V!15

DESIGN DA INFORMAÇÃO DO PATRIMÔNIO CULTURAL NA ERA PÓS-DIGITAL CULTURAL HERITAGE INFORMATION DESIGN IN THE POST-DIGITAL ERA KHALDOUN ZREIK, NASREDINE BOUHAÏ

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Abstract

Cultural Heritage Information Design (CHID) has known, in the last two decades, important mutations and it has been admitted as an open and constantly evolving process. CHI Designers as well as curators are invited to consider new approaches of information perceiving and practicing that have allowed the emergence of various unpredictable cultural heritage information experiences. CHID has to deal with a complex phenomenon: information design is a continuous process and every information consumer can become, somewhere and sometime, information broadcaster. This paper proposes some observations issued from some exploratory and collaborative experiences newly realized during the "HyperHeritage"[1] workshop (organized within the Master Program Net[2] and sponsored by Idefi-Creatic[3]) and animated by two staff members of the digital humanities department and 15 master program students. The aim of this workshop is to rethink the cultural heritage in the Post-Digital era, i.e. taking into account the non stop appropriation of ICT (information and communication technology) as well as their socio-cultural impacts. In this paper, we present and analyze four experience designs that have considered advanced digital technologies, mainly the Internet of Things and the Contactless Communication, to explore and experience new communication forms and strategies between human and cultural-heritage information.

Keywords: V!15, Memory, Cultural heritage, Information design, Internet of things

1 Prologue

The term "Post-Digital" neither means a break with the digital technology nor the advent of an alternative technology (to substitute the digital one). The Post-Digital considers the massive and popular appropriation of the "Culture of all sustainable and all reflexive", which has been strongly promoted by the use of ICT (Information and Communication Technology), to reread and rewrite continuously, in a highly open and new manner, the philosophy and the comprehension of time, space, and Thing of humanity and of the Human being. This term, causes a linguistic break, that facilitates the promotion of an open, global and continuous thinking, favoring the re-design (social and ecological in particular) of relationships that the Human and other Things (artifice, space, information, nature, time...) have established and would establish between them.

In short, in the Digital era (now and before), we have been observing the human being using knowledge and technology to make better designs and better uses of Digital Technology. This era has allowed us to discover hidden facets that the human being has. The Post-Digital era (now and after) considers this empirical approach, in developing technology, and suggests to use Digital Technology to set up experience aiming to learn more about the hidden knowledge, hidden capacities and unforeseen experiences that the "Human Being" may be able or willing to perform.

2 Introduction: Hyperheritage approach

In the Post-Digital era, design actors have to "*rethink their approaches to create, innovate, perceive and explore the Human Smart-Things Communication universe*" (Zreik and Bouhai, 2017). This leads us to consider, on the one hand, that every object's (or Thing's) design explicitly integrates "Information" design[4] (as sub project(s)) and on the other hand, and independently, that every Information design should consider Thing(s) design as sub projects(s). This can explain, somehow, that we are living in a dynamic universe composed of a set of open connected "Things". Therefore, we admit that every CHID should cover at least: information and thing design, information and thing development as well as information and thing practicing.

Information Design as part of information process still has to consider the main principle components of information theory (Shannon, 1948): the "Transmitter" (human or machine processor), the "Channel" (the information conductor or space: material or immaterial mediator) and the Receiver (human or machine processor).

This contribution presents a problematic approach developed within our research project on the evolving of CHID in the Post-Digital era (the HyperHeritage project). It observes the shifting of Cultural Heritage Information perception (detecting, recognition), practicing (using) and processing (interpreting, understanding, transmitting, indexing).

HyperHeritage research project deals with three main hypothetical considerations:

● Information & Communication Technology (ICT), mainly the "Internet of Things", has opted more for mediated communication protocols (Human-to-Human) over CHI (Human Computer Interaction) protocols.

● Human Capabilities and Capacities to deal with Things and Information are still to be explored.

● Social increased requirements that every Information and Smart-Thing should embed.

