# Contemporary Art Digitalization:
An Opportunity for Designing New Experiences

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Abstract. CLOUDART is a cross-disciplinary working group that joins the forces of three specific domain expert communities: Contemporary Art, Human-Computer Interaction, and Multimedia Software Engineering, all experienced in socio-technical creative projects. CLOUDART initiative aims to investigate how to design new hybrid user experiences for the online fruition of Contemporary Art.

Keywords: Art digitalization · Human-computer interaction · Interaction design · User experience · Extended reality

1 Contemporary Art: Beyond Physical Presence and Bodily Experiences

Contemporary Art always anticipates society's visions and demands. Its field of action expands outside the physical outcome, going beyond something that can be seen, heard, or touched. Contemporary Art production is not composed of only paintings, drawings, or sculptures; the materials used come from different sources: tangible, intangible, or even dematerialized. This became obvious from the 1960s, when conceptual art, happenings and performances, land art, video art became central in the art discourse [1], and modes of their documentation, reproduction, and cataloging became hot archival issues [2]. The creation, maintenance, and distribution of digital art archives are the themes that mostly affect the field of Contemporary Art. This presents peculiar needs and issues to be addressed that originate from the large variety of the types of art that are put in place; e.g., site-specific installation art, participative art, public art (and their engagement in

the social and political sphere), technology-based art. In all these examples, problems that arise are related to the challenges that emerge from the conservation of the artistic contribution – sometimes very difficult if not impossible due to the intangible nature of their materials or because of the obsolescence of technological hardware used in the original artworks. In 1999 Nicholas Mirzoeff proposes an overturned definition of postmodernity: "the postmodern is the crisis caused by modernism and modern culture confronting the failure of its strategy of visualizing. In other words, it is the visual crisis of culture that creates postmodernity, not its textuality" [3]. Is it possible that today, our practices of looking – which increasingly continue swinging around the many images we encounter every day – are again in a new phase of transformation? We believe that Contemporary Art production can help us to understand that transformation because in its very realm such practices of human measurement constantly change [4]. Just a few decades before Mirzoeff's reflections, still the body was the only one constant of scale for sculpture: in the 1960s Bob Morris in his famous *Notes on Sculpture* articles used to link art objects' qualities to be either intimate or public (namely non-personal) to their relative size (smaller or larger) as compared to human body [5]. Till then and for centuries it has been an affair of Body and Space. Both of them vanished in the communicational and educational streams that flow through the Internet for most of our new days. So, proper digital measures enabling us to feel wonder as to when our body was in that real space should be studied or new practices of looking and the visualization through digital devices (to sympathetically and electively feel wonder) should be implemented.

CLOUDART is a cross-disciplinary working group that aims at joining the forces of three specific domain expert communities: Contemporary Art, Human-Computer Interaction, and multimedia software engineering, all experienced in socio-technical creative projects. CLOUDART aims to investigate the methodologies necessary to fill the gap of online fruition both by proposing techniques capable of increasing the fruition of art online and, in a more visionary way, to produce new types of experiences using disruptive technologies, producing new digital archives, trying to overcome the problem of the absence of body and shift toward a new paradigm. CLOUDART members' research is focused on the creation of a cross-media digitization able to design new use of digitalization experience, still unpredictable, but oriented to and implemented in the Contemporary Art field.

2   Digitalization of Contemporary Art: The CLOUDART Vision

In the Oxford English Dictionary, the term *digitization* refers to *the action or process of digitization; the conversion of analog data (especially in images, video and text for later use) into digital form.* By contrast, *digitalization* refers to *the adoption or increase in the use of digital or information technology by an organization, industry, country, etc.* By reflecting on the meaning of digitization and digitalization, it becomes clear that the future of a new digital market needs digitalization, in the sense of digitalization for precise purposes [6]. Today, to become available and known all over the world, artworks need to be appropriately dematerialized through the process of digitization, properly archived, and made available on the Internet.

The entire process of artwork management, evolved through centuries and consolidated in the last 50 years, needs to be rethought. A question arises: what should be the

correct use of digitalization for the diverse artwork of Contemporary Art field? There must be awareness of the concept of immateriality and the relative disappearance of objects. The fruition of art through a computer screen leads to a new principle of reality, a vision that is free from physical bodily sensations. The perception of art assumes new dimensions, so new psychological attitudes need to be investigated: the perception of art through the Internet loses the physical sensation that stems from seeing, living, interacting with art in presence, and that is led by personal previous experience. Digitalization and dematerialization concepts assign to screen-mediated art fruition a new principle of reality, detached from physicality, that has not yet been thoroughly investigated. The key factor of the CLOUDART initiative is the establishment of a team of stakeholders with diverse backgrounds and professionalism from a variety of fields to cooperate and mutually inspire the conversation. Particularly, the challenging relationship between art and technology and human work needs to be explored. The design of interactive applications to support the human work of professionals needs to be appropriately informed [7]: new design methods, approaches, and techniques need to be defined, as well as the development of new technologies and the disruptive use of old ones must be tailored on the specific artistic application domain. Despite that CLOUDART is focused specifically on Contemporary Art, the results of such research are relevant to other fields. The introduction of new design techniques, that insert the point of view of technological humanism in the redesign of established but obsolescent knowledge management process, is also expected to have a stimulating effect on the job market: cross-disciplines and intersections are crucial elements for redesigning new digitization and digitalization skills and such effect will be consistent with other significant drivers of both successful business development and general European economic development. To influence the design of new hi-tech services and products it is fundamental to establish interdisciplinary communities of domain experts, capable of designing emotional services, shaped also on the principles of artistic interpretation.

CLOUDART intends to design a new way of digitization and archiving, able at exploiting both new and old technologies but focused more on the users and less on technological tools. Digitization does not just revolve around archiving and storage, but also on the fruition of content and experience development. Full exploitation of the digitalization process requires Human-Computer Interaction (HCI) experts to go far beyond the mere usable design of archive search engines and data visualization. It means to understand how to exploit multichannel and hybrid features of Contemporary Art and its dimensions, identified by the domain experts together with art-goers. In the context of CLOUDART, it is important to make a distinction between digital objects and digital user experience: when speaking about digital objects, the focus goes to the process of creating digital copies of real objects. This process takes into great account all the issues derived from technology, but very little attention is usually given to the humanists' knowledge about the objects that are digitalized.

CLOUDART vision considers the existence of different aspects to be considered: location, time, social context, senses involved (sight, touch, hearing, smell – some of all of them are often entangled). This calls for a further effort aimed at shifting the attention to these aspects from mere digital object creation to the design of complex hybrid digital user experience of Contemporary Art and the definition of proper evaluation methods.

To design for a new way of Contemporary Art digitalization at the service of new experience fruition not just focusing on the missing aspects but also investigating all new potentials. We are already accustomed to extended reality [8], virtual reality, and augmented reality applied to the art domain, but the fruition experience needs to be further improved, especially through the creative use of technologies, not just the new ones but also the most well-known (old) ones [9]. Technology is never neutral because it always transforms our experience of reality: a new way of acting produces a new way of thinking and the remote experience is a clear example of that [10]. However, there is a profound difference between designing to fill the lack of physical senses and designing a new experience free from body boundaries. Digital technology is no longer to be seen as just prostheses capable of increasing, extending, enhancing some sensory aspects [11] but can be a new frontier in the design of new experiences. The diversity of fields that are concerned by these questions reflect the plurality of expertise represented in the CLOUDART working group: Contemporary Art curators, HCI/Interaction Design researchers, multimedia software engineers.

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