FUSING CONFLICTS WITHIN DIGITAL HERITAGE THROUGH THE AMBIVALENCE OF GAMING

Research through design for a digital heritage project

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Abstract. Digital Heritage is amphibian by spanning between unreal-real (digital) and real-real (actual) environments. Or its amphiboly derives from a fact that relies not on contrasting realities but a hub from which an oscillation occurs between the real and the actual. Inferring to Baudrillard’s criticism of contemporary art, this paper presents these disparities and ambivalent conditions found in digital heritage by examining a full-dome media-art application called Look-Up. Touching upon the authenticity issue in cultural heritage, a design research project, Augmenting Kashgar, is then introduced on the basis of the claim that a design manner can fuse conflicts within Digital Heritage. Developed within the special context of Kashgar, China’s westernmost city, the methodology of the project that follows a Research through Design (RtD) approach is provided. Making use of the architectural features of Kashgar, designing a digital game as a counter-strategy to existing cultural heritage programmes is discussed with references to Baudrillard’s perspective on video games and gamers.

Keywords. Digital Heritage; Research through Design; game design; Augmenting Kashgar Project; Baudrillard.

1. Introduction

In 1995, Nicholas Negroponte, the founder of the MIT Media Lab, made his infamous comparison between bits and atoms for Wired magazine
(Negroponte 1996). The point that is addressed by comparing bits and atoms is that being digital has its own reality which creates ambiguity in relation to the concrete (actual). It is this aspect of digital media that, although traditionally ephemeral, can have concrete impacts (Miller 2011). Digital Heritage is an area that brings together these contrasting realities. On the one hand, there is a cultural artefact that has a concrete value that is attached to its authenticity. On the other, its digital interpretation has its own value. According to its definition by UNESCO;

'Digital heritage is made up of computer-based materials of enduring value that should be kept for future generations'.

This is where the field becomes amphibian in nature and ambivalent as to what value is meant. This paper discusses this in relationship with the authenticity issue. At this junction, this paper consults Baudrillard’s definition of hyper-reality while examining a contemporary digital media application, Look Up, which projects mosque domes in Istanbul onto the inner surface of an inflatable full-dome. Baudrillard describes the unreal condition of technological emergence of a new, yet inhabitable, environment as ‘hypereality’ (Baudrillard and Lotringer 2005). Endemic to Digital Heritage, disparities of applications are attractive problems to seek creative design solutions. Augmenting Kashgar is a design research project that interprets the ‘play culture’ found in the narrow-alleyways of the Old-Town of Kashgar. Located in western China, the city is and famous for its vivid street life. The project develops an architectural game to depict the essence of existing ‘play culture’ as well as to create a new hustle-and-bustle culture in digital norms.

By following a Research-through-Design (RtD) approach, a methodology is developed. Instead of an either-or or both-and relationship, it rather deals with an in-between situation between the two ‘values’ of Digital Heritage by placing heritage value as research and digital as design. In a wider spectrum, this can be read as derogative to contemporary cultural heritage strategies. This is touched upon in the last part of this paper with a discussion that references back to Baudrillard.

### 2. Amphiboly of Digital Heritage

In order to communicate heritage information, interpretations need to meet a degree of authenticity (Affleck and Thomas 2005). But the definition of authenticity is rather ‘relative’ as every young generation sees authenticity within standards associated with its time and guise (Lowenthal 1999).
2.1. AUTHENTICITY IN HERITAGE PRESERVATION

The work of Peirce and Putnam (2014) reinvigorates the abandoned Chocolate Room at Hampton Court Palace in London, England. The Chocolate Room is re-created to enable visitors to experience the past through immersion and escapism. Re-creation process includes furnitures, cups for chocolate, cup holders and so on. The financial reasons lead to deviations in material. Instead of re-making anew, furniture, cupboard, chairs and table (old) are purchased for the same reasons. Yet archaic techniques are used to create replicas of cups based on the accuracy in form. But following questions are genuinely raised by the authors: *Is our academic rigour nothing more than complex trickery? Is our beautiful room of replicas providing a genuine or indeed authentic experience of the chocolate room at Hampton Court Palace, or is it merely a cornucopia of fakes? Would a more “truthful” approach have been to leave the dilapidated storeroom as we found it?* (Peirce and Putnam 2014).

They also provide the details of the process of re-creation with a view that “it only becomes fakery when we lie to our audience.” A survey conducted to understand the quality of visitor experience displays two outcomes. One of the responses suggests that “people come to places like this for a romanticised view of the past, and if that’s what you want, you want a bit of a fairy tale and you don’t really want to know how it’s been put together.” While this view is in favour of the re-creation approach, the other is quoted that “there is a lot of effort put into using authentic techniques which is really nice and makes me feel more interested in it, but none of that was in the information I saw” (Peirce and Putnam 2014). This work suggests, in an artlessly direct way, ‘heritage value’ while the next one discussed below shows an attitude closer to ‘digital value’ within an artistic manner.

2.2. AUTHENTICITY IN DIGITAL MEDIA

Full-dome projections are utilised to create immersive environments for museum visitors who want to learn about heritage sites. 3D space of the dome encapsulates the visitor’s angle of vision but not entirely their perceptions. The *Look Up* project uses a hemispherical projection screen to visualise the domes in Istanbul (Lintermann, Shaw, and Kenderdine 2005-2010). Reflecting real domes onto the inner surface of another dome perfectly matches with the purpose of creating an anamorphic optical experience. This provides a strong sense of real space. The application shows a sign of acting like the real. And the viewer is enforced to experience a hyper-real environment (Figure 1).
This application leads to a criticism on creativity to communicate heritage information without reducing the spectator to a submissive state (Aydin and Schnabel 2014). The controversy lies underneath the notion of ‘enduring value’ of the authenticity that the heritage artefact holds. There emerges a bilateral tension between the digital and heritage. Stephen Greenblatt’s philosophical question can be underlined here (Osborne 2004):

What function of the imagination can erect absolute difference at the point of deepest resemblance?

From here, the discussion may even go further towards the definition of identity and digital identity. But this is another focus for a further investigation. The next section is about a design-research project, Augmenting Kashgar, and its methodology developed within the context of Kashgar.

3. Fusing conflicts via design research

Different fields – architecture, archaeology, planning, GLAM (Galleries, Libraries, Archives, and Museums) and others – have to work together in digital heritage (Rahaman and Tan 2011). Their digital media applications enable for capturing, processing and disseminating information amongst a wider public. The designer’s empathy to create knowledge through practice can deal with the complexity of intersecting domains as well as the ambiguity of user-engagement (Mason 2013). By taking a design research approach, ‘Augmenting Kashgar Project’ aims to provide new insights gained through
design practice for complex and future-oriented issues in digital heritage. Meanwhile, the motive is the dissemination of heritage information that emancipates into the reality of the virtual environment.

3.1. AUGMENTING KASHGAR PROJECT

The project started as a collaborative initiative, being made up of individuals from the fields of computational architecture, computer science, experimental arts, urban design and built environment, and photograp...
ally’ about Kabul, Afghanistan (due to security issues then in Kabul, it was shot in Kashgar.)

This paper’s focus is not on the movie but it is worth highlighting that the decision on shooting it in Kashgar was rather influenced by its street life of a hustle-and-bustle style. Its architectural organisation offers space for playing at different levels, such as children turning a part of it into their football ground, musical play of street vendor announcing their stuff, neighbours chit-chatting from gate to gate and even cats play-biting with each other.

To interpret the hustle-and-bustle that they enjoyed in the narrow paths of the Old-Town, we see two main layers; the primary is its spatial organisation that has a unique style and the secondary is a ‘play culture’ around daily narratives experienced by individuals who inhabit the space. The parameters found in the two leads to decisions taken during the design-research process. With regards to the former, authenticity is one of the primary elements to consider. The authenticity of architecture is suffering from recent urban renovation and development projects. Gaotai is exempted from destruction, providing a good basis to extract the architectural essence from the existing. The findings from this area comprises of the basic content of the game. As for the latter, various narratives around the life in the alleyways play a major role to the structure of the game which is called gameplay. The content is the components of the game set by the observer, whereas the gameplay is flexible enough so that mobile users’ participate in its generation.

3.1.2 Forgetting Kashgar

What leads the project members to design a game is pretty responsive to the circumstances in Kashgar, which is discussed in an earlier paper (Aydin and Schnabel 2014). The questions related to authenticity are raised above. Having introduced the Augmenting Kashgar Project, it is timely to briefly explain the constructive take on the problem. The main issue is the authenticity of the architectural heritage. For example, some of the traditional mud-brick architecture in the Old-Town is replaced with their concrete replicas. Given that authenticity is not a definitive term as speculated by the first case study above, imitating the so-called Kashgar style architecture on the façade is in a way too authentic to claim so. The ambiguity continues to exist in digital applications as well. The main problem is lack of design consideration or how Nigel Cross stresses it: ‘designerly ways of knowing’ (Cross 2006).

A designerly way within a circulation of feedback mechanism leads to better understanding of the problem, which in turn leads to better solutions. In this way, the essential point, the crucial set of information is deployed so that it responds to Greenblatt’s philosophical question. In his sensational
text, *Forget Foucault*, Baudrillard dares to dig in till Foucault’s mysterious point at which he stops and finds nothing more to say (Lotringer 2007). This is where Foucault ceases to exist and Baudrillardian notion commences. Similarly, we are considerate of the idiosyncrasies that only belong to actual Kashgar. In contrast to *Look Up*’s approach which somehow had to lack design quality, our approach is not to cause a delusion of believing that visualisation of such culture is possible. Instead, the mysterious aspect of it is represented within realities of the digital while many aspects disappear to make way for this to happen. ‘Forgetting Kashgar’ through a game is ironically meant to vindicate its message beyond its reach via gamers. To propose solutions for the problems of current implementations, a design research methodology is framed. It combines prototypes, theories and methods from different fields like computational architecture, game design and digital heritage by following an RtD approach.

4. RtD for the Augmenting Kashgar Project

The research methodology follows a process model that integrates research and design. Following a philosophical inquiry into “domains of knowing” (Nelson and Stolterman 2003) – the true, the ideal and the real – Jonas (1996) has proposed the process model of ANALYSIS – PROJECTION – SYNTHESIS. He and his colleagues have then combined it with circular design process models (research – analysis – synthesis – realisation) akin to Kolb’s “learning cycles” (Hugentobler, Jonas, and Rahe 2004). Their ‘hypercyclic’ generic design process model can be associated with cybernetics which has developed overlapping interests with design research (Jonas 2007). Cybernetic learning models can be seen as a feedback cycle of acting and reflecting. Similarly this project takes design as a circularly casual conversation that is driven by phases of scientific logic.

Table 1 shows the phases of a macro-micro processes projected on Jonas’s generic design process model. For simplicity, the graphics of the model consists of boxes representative of an intricate network of interactions within a circular manner. Having been initialised with the below design process flow, the Augmenting Kashgar Project is not limited to its boxes. The project is at the ANALYSIS/research phase at present. In the first row, ANALYSIS is about the actual Old-Town and its urban condition. Secondly, the information is gradually developed on digital platforms along PROJECTION row. Finally in SYNTHESIS, the focus shifts from the ideal designed based on the analysis of the actual conditions toward the real value. Here, cooperation with the members of the GLAM sector (Galleries, Libraries, Archives and Museums) shall be sought.
Table 1: Design process model