3 CHID: complex activity

Due to the success of ICT popular appropriation, CHID has known important changes in the near past. For I. Ruthven and Chowdhury (2015) ICT (mainly Internet technologies) "*have opened up new opportunities for the creation of digital copies of cultural heritage information resources that could be accessed from anywhere in the world without causing any physical damage to the resources resulting from everyday usage*". They remind that Cultural Heritage digitalization offers numerous opportunities and innovative challenges to CHID "*Users of cultural heritage information can also have specific characteristics that need to be considered in order to design the most effective digital information systems that will facilitate interactive and contextual access to information*".

Cultural Heritage Information (CHI) environment has been transformed into an open hybrid space that permanently changes according to set of parameters that are sometimes unpredictable. It looks that consumer of CHI has already admitted and appreciated this fact. We deeply believe that adopting original approaches and devices related to CHI perception and practicing can allow the emergence of various unpredictable cultural heritage information experiences that can be highly instructive for further design and curatorial projects.

Today, CHI designers, mediators as well as CHI communication managers are continuously experiencing new "designs" (better say Post-Digital Designs) according to the complex interrelation between the evolving user needs (CHI consumers) requirements and the nonstop development of smart technology.

Another aspect can also explain the complexity of CHID activity and the importance of adopting a research-action methodology. Using open and interactive ICT in CHID has raised up new information consumption and production approaches. Any CHID product represents now an open environment (digital, physical or hybrid) under continuous construction, (information & objects flow ought to be permanent). On the other hand, most of Smart CHI devices allow information consumer to become, anytime and anywhere, information broadcaster. Vice versa, every "traditional" curator[5], who is mainly information broadcaster, can, anytime and anywhere, consume information produced by the CHI consumers (or by other CHID actors). This last point is not limited to only visitors and curators, it concerns all actors involved in CHID.

In sum, both technological environment and social environment are shifting. Thus, information, devices and actors have to be considered more as variables than as constants or as stereotypes.

4 Smart CHID

The Smart CHID program addresses the hybrid cultural heritage environment, that is augmented by integrating smart "things" that explore different, possible, facets of information perception and practicing (by human being or by any other living Thing).

Integrating ICT in CHI environment requires important parametric modeling efforts that allow dealing with CHI in different spatiality and temporality. CHI retrieving, processing, sharing, … have become independent of CHI traditional institution's space and temporality. Nowadays, space and time are no more constraints and they can be used as complementary information component able to augment the CHI in certain contexts.

Smart CHID environment is composed of a set of distributed interconnected and communicative smart-Things offering more opportunities to mediate the Human to Human communication protocols. Thus, experiencing immersive devices (Augmented and Virtual Realities) in Smart CHID may also help discovering potential forms (known or unknown) of Human Smart-Things Communication that can enhance or revolutionize the CHID.

As a result, we have considered a two-fold exploratory approach: on the one hand, it admits that human capacities in CHI management are still to be discovered, and on the other hand it requires to redesign CHI itself.

It is important to notice that continuous smart-Thing design has become part of the CHI actors (user, consumer, curator, …). This point seriously increases the complexity of the CHI design process and methodology.

5 The Hyperheritage workshop

As part of our research-action methodology, we have animated since 2015 the workshop Hyperheritage[6] that involves 2 staff members and 15 students of Master program. Participants are asked, to set up, freely with no additional constraint, their own CHID in the Post-Digital era. During the workshop, three major technological trends are discussed:

● The Internet of things & friendly connected objects that integrate contact-less communication devices

● The social networks technology that offers facilities to share experiences and to make new discoveries through the concept of "community".

● The pervasive and mobile technologies that liberate CHID from traditional perceptions of space and time and give birth to new practices.

Participants were informed, but not obliged, to consider a "social" dimension in their design.

In principle, during this workshop the students will change roles, without knowing it, sometimes they are consumers, sometimes producers and sometimes both (the new emerging skill).

This workshop aims, on the one hand, to initiate students to work as a team and to make smart use of technologies, and on the other hand, to free them from the technological influence as an end in itself, hence the invitation to consider the social dimension of CHI.

By the following, we will present only some prototypes, developed in the last session that was hold in the scholar year (2016/2017), involving multidisciplinary students following two different master programs: Master in Information and Communication Sciences (NET[7]) and Master of Computer Sciences (THYP[8]). A workshop is about 30 hours in classroom and 50 hours work / student.

