?

S: very post-modern. I have never seen this before. It looks like an installation to me. I am not sure about those three things there. It looks like it is causing some noise. I couldn't really listen to it clearly.

NM: Those sounds represent stories taken from the memory of this building?

S: Which building? You mean this building?

NM: Yes. They are fragments telling you mini-stories about this building?

S: Oh. Is it?

NM: Yes. If you keep on moving these three pieces, they should tell you more?

S: Wow. Really!

S: So it is like that. And you so you can listen to them playing. Yeah? But there was no description about this, or anything.

NM: Well we will provide some this afternoon.

S: Oh. I see!

NM: How did you feel when you where standing under the Chimes?

S: Very interesting, I really liked it. It is kind of different, I mean.

NM: Do you visit this space often?

S: I work here part time

NM: How do you feel this installation has changed the space?

S: yes definitely. ... as a post-modern artwork in urban space. That is definitely something different. Isn't it? But I think it is a bit confusing, because people here do not know what it is! So maybe if you put some description on the wall then that would make it clearer. And then people would just play around and things like that. [Silence]. That is very interesting! Did you make it?

[...]

NM: Part of this is related to virtual soundscapes to the space, when people come and touch the chimes, the stories would start being projected from the three big tubos. So, what do you think of this?

S: Well, that is very interesting. But actually we have to know a little bit more. I am actually very interested in this sort of alternative arts.

NM: Do you have any suggestions for the piece then?

S: This kind of works gives us freedom. There is quite a lot of creativity.

NM: Can you explain more?

S: Well, I mean it gives a lot of freedom to people can mess around with them, it lets them express their feelings about something. But I am thinking if you actually arranged the tubes in sequence, then maybe you can like proper musical instrument. So instead of laying short tubes everywhere, you can arrange it so you have the longest tubes on one side and the shorter tubes on the other side. So you can have a salipahan type of thing.

NM: How would that make a difference you think?

S: This way people would guess that longer tubes would make a different type of sounds for instance. But now, the sound is kind of random, it does not have any meaning behind it. What I am thinking, if there was some meaning behind it then it would be quite good... At the moment, I think I look at the four poles out there, some wooden beams there, and some tubes, it doesn't really do much for me. I don't know what it means. If you give it some meaning or invitation, that may get people thinking.

NM: Do you think this should be done for instance on the level of the narratives projected?

S: You do not have to tell people that much. But just give them a little bit of idea; a hint would be quite good.

NM: Do you think that the physical sound is more interesting than the produced virtual projections?

S: Well, I mean they are quite random, I don't see how there is a sequence. I don't see how you should do with the tubes.

### **C.3.4. Video Recordings**

During the first exhibition of Threshold, I used video recording to document different aspects of the project. This included recording the installation process, and the users' interaction with the piece. The footage was useful for analysis in a later stage.

For instance, for two days during the June exhibition, two video cameras were set up simultaneously to record. One camera was set up close to the installation while the other was located further to capture a more general view of the piece in context. Sometimes, we recorded some people individually, other times we left the cameras running for more than an hour. Four tapes (90minutes) are available with recordings. These were used to focus on users behaviour, comments and interactions.

To edit the footage, I worked on editing the recordings with Adobe Premier and selected stills to be analysed and interpreted. Most of these are available in the Appendix D (see DVD3 and DVD4).

Scene 1  
Scene 2  
Scene 3  
Scene 4  
The interface

User 1  
User 2  
User 3  
User 4  
User 5  
User 6  
User 7  
Interaction 1  
Interaction 2



1. Raises her hand to touch the first interactive chime.
  2. Listens to the sound.
  3. Touches the normal chimes.
  4. Plays with normal chimes again.
  5. Waits and looks at the others.
  6. Moves towards the other interactive chimes.
  7. Moves towards the third chime.
  8. Stands and focuses on the sounds.
  9. Trying to understand the stories
  10. Goes back to the first chime.
- Etc.

*Figure 33 Analyzing the video footage*

Images taken from the footage and showing Threshold's second installation in the Foyer in QMUL on September 12, 2006. The images present the piece while being experienced by conference participants. Along with other sequences, this example was used in analyzing and mapping users experience in the Threshold space. Source: *Experience 2 in Appendix D (DVD 4)*



Figure 34 Dancing in Threshold.  
Sequence taken from DVD 3 Scene two "Dancing in Threshold"

## C.4. Interpretation & Recommendations for Future Interventions

This stage aimed mainly to compare the data from different methods (observations, video-recordings etc) and to find the commonalities and differences between different participants' views and interactions. Like in Under Scan, I also analysed the data in the context of hypothesis.

I used different methods of analysis.

- Interpretive methods of analysis
- Discourse analysis of interviews, conversations, and individual comments.
- Interaction analysis through video.

This phase generally involves three procedures:

1) Identification: After collecting the data, evidence is still unrefined. First, this data needed to be identified and categorized according to sources and meanings. Identification involves, recognizing the source, date and nature of the data (photograph, footage, drawings...etc).

2) Categorization: allowed classifying and comparing the data according to the themes and significance.

