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Endless Fire: Multimedia interactive installation involving the use of thermographic cameras for the measurements of moist parameters (human temperature) in relation to sensations, feelings and the technologic environment

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ENDLESS FIRE

Multimedia interactive installation involving the use of thermographic cameras for the measurements of human temperature in relation with sensations and feelings

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Background

During my research career, I have explored a number of compositional techniques and communication strategies always confronting and taking inspiration from twentieth-century artists and movements.In this work, I provide an overview of the multimedia installation that I am designing for my PhD.

Three main approaches characterise my creative process:

1.   Reconsideration of everyday perception and life
2.   Use of body / matter
3.   Use of new media

These topics have been considered as means to reach the audience forthwith through intuition. Intuition is the human ability of seeing many things at once, of viewing the whole picture perceiving the essence of things. The use of technologies and media will allow conveying to the audience different non-consequential messages, contents and stimuli at the same time. In a multimedia environment, I can communicate quickly and directly reaching the widest range of people, including those without special expertise, knowledge, background or education.

I just need people to sense and perceive in order to exchange experiences and communicate with them.

I am aware that two main problems will emerge during the design and the realisation of the process:

- to skip analytical thinking preventing the routine use of linear logic
- to involve the audience profoundly in an experience that is both mental and corporeal

Accordingly, my efforts will be mainly directed to:

- stimulate perception, awareness and insight in the audience through an immersive, multi-sensorial and multimedia environment
- push people towards non-consequential thoughts and intuition

The development of installations and performances strengthened by the use of new media propose to activate and modulate all senses of the audience. This will give people the chance to experience the thoughts as reality, to use simulation as a laboratory of creativity.

In a multimedia environment, furnished with opportune technologies, I can try to alter and create perceptions, increase awareness of the situation in which the audience is immersed by developing its ability to think in pictures, encouraging intuition and introspection.

Structure and description of the installation

This installation is a project that translates data from the human body (motion, temperature of the body and its changes) into images and sounds. These data are captured from thermographic cameras and infra red cameras. The parameter captured change accordingly to audience's sensory and emotional response that can be accidental or caused by the surrounding environment that is characterised by synthetic elements (sounds, cameras), material (smells, objects) and human (performers).

The interactive installation involves two different environments (room A, room B) that convey two paramount concepts:

1.   **the inner world** in which feelings and sensation are created and elaborated (room A)
2.   **the outer world** that is how and where is expressed what is inside and how start communication with others and the reality (room B)

1) The main features of **the inner world** are:

a difficult access
a comfortable place (at least in most cases)

In the installation this idea will be represented by a room (A) that will have the following features:

- darkness
- presence of sounds
- presence of odours
- presence of objects
- presence of performers that, through their body and tactile stimuli, will seek to provoke physical contact with the visitors
- thermal cameras (**Fig. 1**) that will detect the change of the body temperature of the audience in relation with what is happening in room A[1]. The software Max Msp/Jitter (**Fig. 1, Fig. 2**) uses the data from people in the room A in order to transform some parameters of the video that will be played in the room B (colour filtering, overlapping of images).
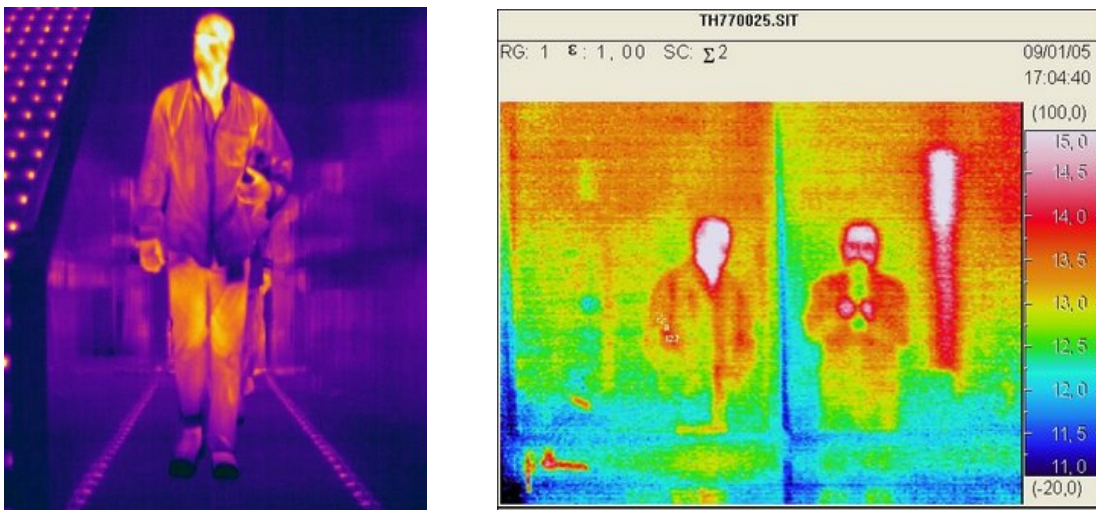