6 CHID Experiences

Students have developed four CHID prototypes. We have chosen certain relevant projects because we have been surprised by the way the student thought about the problematic, the needs, the scope, … of their designs and applications. Also, the hybridization of space and the plasticity of visit temporalities have been the priorities of most those prototypes. Most of prototypes adopt the personal mobile devices, as they offer more personalized content (Celentano, 2012; Barbieri and Celentano, 2011).

Two experiences (Collect'Art and FlashMU) have suggested to be mainly used inside the CHI institutions (e.g. museum as starting point). They focus on the appropriation and sharing of images; the idea is also to share, with the administrators of the institution, the traces generated by the visitors-collectors and their networks that contain potential visitors. These projects are archiving oriented.

The two other experiences (Cultural Walking and Paris Insolit) are to be used outside the CHI institutions. They use social networks as guide to discover and enrich the CHI. Those experiences are cultural & social driven.

6.1 Collect'Art[9]

Collect'Art offers to the visitors the possibility to explore the CHI environment without being worried by traditional spatial constraints (crowd stress for example). Collect'Art looks also to satisfy some appropriation and personalization desire that CHI new consumers require. It allows them to tag any art work and to get high quality images of art works. Collect'Art uses contactless (NFS) and social networks (Facebook, Twitter, Instagram) Technologies. The key concepts of Collect'Art are: Sign-In, Capture & Share

The main outcomes of this experience are:

● It suggests to experience new spatiotemporal relationships between the visitor and the CHI institution

● It considers the visitor (CHI consumer) as information producer

This experience shows some legitimate paradoxes:

● To download and share images, users don't need to get into the CHI institution. However, the experience designers believe that living such social experience is still necessary.

● To avoid the crowd and to share the information with people outside the CHI institution, the designers use "Contactless Devices" and the social networks technologies inside the institution, where the crowd can be. This last observation points out the significant value of the social dimension in every CHID.

Fig. 1: Collect'Art, designed by Elodie Castro & Eléonore Barrault, 2017.

6.2 FlashMU[10]

This group has developed a mobile application focused on the visitor's experience inside the CHI institution. FlashMU offers to visitors the possibility to directly tag, share on social networks and display comments on art works in real time. CHI institution's administrators can share and make use of all comments and tags on the platform to set up a kind of Open Curatorial Approach.

The main outcomes of FlashMU experience consist on:

● promoting the connectivity between the visitors themselves and their friends;

● bridging the museum to visitors and to their friends (potential visitors);

● getting access to the posted comments which offer to the CHI institution an open data environment to enhance its exhibitions policies and marketing strategies.
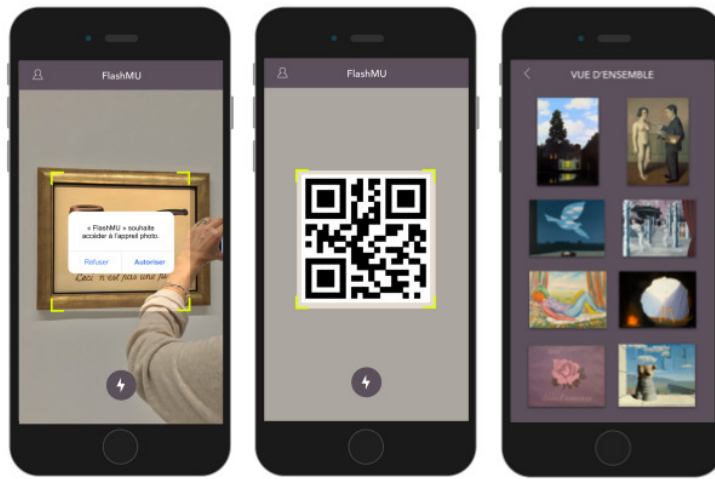
Fig. 2: FlashMU, designed by Gabrielle Godin & Yi Luo, 2017

6.3 Cultural Walking[11]

This experience uses geolocation technology to promote CHI venues through physical activities. It focuses on the community dimension in order to facilitate human to human communication.

