

A Storytelling-based Approach to Designing for the Needs of Ageing People

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Abstract

Identifying users' needs is the basis of many design methodologies centred around a *problem-solution* approach. Ageist views of designers and older adult users themselves, however, negatively affect the use of existing methods for identifying their needs. In this paper, we describe an alternative approach to designing for older adults' needs based on storytelling. We introduce a method which uses a set of visual cards to allow older adult participants to tell their stories in co-design workshops. These stories can then be used to identify their needs.

Keywords

Design for ageing · design without ageism · human centred design · storytelling · visual cards · user needs

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1 Introduction

Despite the ageing world population, ageism is so prevalent in our modern societies that it even affects the older adults' views of themselves [4]. As such, ageist stereotypes and prejudices also negatively influence design practices. Many designers who use design methods based on a *problem-solution* approach often end up viewing ageing itself as a source of problems which require design solutions, leading to ageist attitudes when designing for older people [5].

In a problem-solution approach, designers aim to identify and address the needs of potential users. This idea of design as a discipline which investigates the needs of people was originally proposed by Munari [13]. In an attempt to clarify the role of designers by looking at the process of design, and comparing it with artistic practice, Munari suggests that designers proceed using creativity, while artists use fantasy—by which Munari considers creativity as a problem-solving task. Similarly, Papanek [14] stresses that the role of the designer is to focus on the needs of people rather than their desires.

These days, the idea that design must address users' unmet needs is so pervasive that the design output is considered to be successful if it merely satisfies the users' needs. It is, therefore, not surprising that the quest to investigate users' unmet needs has become the goal of many conventional design processes, methods and tools.

In this paper, we propose that addressing the needs of ageing people using a hierarchy of needs—in which some needs are considered higher than others—is less than satisfactory. The ageist attitudes of designers and older users themselves, limits what is considered as reasonable or expected needs that could then be addressed through the resulting design solutions. We discuss an alternative approach to designing for the needs of ageing people using storytelling, and introduce a method using visual cards for creating and narrating stories by older adult participants in co-design workshops.

2 Human Needs

In his now much referenced Theory of Human Motivation [11], Maslow presented his Hierarchy of Needs (HON), according to which people have certain needs, and some needs (e.g., physiological) are more primitive than others (e.g., social). This HON model is usually presented as a five-level pyramid, in which it is assumed that the higher-level needs are only considered by people, once their lower-level needs have been met. According to McGregor [12], “The man whose lower-level needs are satisfied is not motivated to satisfy those needs. For practical purposes they exist no longer.” Similarly, Chapman [3] suggests that, “In the comfortable developed world, the satisfaction of physiological needs, and safety and security needs is practically a given. This concentrates remaining human need within the other three levels; therefore,

developed world consumer motivation is primarily driven by social, ego and self-actualizing need.”

Despite its widespread acceptance and use, HON has come under some scrutiny in recent years. Bridgman et al. [1] argue that Maslow never intended HON to be represented as a pyramid, and that this representation is problematic because it implies an elitist interpretation of human needs—i.e., it assumes that fewer people have the higher-level needs than those with lower-level needs, and that, as mentioned, a person can experience the desire to fulfil a higher-level need only when a lower-level one is satisfied. Bridgman et al. highlight that according to Maslow, most people “*are partially satisfied in all their basic needs and partially unsatisfied in all their basic needs at the same time*”, and that “*any behaviour tends to be determined by several or all of the basic needs simultaneously rather than by only one of them*” (quoted from Maslow). Based on this, Bridgman et al. propose that a ladder representation of HON is more appropriate than a pyramid one [1]. They also suggest that, “The ladder [representation] also attenuates the most common misrepresentation of the HON: that people occupy only one level at any particular time... Moreover, a ladder better de-notes movement both up and down the hierarchy, another overlooked feature of Maslow’s theory.” [1].

3 Designing for Needs

As mentioned earlier, in a problem-solution approach, identifying and addressing users’ needs is critically important for guiding the design process. In this approach, when a pyramid representation of human needs is adopted, certain needs are considered more important than others to address—with some needs not being considered at all.

This is a particularly relevant issue to consider in designing for older adults, when designers can often dismiss *higher-level* needs as not being relevant or essential. For instance, it has been noted that “Much less attention has been given to the support of meaningful social activities and pursuits for seniors that are not tied directly to subsistence-based concerns—such as ignoring the fact that seniors also seek support for meaningful engagement in terms of entertainment, recreation and social connectedness.” [2]. As we have pointed out in the introduction, prejudices and stereotypes concerning old age can influence how the needs of older adults in designing for them.

In this paper, we propose that if a ladder representation of HON is used to guide the design process, instead of a pyramid one, this would allow the attention of the designers to be focused on all, or any, of the users’ needs, rather than focusing only on some needs (usually the lower-level ones) at the expense of other needs (usually the higher-level ones). In this ladder representation, while some needs are higher than others, as shown in Fig. 1, all needs are equally important to the users.