Figure 1 *thermographic camera is a tool for recovery and forfeiture of video data related to the temperature of the body of any human and non-human being or objects. The device also capture the differences and changes of temperature in the same body or between one body and another.*
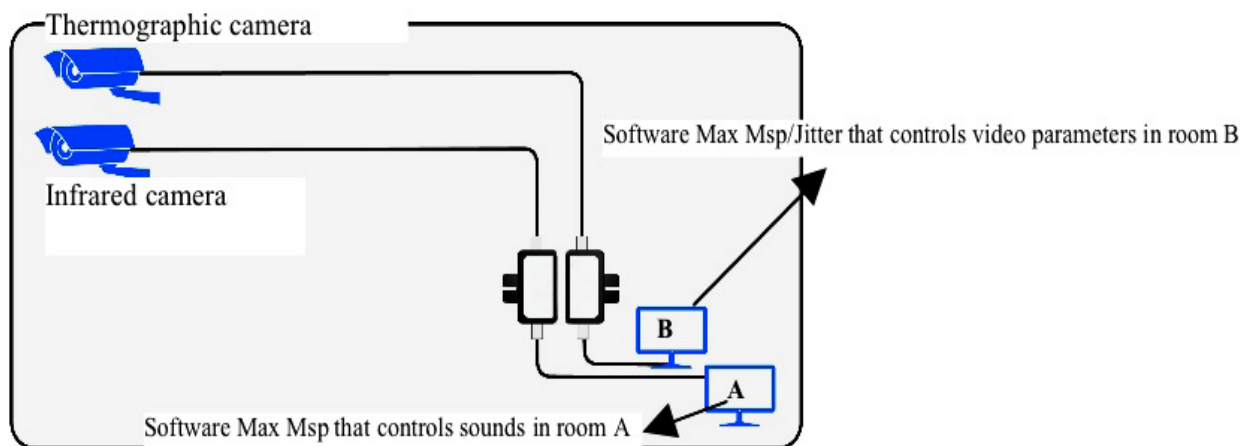

Figure 2 *Cameras' wiring system*

- infrared cameras, together with the software Max Msp (**Fig. 3 B**) let me design an audio-motion creativity tool which recognises body movements in real time and transform these informations in combinations of sounds or changes of the sound structures that are played in the room A (**Fig. 2, Fig. 3 B**).

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1   The audience could ear amplified voices, such as recordings of their own voices recorded at the entrance. The recognition of their own voice may cause embarrassment. Otherwise, contact with the performers could cause embarrassment and pleasure or disgust and fear.
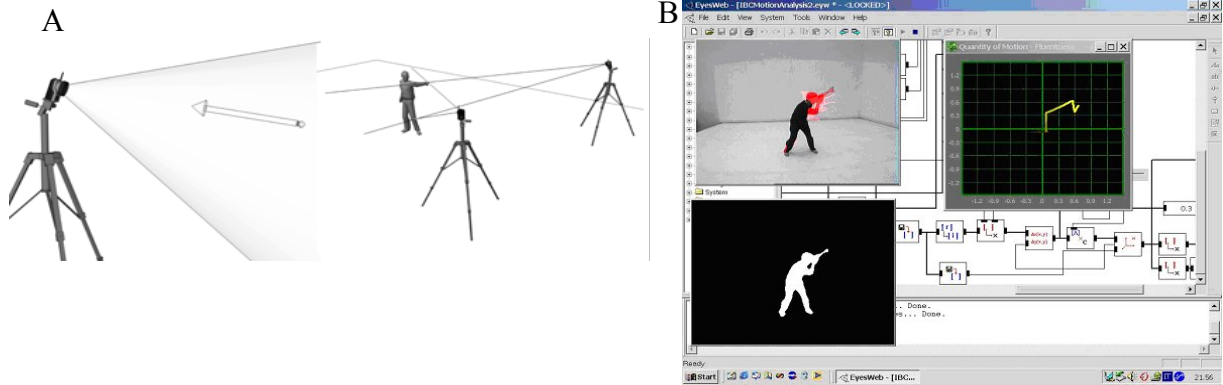
Figure 3 (A) *Representation of an infrared camera system.* **(B)** *Max Msp/ Jitter software.*