3) Analysis & evaluation: findings from Threshold were interpreted in a similar framework to the previous interventions. I particularly examined the following points:

- Intuitiveness
- Site specificity
- Technology

I looked at the behaviour of people, and compared it to my observations and interviews. In particular, I focused on analyzing patterns of movement. I looked at passive users (those who are going in and ducking) and more creative users (i.e. the dancer who stayed for few minutes interacting with the chimes with her whole body).

(4) Comparison: this stage was to compare between the two stages. In this particular project, interestingly the piece was more



## C.5. Horizontal Replication

The piece was exhibited twice. It involved two stages. Stage One was an experimental test of the installation; it involved the experimental installation for the Human Rights conference (Performance International) in June 2006. At this point, we installed Threshold in PSI 2006: *Performing Rights: Performance Studies International Conference #12*, which was held from the 15<sup>th</sup> to the 19<sup>th</sup> of June 2006. The first phase of the Threshold project involved all the work done before the installation in June. For instance, this includes the choice of the site, the design and construction of the piece, and the collaborative work as well as the discussions and changes made to the project throughout the whole year prior to installation. All this material is recorded through emails, documents, drawings, video recording and pictures.

To facilitate managing the project and insuring better results, it has been decided that the project can be done in two stages. Two main things should be taken into consideration during the replication stage:

- (1) Prepare a plan for ethnographic mapping.
- (2) Ethnographic Alignment: try to collect related sets of data. For instance: interview the same persons, which appears on video recording and write my personal notes on this person. This way the data would be complementary.

For stage two of Threshold, it was important to improve the methodology. This means creating a flexible plan. So the next step, I design a framework, which would work for difficult kind of situations. (For instance, one set of questions for the dancer type of characters. And another for the rushing people).

The plan was to overcome a few shortcomings from Stage One, such as:

- More extensive database, two cameras + two sets of questions for different types. Because it is a threshold space (passing through the entrance space), the protocol should acknowledge the nature of the space. It should also acknowledge the possible relations between the body of the user, the location and the Interface.
- Not looked into group interactivity and the social dimension I should look at that.
- Ethnographic alignment
- Develop the technology for the interface. If budget was spent we can negotiate with Peter Wright on the technology preferred for the next stage and the exhibition, if he supports testing and experimenting further with wireless speakers then we may need some more funding
- The sound projections: this involves getting in touch with drama/ theatre students to perform the recording and insure a neat way for recordings. For the next sound recording I can get a professional microphone and record in the anechoic room here or get in touch with the LMUD (April) and ask about possibilities of using studio or support for neat recordings.
- This was only one-day exhibition: Setup of exhibits for CCID took place on the morning of Tuesday 12th (not on Monday 11th) and Breakdown of the exhibits happened on the evening of Tuesday 12th Sep or early in the morning of Weds 13th Sep (to be confirmed by workshop organizers).

For Stage 2, we re-exhibited the piece as part of the CCID conference in September 2006 (also, the final Leonardo International workshop). Few arrangements were made for the second setup. Some of the previous issues were reconsidered for Stage Two, and of course more data was collected.

After the CCID exhibition, we have proposed to further develop and re-install the Threshold piece in two events:

- (1) We submitted a proposal for Interactive Installation at the Lancaster 'Perimeters, Boundaries and Borders' Exhibitions, which was held from September 29 to October 21, 2006. The proposal was unsuccessful.
- (2) We were also invited by FACT cultural centre in Liverpool to exhibit the piece for children. (This project is still pending).

## C.6. Representation & Evaluation

Following the two stages, the project was represented through DVDs, paper publications and reports. The case study (Chapter Eight) focused on three main ideas, which summarise the interrelationships between body, site and interface. These points are:

- (1) Flexible bodies
- (2) Syncopated Spaces
- (3) Relational interfacing

The relational interfacing relates to body and site through

In the case of further interventions, we may take into account the following considerations/notes:

- Explore possibilities of using real-time recordings of events that are/were taking place in the building and improve the interface to be able to record/ project them.
- In case of development, the preferred option would be to use a digital MP3 this would save us the need for tuning, it would allow for the best connection and control but it is the most costly. The second option would be to use wireless speakers; this would allow for a clear connection but there does not allow possibilities of control for instance, if we want to be able to tune. The last option would be to carry on with the current technology by keeping the wireless radio where interference and distance could be an issue.
- Decide on the notes sensitivity and behaviour. For instance, the sound may be activated when the tube swings and then slows down and shut up.
- The piece was located in the corner and not central, this may be a reason why users were not always aware of the piece.
- The nature of the recording: the sounds were fuzzy; people could not clearly understand what was projected.
- The Foyer is part of an educational building, and most people did not expect to see a piece like this. Or simply were in a rush and did not notice the piece. We wonder what kind of interactivity we would have got if the conference was running in the same building. Or even if the piece was exhibited outside the building or in a public space. Or in a space that have children access to it. In another context, the installation may be much more effective.
- The type of people who experienced it was not as we expected, I personally observed that conference participants were keener than the usual users of the building. Jen observed that men are generally more curious and attentive to the piece than women. Observations may be supported or dismissed by the videotapes.
- Generally, the installation required complete attendance and maintenance to make sure that the noted tubes were working properly and to make sure that no one would touch the interface. This is time consuming. Also, one of the inconveniences of this installation was that we had to uninstall the technology at the end of each day to store it in Nick's office to re-install it next day.

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