



## OBSERVATION THROUGH DESIGN

A preliminary study for a design research project with people with dementia

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### Abstract

Dementia is a group of symptoms that gradually affect cognitive functions such as reasoning, communication and memory. It has become one of the current concerns in public healthcare due to the increasing number of people with dementia and its impact on national health economies and, more importantly, its consequences on people's lives.

This PhD project is concerned with the social aspect of dementia, exploring new ways for communication design to enable people with dementia and their families to create personalised strategies to support communication and interaction.

As a preliminary study for this research, participant observation is being undertaken in two institutions. Observation will be a key method throughout the research, since it deals with people whose cognitive functions are compromised. This first observation phase aims to contribute to deepen the understanding of the experience of dementia and people's needs, likes, difficulties; inspire the redesign of work previously done and the development of new communication tools; gain sensibility to work with people with dementia and other older people in an institutional setting; and identify people to participate in later stages of research.

Ethnographic methods have been widely used in design research and have proved to be crucial. However, there are key differences on how ethnography and design research use these methods, namely due to purpose – descriptive and theoretical in ethnography and future oriented and generative of new outcomes in design.

Taking Jonas (2007) definition of *research through design* as inspiration, the study combines more rigorous *participant observation* from ethnography tradition and the intuitive ways of observing and sensing the world that are inherent to the design practice, which Fulton Suri (2011) describes as *poetic observation*. We look for a compromise between both ways of doing to observation, hoping to contribute to design methodological approaches that include and recognise design intuition.

### Palavras-Chave

Observation, research through design, design intuition, communication design, dementia

## 1. Introduction

Dementia is a medical condition that gradually weakens cognitive functions. Communication is a very important part of dementia care, as it facilitates care provision, helps understanding of the needs of people with dementia, reinforces social relationships and contributes to maintaining personhood (Killick & Allan, 2001). However, as memory weakens, communication gradually becomes more difficult. It is necessary to be resourceful and find inventive ways of communicating with people with dementia.

Based [on](#) previous exploratory work on how communication design can add value to dementia care (Branco, 2013), design seems to have the potential to facilitate communication through personalised objects or tools. This hypothesis is now being developed further in this PhD research [project](#), focusing on the communication between people with dementia and their families. Drawing of ethnographic and participatory methods, the aim of the investigation is to explore how communication design can enable people with dementia and their families to co-design their own means of communication.

Observation is being undertaken in two care institutions with people with dementia as preliminary fieldwork, to set the basis of research and inspiration to take into the next stages of the study. This paper describes this process and reflects on different natures of observation in ethnography and observation in design.

## 2. Design through research, participant observation and poetic observation

There are a number of approaches to design research according to the role and presence of design practice as part of research (Frankel & Racine, 2010). This PhD project is a practice-based and practice-led study, using the *research through design* approach as proposed by Findelli and clarified by Jonas (2007, p. 202): "The idea of RTD [research through design] is based upon a concept of domains of knowing and a generic structure of learning/designing, which has been derived from practice", which results in artefacts that embody designer's ways to address possibilities and problems, as well as in methods, conceptual frameworks and theories (Gaver, 2012).

The use of ethnographic methods has become common both in design research and in commercial design projects. However, due to time and cost constraints, designers have adapted these methods, also known as *rapid ethnography* and sometimes even re-imagined them. What is primarily important is the contextual nature of ethnography, therefore although they not correspond to the way ethnographers and anthropologists undertake it, *rapid ethnography* allows an understanding of the users' real world and needs (Bichard & Gheerawo, 2010), informing and inspiring the work of the designer in subtle ways (Fulton Suri, 2011).

While anthropology uses ethnographic methods to understand and describe a certain context, design is future-oriented and generative, embedding the insights collected as inspiration and considerations for the development of artefacts or services, to better serve the

people who they are designing for (Otto & Smith, 2013). Ethnographic *participant observation* consists in becoming immersed in the everyday lives of the people under study for long periods of time, extensively describing interactions and events and the context in which they happen into structured field notes. It is open-ended and informal, studying what people do, rather than what they say they do. Subjectivity is inevitable, therefore a reflexive attitude is usually adopted (Calabrese, 2013).

Observation undertaken by designers is more personal, more intuitive, dependent on experience, imagination and interpretation. It is more strategic, focusing on future opportunities and looking for meaning and possibilities for design decisions. Fulton Suri (2011) describes this designerly way of looking at things and sensing the world as *poetic observation*, which can take various forms: (1) an observation that uses and considers a personal and intuitive point of view and the ability of designers to find inspiration everywhere. This can bring emotional value to the design outcome, as it might reflect a recognised situation. (2) Allowing 'chance' to take part the observation that, intuitively and by curiosity, lead to random situations or places that can provide rich observations and inspirations. (3) Cultural immersion in an unstructured and flexible way, but with some questions in mind, directly experiencing the context with different senses, with attention for visual details. (4) Using designer's eye for visual metaphors.

The process of undertaking *participant observation* starts with selecting a site for study and gaining access into the community. Once this is established, the observation starts, making field notes about everything, to retrieve information. Patterns start to emerge as observation progresses, indicating further questions to pursue. When features and patterns are replicated, and the researcher has enough data, descriptive analysis is done, breaking down data to its components parts (patterns, regularities, themes) and finding how these components relate and fit together, backing up with literature (Angrosino, 2007; Calabrese, 2013; Stevenson, 2013).