A brief reference to the characteristics of the entrance of the room :
The access to the inner world is complex and therefore the entrance area to the room A will have some specific characteristics to underline the difficulties of accessing it. An unstable floor and irregular walls with restrictions (various materials that makes the passage impervious, **Fig. 4**) will be present.
Entering our own inner world should not be an automatic and fleeting gesture; this constricting passage will serve to bring people to a higher level of consciousness and awareness.

Figure 4 *Representation of some restriction that can be placed in the corridor before the entrance in room A*
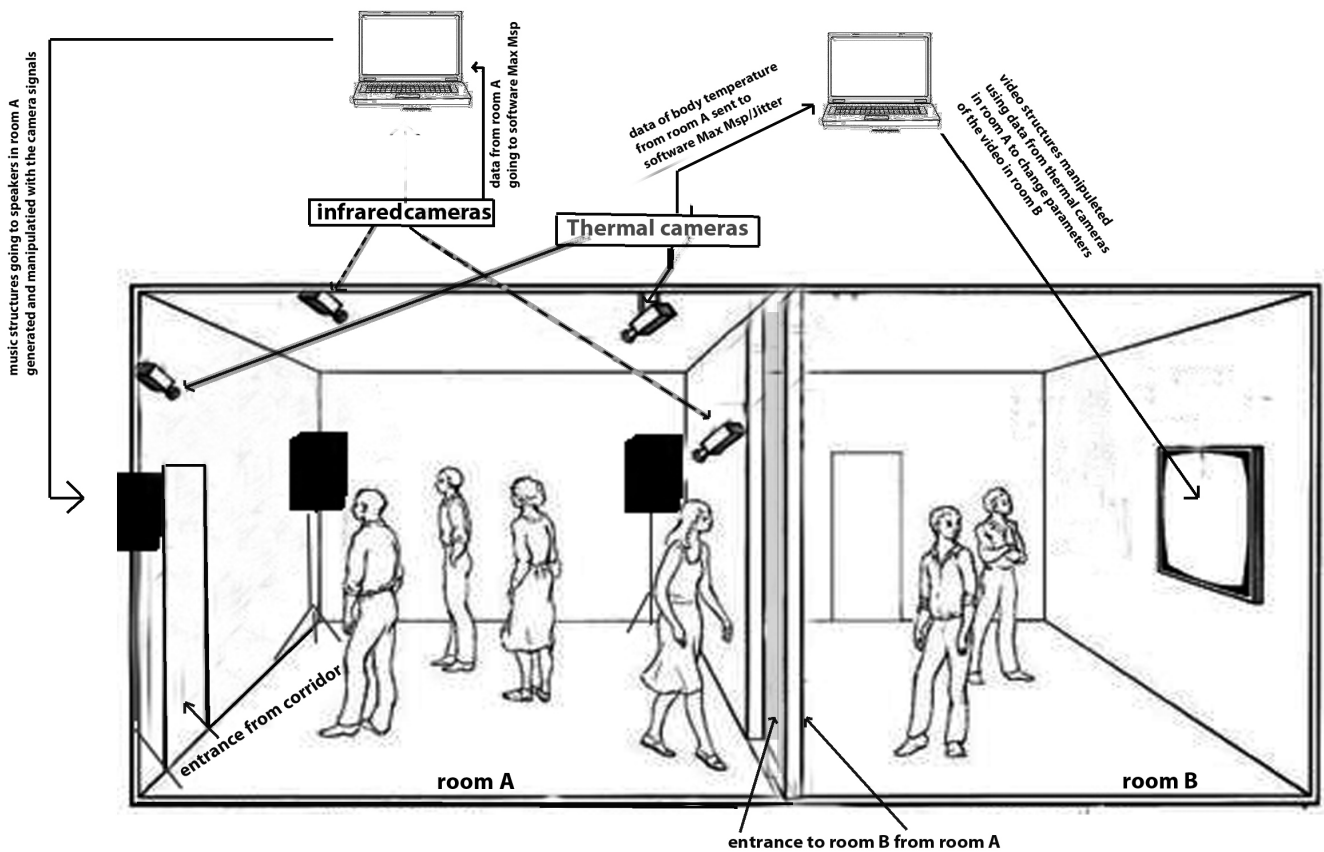
2) The key elements of the **outer world** are:
> the easy access
> the control
> the phase of transition from the inside
> the liminal space existing before it (between inner and outer)