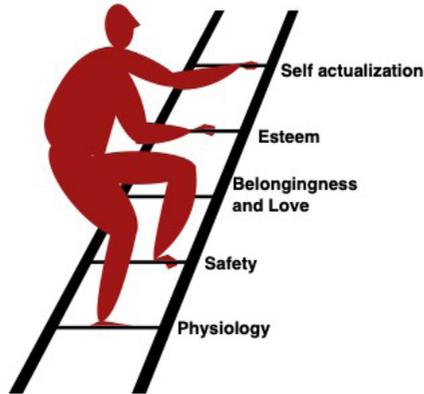


Fig. 1: Representation of Maslow's Hierarchy of Needs as a ladder, in which a person has needs at different levels.

In this open approach, however, when all user needs are equally important, it can become challenging to start and proceed with the design process, in which design choices need to be made somehow. Therefore, alternative design processes must be adopted and suitable design methods need to be devised to allow identifying user needs more effectively at all levels.

4 Designing for Empathy

Design empathy is considered important for better understanding users and identifying their unmet needs. For example, according to IDEO [9] empathy is the key to identifying the unmet needs of the target users of design outcomes, and as such, IDEO provides designers with examples and a set of tools for achieving better empathy with users.

When using empathy in the design process, however, it is important to keep in mind that complete empathy is nearly impossible to achieve, and that for instance, our human feelings and perceptions are often different from those of others—as Decety and Ickes point out, “there is no way that Person A can verify that the experience he has when he sees red is the same experience that Person B has when she sees red.” [6]. Similarly, while the use of wearable simulators, such as gloves or suits that mimic a body impairment, can be used to trigger a certain degree of empathy in the wearer, it is important to remember that such simulators need to be considered mediators of particular experiences (e.g., opening the lid of a jar with reduced hand mobility) rather than tools that can fully enable having another human's experiences [10]. As Decety and Ickes further note, the risk is to “over project—to view ourselves

as more representative of other people in specific respects than we really are.” [6]. Therefore, tools that trigger empathy should be used as mediation tools between designers and users, and not as substitutes for other design methods of interaction between them.

There is emerging evidence that storytelling-based methods are particularly useful for triggering empathy. Villalba et al. [15] describe a case example of the use of this method to trigger empathy and foster discussions with users. In their example, teams were “invited by the facilitator to create a character... [and] to give the character a name and a back-story”. In this case the story was invented, and was just partially based on the abilities, desires or interests of the participants themselves. However, Villalba et al. [15] note that when storytelling is carried out with the actual users’ stories, the outcomes are more meaningful and less predictable. This underlines the need for storytelling to be fully related to users’ real lives and their own experiences.

5 Storytelling using Visual Cards

We have been developing a storytelling method using visual cards to empower older adult users in co-design teams to better express their needs and trigger more empathy in the designers. This method has emerged from a workshop we held with a design team, as a way of investigating the emotional reactions of older users to design topics and themes being investigated. In developing the method, we took several challenges into consideration:

- Overcoming ageism in designers and older users themselves who are participating in the co-design process.
- Empowering all the older user participants during the co-design process. We have noted that the most vocal participants are not always going to be the most active ones during the design process. Therefore, it is essential to make sure that the less vocal participants are also empowered to take part in the co-design process.
- Finding a way to assess the emotional responses of the older user participants to the design topics, in order to have a better idea of what their needs and desires are.
- Improving the clarity of the design process proposed by the designers to older users participating in the co-design process.

5.1 *The Visual Cards*

The images presented on the visual cards should be decided in consultation with the designers. We suggest following the instructions presented in the “Cards” method by IDEO [9], in the “Field guide to Human Centered Design”,

which ask designers to “Make your deck of cards for the card sort. Use either a word or a picture on each card, but whatever you select, make sure that it’s easy to understand. Pictures are a better choice if the person doing the Card Sort speaks another language or cannot read.”

For example, in our first trial of this method, the idea was to test the core motivations and values of the proposed design project—which was to grow food in a local neighbourhood setting in Finland. We decided to test the concept of presenting a simplified service design journey, and mimicking all the steps that the participants would need to follow to grow food in an urban neighbourhood in Helsinki. For this project we designed the following sets of visual cards:

1. **Plants, locations and soil cards:** We looked at traditional Finnish recipes, making sure to include recipes from all the different seasons of the year. On the visual cards, we included images of the ingredients, various places to grow the ingredients, different location to grow the plants (e.g., urban and rural locations), and different kinds of soils to be used when growing the plants.
2. **Emotion cards:** To investigate the emotional reaction of the participants to the overall service design journey we created a set of visual cards with pictures of people from different age groups, each depicting a vague emotional state, as identified by Ekman [7].
3. **Word cards:** We created a set of cards each with a basic emotion word in Finnish. In addition, we also provided blank cards for the participants to write their own emotion words.
4. **Rating card:** We created a rating card using a version of the Geneva Emotional wheel [8], for the participants to rate their level of valence/arousal for their selected emotions.