In design, *poetic observation* takes shape as focused curiosity, also selecting a relevant context for designers to be exposed to. It is important to allow time for unplanned and flexible exploration. Special attention is given to elements that invited intrigue that are visually documented. Documentation is then revisited and filtered, discussing what is relevant with stakeholders to decide what will be explored in the design outcomes and their details, often using storytelling to communicate this process (Fulton Suri 2011).

### **3. Preliminary study: observation of people with dementia**

Observation was the chosen method for a preliminary study with people with dementia for various reasons. In order to get insight into the experience of dementia and gain sensibility to work with this group of people, it is crucial that the researcher has first-hand experience with individuals in their natural setting, dealing closely with different people's behaviour, needs, likes, difficulties. As a preliminary study, the research scope is still quite open and broad. *Participant observation* offers extensive, not specific information that can help identifying questions and further research avenues to pursue (Angrosino, 2007). Furthermore, as stated earlier, designers

have always been influenced and inspired by what they see and interact with. This preliminary study aims to inspire the redesign of the work previously done and bring new ideas for communication tools, as well as considerations to take into account when designing for this public. Due to the nature of dementia, verbal communication is compromised. Therefore, observation is believed to be a key method throughout the research, to understand people's reactions and feelings. Finally, this study can help to identify people to participate in later stages of research.

In order to carry out the observation, the researcher started volunteering at two institutions to facilitate access to various cases of people with dementia in a social environment (Hendriks *et al*, 2013). These institutions were chosen because they offer different contexts and options of care, resources and social dynamics: a [nursing home](#) social care home, where more than half of [the residents](#) population have dementia [and](#), that despite the lack of resources (both human and material), provides several weekly activities for [this specific populations](#) people with; and a small private day centre specialised for people with dementia, that has more material resources and several different daily activities for the users.

The volunteering work happens during 2-3 hours every week, in each institution. The observation concentrates [focuses](#) primarily on the activities for people with dementia, noticing people's reactions to stimulus, interactions with others and with materials, behaviour, communication and attention. The researcher adopted a *participant-as-observer* approach (Angrosino 2007), participating in the normal life of the institution and helps with what is needed: chatting, helping with preparing and participating in activities and clearing away.

Quick hand-written notes are made right after the field work, to support extensive fields notes, also written as soon as possible, drawing on more rigorous field note approach from participant observation. When possible and allowed, sessions are documented with photographs and/or short videos. The structure for note taking and organisation was adapted from Fernandes (2005) and include content suggestions by Angrosino (2007). They consist of the chronological description of events, as close as possible to what happens, supported by photo and/or video documentation; descriptions of the settings (physical, routines, special events) and people; personal hunches and feelings; comments on the progress, doubts and difficulties of fieldwork; and, to meet the needs of the design process, the registration of ideas for future development of products and aspects to take into account when designing that emerged from specific observed episodes.

#### 4. Discussion: Observation through design

Drawing on the definition of *research through design* presented earlier (Gaver, 2012; Jonas, 2007), this preliminary study consists of an observation that derives and is influenced by the design practice. The observation follows guidelines of ethnographic *participant observation*, which are adjusted through a design lens and intuition. Keeping the rigour of ethnographic field notes, these are also adapted to accommodate idea generation rather than description.

After six weeks of being in the field, the chronological extensive description of the observation is considered as an essential task. Not only for data analysis, but because it encouraged to pay attention to various details of communication, that otherwise could be unnoticeable, or not registered. Writing the field notes was also an act of reflection on what was observed, a self-reflection on the process of observation and an assessment of ideas that can become important for future stages. However, this process of writing the observation descriptions has been very time-consuming, which compromised the intention of writing the descriptions of people and places. Ideas and things to consider for future product development were not always arising from observation, probably also due to exhaustion of writing field notes or not enough distance from observation. At this stage, it is being considered whether field notes can be reduced to a summary of the observation, with details of aspects that are interesting, intriguing or inspiring, and brief conclusions, rather than lengthy descriptions, which are not the aim of the research.

Data collected in field notes has been analysed from a designerly perspective, using visualisations for synthesis and overview of data, from which discussion and new questions may arise (Hahn & Zimmermann, 2011). A visual calendar with all the observation days was produced, comprising a brief description of the activity, number of participants, materials and some ideas or conclusions that emerged from each session. During this process, it was concluded that [it](#) would have been useful if a brief summary and conclusions of each observation. After participating in several kinds activities with people with dementia, it was clear that there is a common structure in all sessions. This structure was also represented visually, including the different types of activities and their characteristics. Moreover, another visualisation is being produced to understand what reactions the different cognitive, visual and sensorial stimulus used during the activities produce in people with dementia, and if any patterns can arise from this analysis.

Finally, we would also like to reflect on how the observation is influenced by the development of design ideas. One of the institutions asked for help in developing a Christmas gift to give to the families of their users. As the focus of this research is on the relationship between people with dementia and their families, this is a good opportunity to test some ideas and get direct feedback from families. Having this idea in mind influenced how some interactions and stimulus were noticed during the observations. This idea is explored by Gatt and Ingold (2013) who developed a new model of “correspondence” between design and anthropology, including the production of an artefact during fieldwork. They call it anthropology-by-means-of-design, placing design at the centre of the anthropological activity. Participant observation becomes an observant participation, as the researcher is not only observing and building relationships but is also making things, which contribute to the ethnographic result.

To conclude, this idea of including the production of artefacts (Gatt & Ingold, 2013) can contribute to a design-led observation. Moreover, while keeping its rigour, *participant observation* can be adjusted to accommodate design’s *poetic observation* (Fulton Suri, 2011), where intuition plays an important role to visually analyse the

data collected and contribute to the generation of new design ideas.

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