In the installation this idea will be represented by a second room (B) that will have the following features:
- a screen
- projection of a video (a movie with images of places and people)
- presence of light
- no amplification of sound (only the presence of background noise in the room)

A brief reference to the characteristics of the entrance of this room:
The access to the room B, the second part of the installation, is much easier: an opening without a door but an elastic membrane (like a curtain), very simple to open or to circumvent passing through. This simplicity in the entrance represents the fact that the externalisation is generally a simpler and less conscious action than looking inside the inner world. What we say and show outwardly can be filtered, also simplified and schematised, while the things we think and we have inside are not only the most honest and strong but also complex and hard to be moulded. Apparently, there is a greater management of what we are or want to be and say outwardly. However, more disappointment and frustration exist, due to the simplicity or "poverty" that occurs during the transition from the inside out.

música structures going to speakers in room A
generated and manipulatied with the camera signals

data from room A
going to software Max Msp

infrared cameras

data of body temperature
from room A sent to
software Max Msp/Jitter

Thermal cameras

video structures manipuleted
using data from thermal cameras
in room A to change parameters
of the video in room B

entrance from corridor

room A

room B

entrance to room B from room A

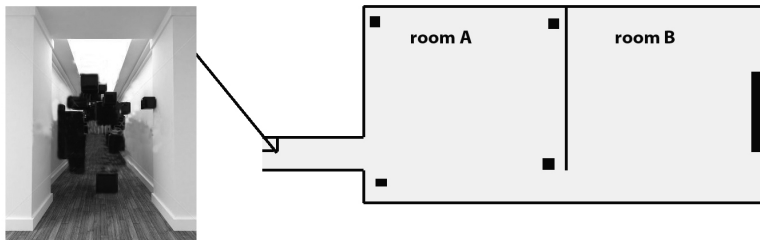Entrance to room A, (corridor with restrictions)

room A

room B

Figure 5 *Representation of room A and B – spatial and wire plan*

Interaction between the two concepts

This installation focuses on a dynamic process of interaction between the body and the technologically innervated and immersive environment (room A and B).

There is an interaction between the interiority of the audience in the room A (their feeling and their mental experience in the darkness and the alterations in body temperature) and what happens to the video that is showed outside, located in the room B. The thermal camera does not take the body of the viewer *per se* but only the variations of it (in particular temperature's variations). The data of change in the bodies' temperature, sent to the computer and the software Max Msp/Jitter, will control and manipulate some parameters of the video in the room B (colours filters, timing and velocity of images, selection of frames).

The video in the room B does not have anything in common with the video shooting in the room A, it does not show what is happening there. The mismatch between what is shot inside and what is projected outside expresses the incongruities between the inner world and what emerges of it.

Even if we can strive to express our true selves, others might perceive only part or just the effects of what we feel and think. In the same way, the computer does not send the image of the people in room A into the monitor in room B, but it sends simply the effects of what is happening.

At the same time the infrared camera captures the gestures and movements of the audience in the room A; the motion capture will be used to manipulate the sounds played in the room itself. This represents the effects of the inner investigation: looking inside cannot leave indifferent but it certainly has an impact on us.

The contemporaneity of events in the two rooms represents the idea that people and the world in which they are immersed are a continuous flow. In this flow, all structures, boundaries, liminal spaces and properties that constitute what we are can be outlined and reconfigured in a non-sequential and not linear manner. Our being and the world itself is constantly reworked in a dynamic relationship with each other in a symbiotic way.