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Carative factors to guide design development process for object-owner detachment in enabling an object's longevity

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Abstract: During the 20th century the cultural and economic value of products dramatically changed as the availability and affordability of mass-produced, low cost goods increased in the marketplace (Walker, 2006). We buy things that end up never used, we store objects that are never needed, find the extra storage space for the object that doesn't fit in our house. Most of the things we own just sit there gathering dust, eventually to be thrown away although they are still perfectly functional. The exploration of ways to let go of objects has important implications beyond the conventional interpretation of object-user detachment. To care for one's possessions is as much about maintaining and repairing objects to keep as it is about letting objects go to a good home. In this sense, carative factors are a useful way to address ways of object-user detachment and help to promote re-use and repair to sustain and extend product lifespan.

This paper explores how the carative factors can be used to inspire and stimulate designers to explore ideas, and enable new ways to approach problems of attachment and consumption, and drive creative solutions that encourage letting go. A set of characteristic factors are presented in card format, serving as a stimulus toolkit and tested through a workshop and live design projects. The findings, potential benefits of the toolkit and effects on products lifespan will be further discussed.

Introduction

Most people in the wealthy nations of the world are used to buying and consuming countless products, in many cases not taking any action when they are no longer needed, piling up objects in closets and closing them to forget, or otherwise throw them away.
In this climate of consumption, appropriate ways to let go of objects have become less important, and people face difficulty making decisions for further action when the relationship with objects nears its end. Users' lack of knowledge, skill and motivation, and the lack of an after-use system do not foster care practice known to help extend the life or use of particular objects (Gwitt 2015).
Product longevity (Chapman, 2005, 2010; Evans & Cooper, 2010; Tietze & Hansen, 2013; Tukker, 2004) is recognised as one of the strongest strategies to reduce waste and increase positive environmental impacts. Longer lasting products, extending products life span, lifetime optimisation and other systems (e.g Chapman, 2005, 2010; Evans & Cooper, 2010; Tietze & Hansen, 2013; Tukker, 2004; Van Nes, 2010) attempt to reduce consumption and waste by increasing the durability of the relationship between user and product. Whereas, new ways of collaborative consumption provide significant environmental benefits by decoupling the owner-object relationship, seeking to increase efficiency, reduce waste and mop up the surplus created by over-production and –consumption (Botsman and Rogers, 2011). Despite promising directions of users- objects attachment, additional research is needed to facilitate more widespread adoption of both strategies (Mont, 2008; Tukker 2013). Marchand (2003) explores detachment from possessions as a way to extend the longevity of objects in his paper entitled 'Sustainable User and the World of Objects Design and Consumerism'.
His study revealed that 'by practicing detachment from objects, [people] are more

predisposed to accept an object's physical ageing.

Longevity can be also achieved through object-owner detachment, by exploring deeper motivational origins of humans' intrinsic caring behaviour. The practice of care is just as much about maintaining or mending objects for attachment as about peaceful and graceful ways to let things go for projecting hope into shared future (Jones 2013). Discovering and understanding which factors motivate the action to let go of unnecessary objects to increase efficacy is key to address appropriate ways of object-user detachment and help to circulate the material, sustain and extend products lifespans, and eventually instilling care-giving behaviour

Carative factors and the framework

In order to explore the dimensions of caring for one's possessions, this study borrows and builds on Jean Watson's term 'carative', which she coined in her studies of nursing practice as a contrasting concept to 'curative'. She proposes '10 *carative factors'* in the *caring process* that may help a patient attain (or maintain) health or die a peaceful death (Watson, 1985, p.7).

In this study we propose a set of carative factors that might apply to objects, based on Watson's 10 factors, and on Blustein's four different forms of care (Blustein, 1991; Shaw, 2015), namely *affection, responsibility, commitment* and *benevolence* (Figure 1). Different levels of attribution of care entwined, thus work together to enable care-giving behaviour.

A series of interviews and online surveys was conducted with 10 interviewees and 65 survey participants, including discussion of possession and attachment of objects. The participants were selected from Royal College of Art, Canary Wharf College parent's association and Open door church community. