

# ☞ Lost in Place – A case study of an interactive installation for dementia awareness

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**Abstract:** Empathy is crucial for the wellbeing and happiness of people living with dementia and it comes with a better understanding of symptoms and challenges of the condition. Thus, it is important to spread awareness about dementia. Lost in Place, is an interactive installation that intends to trigger conversations and discussions about dementia by creating an unsettling experience of lack of orientation and lack of familiarity for the audience. It uses fog as a metaphor for losing self-identity and hidden memories. Beyond the specifics of the case-study, the paper elaborates the process of designing an interactive installation explaining the role of four key elements namely site, content, carrier and audience. These attributes can be generalized for understanding and designing an interactive media architecture project of this nature.

**Keywords:** *media architecture, interactive installation, dementia awareness, user experience*

## 1. Introduction

This paper is a case-study of an interactive installation that is aimed at highlighting the role of media architecture in creating experiences to bring awareness about dementia. Considering the complex nature of challenges and symptoms of dementia, it is important to have more conversations and discussions around the subject. 'Lost in Place' is one such attempt that creates an unsettling experience for the audience in order to trigger curiosity in them and encourage them to learn and share more about the condition.

The first part of the paper covers the definition of media architecture and precedent studies briefly showcasing two projects that use different mediums but share a common aim of spreading awareness via an experiential design. Next, the paper explains the 'Lost in Place'

case study that utilizes virtual fog as an experiential medium where fog is a metaphor of the brain fog that people experience in dementia. The last part of the paper is the discussion section that elaborates on the role and scope of media architecture in creating experiences for social impact. It also gives a brief overview of the four key elements in the construction of a media architecture project namely site, content, carrier, and audience. These key elements are explained using the context of the case-study.

## 2. Media architecture for dementia

People living with dementia face different challenges, not only at different stages of the condition but also at an individual level based on their residual cognitive, physical and social skills (A Walk Through Dementia). Age-related sensory difficulties may worsen their experience of everyday living and functioning. Wandering behavior and problems with social interaction are also common challenges that affect the people with dementia. Considering these complexities that require support and empathy it can be said that dementia awareness is crucial not only for a caregiver but also for someone who is comparatively distant or just lives in the neighborhood of a person living with the condition. Support and positive interactions from the surroundings can affect their well-being and happiness.

Media architecture is a field of study that is multidisciplinary combining the fields of media design or interaction design and architecture. A formal explanation of media architecture is, a participative and interactive approach of designing spatial experiences where interaction design complements the aspects of architecture, and principles of human computer interaction blend with the processes of constructed places to create elements that weave through the urban fabric and places contextual information to access and interact with, for a meaningful user experience (Gasparini, 2013)

In this information age, media architecture creates an opportunity for urban environments to act as a canvas fulfilling the functions of communication namely storytelling, collaboration and problem solving in a strongly site-specific context. To express the multidisciplinary approach of media architecture, an explanation of an interactive installation called 'Lost in Place' is used. Using the architectural element of the stone dome for projection of virtual fog, "Lost in Place" combines the principles of interaction design in a site specific context to create an immersive experience in a spatial environment. Thus, positioning itself as a piece of work in the field of media architecture.

## 3. Precedent studies

Two previous projects– (1) *a walk through dementia*, (2) *Affinity*, are examples of experiential designs that use digital and tangible mediums to share experiences and stories of Alzheimer's dementia.

'A walk through dementia', is a google cardboard app that uses virtual reality to share daily experiences of people living with dementia, figure 1. It uses three scenarios to explain the

symptoms of dementia that poses challenges for people in their daily interactions (A Walk Through Dementia). With approximately more than 10,000 downloads on the google store, 'A walk through dementia' is still growing and creating an impact in understanding the condition and spreading awareness.



**Figure 1** A walk through dementia project. A person using the virtual reality tool offered by A walk through dementia project to understand and learn about the experiences and symptoms of people living with dementia and their world view.



**Figure 2** Affinity interactive light sculpture for dementia awareness month 2015, Melbourne

'Affinity' is an interactive light sculpture that was conceptualized and built by the artist Amigo in collaboration with creative technology agency S1T2, figure 2. It explores the importance of memories and the devastating impact of losing them by creating a networked installation with sixty orbs with changing colors of lights signifying the occurrence and absence of a memory. By spreading a purple light through all the orbs when there is no longer an engagement 'Affinity' emphasizes on how the memories are lost. It was installed at Vivid 2015, and being visited by 424,270 people for an average of eleven minutes throughout the festival, it is considered as one of the most popular interactive installations to date (The Creative Agency Blog | S1T2). Thus, successfully meeting its goal to get audience attention around the topic of memory loss caused by Alzheimer's dementia.

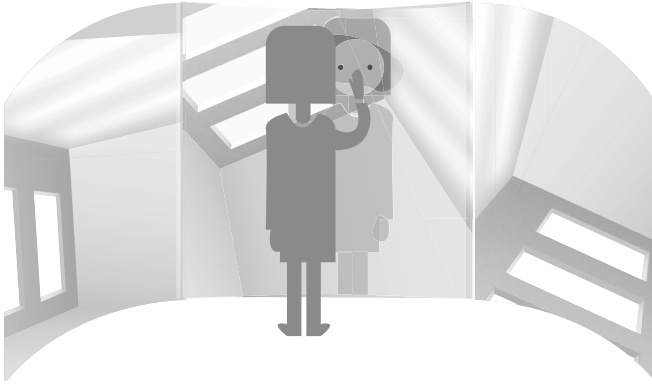
These two projects provide a glimpse into diversity of mediums and multitude of possibilities that can be explored to encourage people to experience, question, think and talk about various experiences of living with dementia.

## **4. Lost in Place: Conceptualization**

'Lost in Place', is an interactive experience designed to be installed at Ilm river, Weimar, Germany. This project was undertaken as a studio project for the first semester at Bauhaus University, Weimar. 'Lost in Place' explores the experience of being surrounded by fog as a metaphor for brain-fog experienced in dementia. An attempt is made to symbolically present, the idea of losing self-identity and a restless effort to find it back by allowing viewers to use hand gestures to clear the fog on their visual imagery. Viewer's efforts are rendered useless as the image gets covered with fog again within a few seconds of stillness. This project was not designed with an aim to create a simulation of a real experience of struggles of dementia like 'A walk through dementia' but was done with an intention to shake the user's cognition with an immersive experience using uncomfortable imagery of orientation, clumsy noise and lack to clarity to make them curious to learn more about the condition.

### **4.1 Experience Interface**

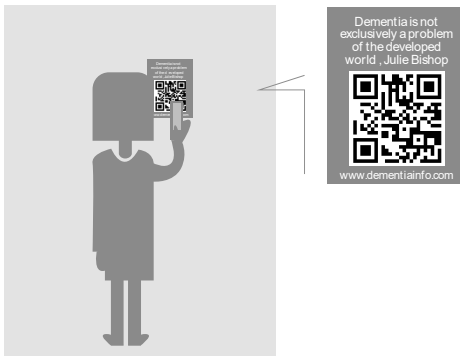
Content delivery for experience interface was structured in three layers, a backdrop of surrounding imagery, a layer with the live camera capture of the viewer and the top layer of virtual fog, figure 3. With user movement, the fog was cleared revealing the camera feed, which was called defogging. In a defined time-frame of less than a second, fogging would re-occur, occluding the user image. Intention of this backdrop was to generate an image or environment where the experience of unfamiliarity within a familiar space can be created by exploring different angles and perspectives making the audience uncomfortable by vivid and disoriented imaginary. This was done by live video capture of the space with an external camera that was kept floating on the water surface.



**Figure 3** An illustration explaining the concept of the experience interface that presents the idea of layering of fog with the user camera view and the backdrop of surrounding space.

#### 4.2 QR interface

QR codes were placed at each end of the installation. These QR codes would function as an access point for the information portal that shares information and offers opportunities of user participation for spreading awareness about dementia, figure 4.



**Figure 4** An illustration presenting the phase of reading the QR code in the interaction flow.

#### 4.3 Information Access

QR code would link to a website that would be a guide for user stories, recent research and publications on the topic, and links to organizations associated with care for people living with dementia. It would also provide opportunities for users to get involved by volunteering, donating or sharing the message, figure 5, 6. The design of an independent website was not a core aspect of the project and could be replaced by an existing website of Alzheimer awareness if permissions were granted.



**Figure 5** A wireframe presentation of the basic categories of information on the portal that can be accessed via the QR code



**Figure 6** A wireframe presentation of the interface to get involved in by volunteering, making a donation or sharing the message with others.

## 5. Lost in Place: Execution

Physical setup for experience interface constituted of a projector, a camera to capture user video stream, a computer system to run the code, and an external camera to create the backdrop for the disorienting imagery, figure 7.

Experience interface was developed in processing software, figure 8. Beginning with the basic feature of camera capture, the code was built up, to include the time-based forming of the virtual fog and clearing of the fog using motion capture functionality in the processing software. Mimicking the wiping off gesture, i.e., clearing of the fog, would reveal user's mirror view extracted from the camera capture. To emphasize the experience of feeling disoriented, an external camera floating on the nearby water surface was connected to create a fluid and vivid imagery of the surrounding space seen from an unfamiliar angle, figure 9, 10, 11.

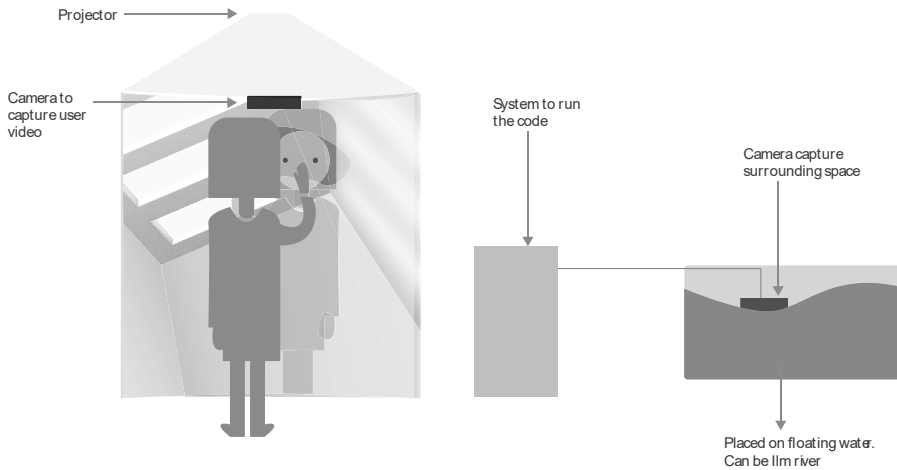


Figure 7 An illustration presenting the physical setup and components involved in building the installation.



Figure 8 A snapshot of the work in progress on the processing code. Testing the code with a colleague to see if it works.

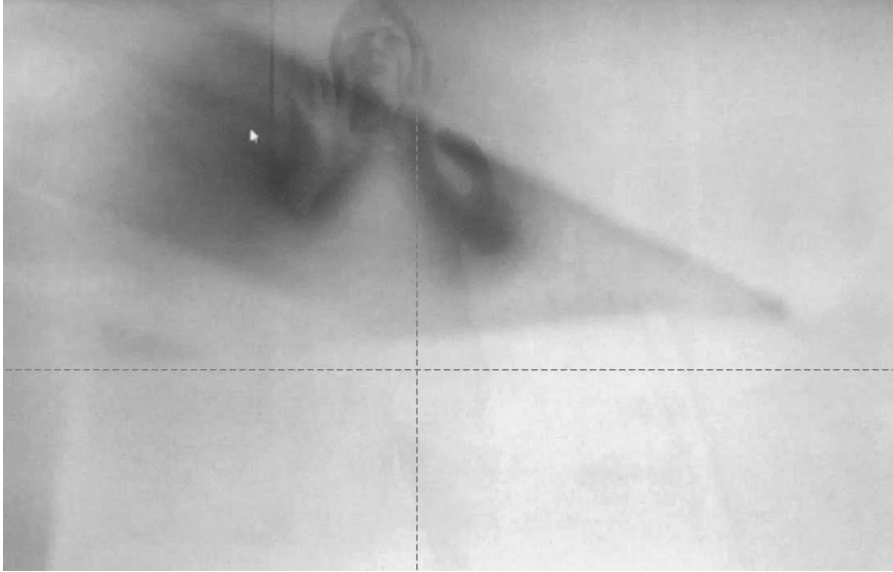


Figure 9 Testing the setup of the installation with a colleague.



Figure 10 installing the setup in a studio space at the university.





**Figure 11 Snapshot of a person interacting with the installation in the studio space at the university**

## **6. Discussion**

The purpose of presenting this case study is to highlight the process of conceptualization and execution of an interactive installation aimed at creating awareness about dementia. However, beyond the specifics of the ‘lost in place’ project, the paper espouses on how can we use art and media architecture for generating social awareness about a specific topic, and what are the attributes that may define a process in constructing such projects? Learnings from the ‘Lost in place’ case study, that can have implications for experiential design projects can be broken down into four key aspects – site, content, carrier and audience (Wouters, 2012). These four aspects are briefly described in the following section of the paper.

### **6.1 Site**

Site selection for an installation design is crucial as it builds the context for the user experience (Wouters, 2012). In the case of ‘Lost in Place’, conceptualizing the installation in the park by the IJm river not only gave the opportunity to explore a fog screen for projection but also offered a complementing backdrop for the experience. Unfortunately, due to lack of funding and feasibility issues the installation still waits to be presented in the conceptualized context. The importance of the site in this project was realized more so when it was initially presented in an enclosed studio space rather than the proposed site of installation by the IJm river. If ‘Lost in Place’ was installed in the park and the experience was weaved in a

general day to day experience of visiting the park rather than visiting a separate space, intentionally to interact with the project, it would not only result in a vastly different experience but would also have been more accessible to a diverse audience. As a future scope, with some funding opportunities, the project will be installed in the designed context to examine its impact to the audience.

## 6.2 Content

Content is another crucial aspect involving storytelling and sharing experiences (Wouters, 2012). Content is rooted in research. As one gets close to the actual user stories, the ideas to share those stories get more realistic. For instance, in case of 'Affinity', the project used audio-visual methods of interaction to create an immersive experience. In case of 'Lost in Place' the research involved learning about the feelings of people living with dementia. Considering the limited project duration, online resources were used instead of doing a field study. One of the best ways to understand feelings is poetry and so poetry written by and for people with dementia were referenced. One poem that encapsulated the emotions aptly was "*The Fog*" (Ang, 2018) written by Neil Ang.

"I sigh in frustration and look to the skies but I see nothing.  
Just darkness. Not the total black, the absence of light brought on by the spinning  
of the sun, the darkness that signifies rest, rejuvenation ,  
No. no, just a faint black, a charcoal blackish grey brought on by a fog;

I glance around but I have no clue where I am. The fog is too thick. I know that  
there's something beyond the fog. Um, big ball of fire burning in the sky. Sun. That's  
what it's called. " (Ang, 2018)

This poetry triggered the idea of using fog as an element of exploration. Also, another challenge with creating a narrative from the content, is to identify the methods that can be used to materialize the subtle feelings and stories in order to create an experience that may be uncomfortable but thought provoking.

## 6.3 Carrier

Carrier, would be referred to as the tangible materials that are used in building the installations (Wouters, 2012). There are two different categories for carrier, one is front facing that is the medium on what the experiences are built on and the other is back end that involves tools and technologies used to make the installation function the way it is supposed to. Carrier as a front facing element plays an important role in how the audience interacts with the installation, for example in the case of 'Lost in Place', the fog screen for projection would be considered as a front facing carrier while the processing code, camera to capture user view and the external camera kept floating on the water would fall under the category of backend carriers. Front facing carriers are important in how the message gets communicated and how immersive the experience can be, while back end carriers define the aspect of usability of the tools and feasibility of executing the concept. A mismatch between any

one of the two can result in technical glitches that can adversely affect the quality of the experience.

## 6.4 Audience

The most important aspect of the four is the audience. When installed in a public space, an installation caters to diverse set of audiences. How can an experience be meaningful for someone in their sixties and yet be enjoyable for a kid? In the case of 'Lost in Place' this was achieved by dividing the interaction in two phases namely experience and information. Interacting with fog, which can be playful for kids was intended to layer in itself a deeper meaning for adults. Adults interacting with the installation could perceive the underlying metaphor and use the QR code to access further information on the topic. This technique of offering a playful experience with a subtly layered message is a successful method in creating an inclusive experience.

## 7. Future Work

Understanding the importance of site and context in a project like 'Lost in Place', we aim at finding funding opportunities to install the project at the Ilm park in future. Further work will also involve a documentation of the analysis extracted from the reactions and insights from the audience and an evaluation of the impact created by the installation.

## 8. Conclusion

This paper is an attempt to highlight the role of experiential design projects to bring awareness by creating and sharing an experience to the audience in order to encourage them to learn more about dementia to be more sensitive and empathetic.

It uses the case study of the project 'Lost in Place', an interactive installation that explores fog as an element to create an unsettling and obscure experience for the audience to trigger conversation about the subject. Giving a walk-through in the design and development of the installation, the paper elaborates four key elements of the decision-making process, namely, site, content, carrier, and audience – that can be generalized for interactive media architecture projects of this nature. The paper also stresses on the importance of media architecture and its potential to contribute by bringing awareness, thus indirectly impacting on the well-being and happiness of people living with dementia.

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