5.2 The Storytelling Workshop Method

We have developed a storytelling workshop method which uses the above set of visual cards to investigate the needs of older adults in a design project. The aim is to preserve the individual voice of each person, assess the level of expertise and engagement of each person, and assess the emotional involvement of each person in the process. The cards are in the shape of a square to facilitate free association between them, and to avoid a suggestion of hierarchical order.

In the case study project, for which the above set of cards were created, we held a 2-hour workshop with a group of older adults and the design team, and followed these phases:

1. **Introduction and warm-up** (45 minutes): the design team welcomed the participants to a communal meeting room, which was an intimate and friendly space usually used for community meetings. The design team then proceeded to offer coffee and food to the participants while presenting the aims of the design project. The participants then introduced themselves, explained in detail the reasons for their participation, and the wishes they had for the future of their community. Once the presentations were concluded, the design team described the visual cards method and proceeded to the next phase.
2. **Cards selection** (30 minutes): the rules that need to be followed are simple, and the method has been designed to be intuitive and easy to follow. The participants were presented with different set of cards, and asked to choose the cards in response to a request or a question that was posed to them. Once the participants have chosen their cards, the remaining cards are removed, and this step is repeated with the next set of cards (as shown in Fig. 2). For the first set of cards, the participants were asked to choose the recipe they like the most, and then were presented with the card for the ingredients, plants, locations, and soil to choose from. For the second set of cards, they were asked to choose emotions associated with the growing process. The participants were then asked to choose a word card (from the third set, or wrote their own) that described their selected emotion card, and rated their level of emotion using a rating card (from the fourth set). Once the cards selection was completed (e.g., see Fig. 3) each participant proceeded to the next phase.
3. **Storytelling** (30 minutes): each of the participants were asked to tell a real-life story associated with their selected cards. After hearing all the stories, the workshop moved to the next phase.

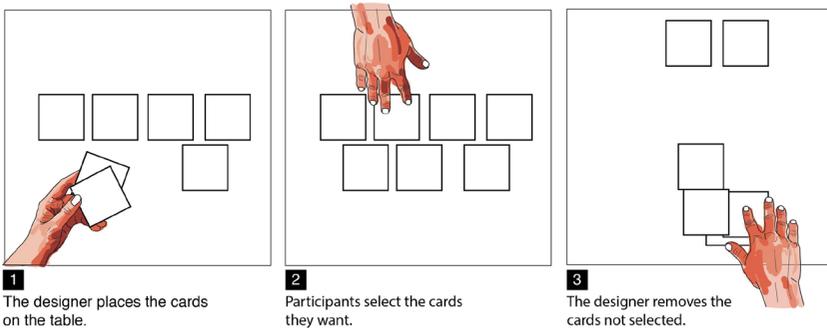


Fig. 2: The process followed for each set of cards in the card selection phase.

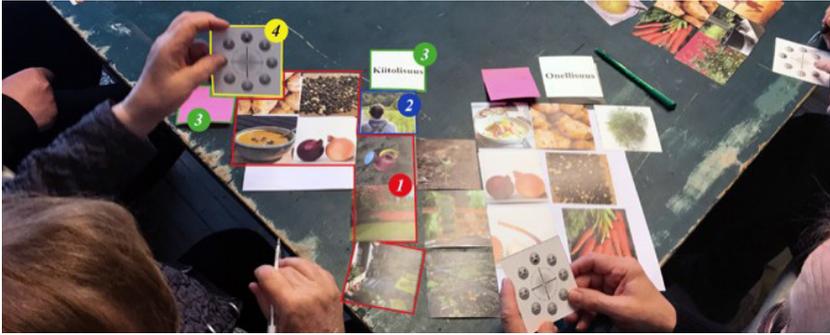


Fig. 3: The visual cards selected by a group of older participants to narrate their story. Some of the visual cards in each of the 4 categories have been marked in this image.

4. **Debrief** (15 minutes): the participants were invited to reflect on the possible next steps of the design project in an open discussion.

After the workshop we analysed the stories told by the workshop participants. In this case we noticed how the initial need identified by the design team was misplaced. The older user participants were more interested in the idea of building a common vegetable garden rather than cultivating food in their private spaces. Furthermore, the participants were interested in how this project could provide a common social activity rather than producing food. They associated the idea with one they were familiar with—*talkoopäivä*—a celebration promoting the Finnish tradition of doing things together.

6 Conclusions

In this paper, we have proposed an alternative approach to considering ageing peoples' needs during the design process, which requires addressing their needs at all levels, rather than primarily focusing on the lower levels of their hierarchy of needs.

To address this, we have developed a storytelling-based method using visual cards to assist meaningful participation of older users in a co-design process. Our initial trials of this method in a series of workshops with older adults in Finland has shown promising results in allowing designers to investigate the unmet needs of older adults.

We are currently planning to further test this method with other participants living in different urban communities. Our aim is to investigate how emotions can be used as a way of identifying older users' needs, and eliminating ageism-related influences in co-design processes.

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