The computer artefact: the central element in the practice-based research and creative cycle approach in the digital media art

DSIE 2019 – Doctoral Symposium in Informatics Engineering, FEUP, 6 March 2019

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Reference Articles:


Foundations: the Pioneers (Dada)

DADA characteristics:

- unconformity with accepted rules and conventions.
- scandal was the leitmotiv to shock their audience into self-awareness
- embraced chaos (anti logic) and irrationality
- presented as anti-art
- certain form of nihilism (an extreme form of skepticism that denies all existence)

“Fountain”, by Marcel Duchamp
Dadaists adopted the principles of abstraction, spontaneity and chance and employed the technique of collage and odd juxtapositions of image and text to create a sense of the absurd.

Dadaists were united not by a common style, but by their rejection of conventions in art and thought.
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Foundations: the Pioneers (mixed)

“an interactive machine that invited users to interact with concentric rotating glass plates to generate visual effects”

Main Characteristics:
- interactive
- spontaneous and dynamic
- appealing for other senses

“Rotary Glass Plates”, by Marcel Duchamp & Man Ray (1920)
Foundations: the Pioneers (mixed)

“a device for creating light sculptures by projecting silhouettes in movement.”

Main Characteristics:
- volatile (a certain sense of virtuality)
- spontaneous and dynamic
- appealing for other senses

“Kinetic Sculpture Moving”, by László Moholy-Nagy (1933)
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Foundations: the Pioneers (Conceptual Art)

Conceptual art: the idea or concept is the most important aspect of the work.

- concept is king
- not necessarily aesthetic
- appealing to other senses

“One and Three Chairs”, by Joseph Kosuth (1965)
Fluxus art movement has extensively explored the idea of instruction-based generated art along with the immersion of the audience in the event, forcing an interaction between the spectator and the artworks.

“Musique télépathique n° 5 (Telepathic Music #5)”, by Robert Filliou (1978)
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Foundations: the Pioneers (mixed)

Art as “experimental research in computer-generated transformations of visuals through mathematical functions.”

The hummingbird is a good example of computer-generated animation.

“Hummingbird”, by Charles Csuri (1967)
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Foundations: the Pioneers (mixed)

“Art as a living process” and “artificial live” as art

Pioneered the today’s artificial live artworks

The pioneers have created and explored new paradigms, namely:

- unconformity with accepted rules and conventions.
- embraced chaos (anti logic) and irrationality
- **Interactivity**
- spontaneous and dynamic
- appealing for other senses
- volatile (a certain sense of *virtuality*);
- concept is king
- not necessarily aesthetic
- **instruction-based** generated art
- immersion of the audience in the artwork
- computer-generated transformations and *controlled randomness*
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The Digital (Communication) Medium
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**Foundations: the Digital Medium**

- From Latin *arte factu* - «made with art»

- Art and culture are social phenomena, resulting from social interaction, as well from individual and collective imaginary manifestations, that together establish a common *communicational and informational space* embracing *artefacts* said to be cultural and artistic.

- These *artefacts*, where some are possibly non-tangible, constitute, in fact, the resulting product from the artistic and cultural phenomenon. They are expressions of our imaginary.
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*Foundations: the Digital Medium*

... common *communicational and informational space*, supported by cultural and artistic artifacts

i.e, the central element here is **INFORMATION (or informative content)**

... and the artistic and cultural **Artefacts** can be defined as **Informational Objects**
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Foundations: the Digital Medium

- **Art objects** or **Artefacts** might be described as **symbolic objects** that aim at stimulating emotions.
- They **reach us through our senses** (visual, auditory, tactile, or other).
- They **are displayed by means of (un)physical material** (stone, paper, wood, mechanics, electronics, digital, etc.) and combine some patterns to produce an aesthetic composition.
- Their creator intends **to convey some message, offer a certain experience**, normally to suggest some state of mind or **to induce an emotion** and the consequent feeling.
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Foundations: the Digital Medium

✓ The digital medium is defined here as the set of digital/computer technologies ranging from digital information formats, infrastructures to processing tools that together can be taken as a continuum art medium used by artists to create digital artefacts.

✓ Digital media art applies the digital/computer medium both as raw material (e.g. information content) and as a tool to enhance creativity.
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**Foundations: the Digital Medium**

**Physical World**
- Real
- Permanent
- Passive

**Mechanic Artefacts**
- Stone
- Hood
- Ceramics
- Canvas/Pigment
- ...

**Digital Media Art (Computer)**
- Mechanics
- Electric
- Electronics (analogue)
- Components

**Virtual World**
- Virtual
- Transient
- Interactive

**Digital Information Content**
- Multimedia/Multimodal/
- Ubiquitous Technology

**Communication/Infrastructure**
- Interface/ Storage
- ...

**Continuum Art Medium**

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Digital media art’ differential characteristics
Digital media art is mainly based on three grounding concepts:

- **Randomness Access**: perceived level of non-determinism in the instantiation of the artefact (or part of) created by an algorithm based on instructions previously configured by the creative artist or by the audience itself;

- **Virtuality**: the physical object is migrated into a *virtual* or *conceptual object*. The *concept* itself becomes perceptible through its virtualization/perception;

- **Interactivity**: the viewer may assume an active role in influencing and changing the artwork itself.
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Lessons Learned: Digital Media Art’ Differential Characteristics

The digital media art’s creation process relies mainly on:

✓ Collaborations between artist(s) and a multidisciplinary team, from art, science, technology, design, etc.

✓ Design of the artefact’s message and its development. The digital/computer medium is always present and traversing the overall creation process.