<table>
<thead>
<tr>
<th>Generic design process model</th>
<th>Micro process of designing</th>
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| **ANALYSIS**
  "the true" how the Old-Town is today | **research**
  ➔ Photo-grammetry studies.  
  ➔ Interviews with the local | **analysis**
  ➔ Grammar of the Kashgar style: Path finding rules, lot generation rules, lot division rules  
  ➔ Daily narratives | **synthesis**
  ➔ Code a shape grammar rule system around narratives  
  ➔ Configure a gameplay | **realization**
  ➔ Content generation for the game  
  ➔ First demo |
| **PROJECTION**
  "the ideal" how the Old-Town heritage information could be digitised collaboratively | **research**
  ➔ Update narratives within the changing urban conditions.  
  ➔ Contemporary use of space by others in faraway places. | **analysis**
  ➔ Content improvement in participation with gamers via an online platform  
  ➔ Implement on a prototype | **synthesis**
  ➔ Adjust shape grammar rules with new narratives  
  ➔ Embed carefully new narratives via game mechanics  
  ➔ Test prototypes | **realization**
  ➔ Trigger a new culture of hustle-and-bustle in the digital real  
  ➔ A conundrum of Digital Culture |
| **SYNTHESIS**
  "the real" how the Old-Town heritage information begins to make a digital museum | **research**
  ➔ In search for learning tools, look for information on history of the Old-Town.  
  ➔ Idea of Museum in the Digital Era | **analysis**
  ➔ Compare past, present, future forms of the Old-Town and read its evolution, based on the outcome of the game. | **synthesis**
  ➔ Design solutions for a new museum tool | **realization**
  ➔ Collaboration with museums and interested institutions. |
| **COMMUNICATION**
  "the driver" | **research**
  ➔ On site and online communication. An online platform is developed for those who would like to contribute to re-presentation of Kashgar. The driver of the platform is gamification. By using game design elements, the platform is gate to the actual game as well as its blog for sharing. | **analysis**
  ➔  | **synthesis**
  ➔  | **realization**
  ➔  |

Each row has its own circulation of feedback mechanism from research to realisation. The realisation of the data gathered from ANALYSIS becomes the data to be researched in PROJECTION. Same thing is valid for the next round from PROJECTION to SYNTHESIS. Eventually, our game begins to be a digital museum in reality once target gamers start building up on the provided content. Its content is generated via computational design methods, i.e. shape grammars, whereas gamers influence their configuration.
5. Discussion - Conclusion

Baudrillard is found ambivalent about games and gamers. His claim is that a gamer is protected from having to be productive in the global world. A gamer rather manifests her/his boredom than worries about being unhealthy by sitting in front of a screen for hours, or even for days. In this way, a gamer is an object that Baudrillard deploys in his view about the contemporary society. For him it is better to be a gamer than a jogger, who is too concerned about health, because a gamer opposes to engaging with society in the production game (Baudrillard 1993). But eventually even a gamer is pushed to be a victim of the whole circle by upgrades or new versions of games. This is where games become ambivalent. Nevertheless, articulated as an experimental explorer in Baudrillard’s writing, the gamer is a traveller into our future in digital realities (Coulter 2007).

In this project, the ambivalence of gamers becomes an opportunity to argue on contemporary digital media applications. A gamer, only if willing, becomes a part of the production of a digital hustle-and-bustle which is meant to be driven by that of Kashgar. Switching from the actual value to the digital one requires a change in objects who collectively build up a culture. In this sense, a gamer is seen a representative of digital culture so that with other gamers she/he can fill the ‘paths’ of the digital environment just as Kashgar people occupies the narrow alleyways of the Old-Town.

Designing a game to disseminate heritage information is unconventional not only in its discourse in the use of new technologies but also in its design research methodology. The game is a total revolution which is meant to escalate the message coded in the narrow alleyways, which is the playfulness of their maze-like nature. The inner value is decoded through computational means, shape grammars. Therefore the narrow alleyways of the Old-Town in Kashgar are pushed to its breaking point, its architectural aspect. In other words, it is reversed into an absolute value by extracting what is most important in its agglomeration. Its cultural heritage gains value within the correlation between spatial organisation and daily narratives.

Kashgar is therefore grown into a different level of authenticity with its culture of playfulness. The unusual circumstances lead to a situation that does not allow for a flexible and evolving interpretation of Kashgar’s heritage. This project’s goal is to go beyond a heritage visualization limited to a prescribed interpretation and definition. By prompting a social motive, collective intelligence and participation the project builds upon geometrical data that are generated by stakeholders via game methodologies.
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