The main outcomes of this experience reside in :

● considering the human body as part of CHI exploration adventure;

● using cultural heritage as an alibi to restore some sociability practices.

Fig. 3: Cultural Walking, designed by Paula-Maria Santucci & Giulia Zecchini, 2017

6.4 Paris Insolit[12]

This geolocated experience was designed for mobile phones and tablets users (explorers) who wonder to discover unusual places and lost monuments in Paris. This application uses augmented reality technology to learn more or to say more about every lived experience.

The main outcomes of this experience are:

● The promotion of the explorer side of the users;

● The enrichment of unusual, unknown and very weakly documented sites;

● The transformation of the user-explorer (CHI consumer) on explorer-broadcaster (CHI producer).

Fig. 4: Paris Insolit, designed by Hadjira Oumennor Makhaldi, Kassim Nkouandou & Mousquéba Faty, 2017.

7 Conclusions

Observation and analysis of those experiences, in particular the first and the second, can not leave us indifferent: First of all, most of the adopted approaches and suggested visions, as harmonious and convergent as they are, do not correspond at all to what we expected. All experiences have not been interested in: the spatial organization of the CHI institutions (or the city), its documentations, its communications strategies, etc. In fact, they were centered on the visitor (the Human as social being) and his e-friends (that they are outside the CHI Institution). Most of the suggested applications have used new communication and information technologies in order to re-establish Human to Human communication. CHI institutions have served, in most of the proposals, as information repositories (data warehouses) or as a social environment.

It is clear that in the 2d and 3d experiences, the available CHI doesn't sufficiently attract the visitor-explorer who is more interested in using CHI (as alibi) to create, join and maintain a dedicated social network (sociability driven experience).

In all experiences, the visitor (as seen by the designers) prefers to seek information that is not yet available online, in order to make it exist and to leave his/her traces before sharing it. In sum, those experiences have clearly pointed up the importance of "social driven design". Every application has explicitly used ICT to develop and promote social issues; the CHI was just a pretext.

Regarding our research project, this workshop has reinforced and confirmed some of our hypothetical observations, such as:

● "Thing" Design and Information Design are more than ever confused[13] ;

● ICT allow new way of living information and "Things";

● "Thing"-Design has become, and has been accepted as, sustainable non-ended activity.

In conclusion, those experiences confirm that human perception and practicing of information, objects, space and time have been shifted and are in continuous evolution. This makes the CHID process highly complex and requires the implementation of an adequate post-digital information design methodology.

Acknowledgement

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1 Augmented Cultural Heritage

2 Digital Humanity Department, Faculty of Sciences, University Paris 8 (http://www.humanites-numeriques.univ-paris8.fr/?-N-E-T-)

3 Idefi-Creatic is part of the Initiatives of Excellence in Innovative Training (http://idefi-creatic.net/en/)

4 "The values that distinguish information design from other kinds of design are efficiency and effectiveness at accomplishing the communicative purpose" (Horn, 2000).

5 In this paper we avoid discussing the notion of Curator skill. We believe that curetting practices are also shifting. This can explain the use of the expression "traditional" curator

6 This workshop is sponsored by IDEFI-CREARTIC. It is focused on designing enriched Cultural Heritage Applications based on Augmented and Virtual Realities Technologies

7 Master in Information and Communication Sciences (Digital Challenges & Technology) part of Digital Humanities Department, University Paris 8.

8 Master in Computer Sciences (Hypermedia Technology) part of Digital Humanities Department, University Paris 8.

9 Designed by Elodie Castro & Eléonore Barrault

10 Designed by Gabrielle Godin & Yi Luo

11 Designed by Paula-Maria Santucci & Giulia Zecchini

12 Projetado por Hadjira Oumennor Makhaldi, Kassim Nkouandou & Mousquéba FatyDesigned by Hadjira Oumennor Makhaldi, Kassim Nkouandou & Mousquéba Faty

13 Information Design"involves a multi and interdisciplinary approach to communication, combining skills from graphic design, technical and non–technical authoring, psychology, communication theory and cultural studies" (Thyssen, 2004).