It is a non linear process!
Lessons Learned: Digital Media Art’ Differential Characteristics

The process of developing the computer/digital components of the artefact follows, to a large extent, the procedures adopted in the development of small and medium-scale computer systems and applications.
Lessons Learned: Digital Media Art’ Differential Characteristics

However, contrary to the traditional design process where the solving of a problem guides the designer's action, in digital media art the systematization does not appear primarily for such purpose, but rather to enhance a meaningful experience of aesthetic contemplation that comes from the creation/fruition of the artefact.
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Research in digital media art
What is research in arts

It looks for **new knowledge** of the following nature:

- Aesthetics Thinking or Aesthetics Narratives;
- New/Amplifications of Meanings;
- Thoughts and Perspectives of Seeing;
- Artistic Experiences, Practices, Techniques, Approaches, etc.

That has to be **understandable** (comprehensive) and **demonstrable** to others; **supported in evidence**, **replicable**, and **defendable before peers** (or a examination panel)!
Lessons Learned: research approach in Digital Media Art

The artist-researcher **immerses** in a journey of **intense reflection**, resulting from:

- the **gradual maturation** of his/her primordial vision *(theoria)*;
- the **practical experimentation with technologies and materials** *(praxis)*;
- and the **materialization of prototypes** of and of the artefact itself *(poesis)*;
- while in the scenario of exhibition, use and enjoyment.

It is a journey **full of inner conflicts and questioning**, in relation to the process, the materials, the primordial idea and the public.
Thus, research in digital media art is essentially a **practice-based approach** following the creation cycle, thus, **around the set up of the Artefact(s)**.

The **deeper the process of reflection-experimentation-construction** (materialization) carried out at the appropriate times, which include pauses and periods of intense activity, **the greater the propensity** to achieve results to reach high **aesthetic quality** in the perspective of the experience provided and of the **reflections realized**, thus of the **research results obtained**.
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Narrative Design

Perceptive Design:
- Content
- Empathy
- Interaction

Concept Design/Drawing
- Sketching
- Draft drawing

Experience Design

Technology Experimenting

Revisit Interpretation

Aesthetic Musing

Primordial Vision/Idea

Revisit Reverberation

Artefact Design
- Architecture Design
- Technology Selection
- Use Scenario Design

Artefact Implementation
- System Programming
- Techn. Integration
- Artefact Implementation

Artefact Exhibition Planning
- Exhibition Montage
- Assessment

Public

New/Amplifications of Meanings, Senses, Aesthetic Discourses, Artistic Experiences, Aesthetic Contemplation

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Lessons Learned: research approach in Digital Media Art

**Aesthetic Musing:**

*This activity plays a central role in the creative cycle, since it represents the *moments of contemplation* where the artist/creative person revises, revisiting his/her seminal vision in the light of the decisions made (or only planned) during design and development of the artefact.*
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Lessons Learned: research approach in Digital Media Art

Techniques / tools for practice-based research:

- Time planning around the cycle, including milestones (without losing flexibility)
- Freely experimenting technology
- Board book to register sketches, observations, reflections, decisions, results and drawbacks, etc.
- Impose a gradual maturation of the artefact
- Team work / exhibition planning / inquiries design / capture in video / sound the public fruition
Lessons Learned: research approach in Digital Media Art

**Distinction between practice-based e practice-led**

- If a **creative artefact** is the basis of the contribution to knowledge, the research is practice-based.

- If the research leads primarily to new understandings about practice, it is **practice-led**.
For practice-based researchers, making an artefact is pivotal, and the insights from making, reflecting and evaluating may be fed back directly into the artefact itself.

Practice-led research, on the other hand, does not depend upon the creation of an artefact but is nevertheless founded in practice.
Digital media art from the students of the doctoral program in digital media art (Aberta University; Algarve University)
Artefacts

Digital textile artefact that studies the interaction of e-materials with the traditional tapestry technique

Explores a kind of interactive visual-sound-musical language

“Interactive Carpet "Óbidos / Oppidum"”, by Teresa Barradas et al. (2014)
Artefacts

Uses the **principles of sound art** to explore the concept of the **user's sound portraits**

Performer immerses himself in a performative and **choreographic dimension of self-representation** (self-portraiture)

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**Artefacts**

Develops a **pictorial, dynamic representation** that represents the place of the pilgrimage, which is changing as a result of the **interaction** of the user who manipulates a **pendulum**.

"Between the Sacred and the Profane in the Feasts of S. João d’Arga", by Dominguez et al. (2014)
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**Artefacts**

*Examples of visual compositions generated by the artefact*
Artefacts

**Video mapping** to explores religious physical artefacts thus offering a spiritual / philosophical experience

Further references:


Two reference conferences:
- ARTECH – International Conference in Digital and Interactive Arts

- ARTeFACTo – Int. Conference on Transdisciplinary Studies on Artefact in Arts, Technology and Society
Additional information

- [http://dmad.dcet.uab.pt](http://dmad.dcet.uab.pt) (info DMAD)
- “PRESENCE” - [https://youtu.be/PMaUHHCq66U](https://youtu.be/PMaUHHCq66U)
- [https://youtu.be/XaJb05YFFRc](https://youtu.be/XaJb05YFFRc) (Artistic residence Cerveira, 2015)
- “Pontos G – Chakras Invertidos”
  - [http://artefacto.artech-international.org/paulo-cesar-teles/](http://artefacto.artech-international.org/paulo-cesar-teles/)
  - [https://www.facebook.com/aderito.marcos/videos/10217772929494046/?t=22](https://www.facebook.com/aderito.marcos/videos/10217772929494046/?t=22)
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Collaboration between students from Informatics Engineering and Digital Media Art doctoral programs are desirable and welcome!

Feel free to contact us!
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Thank you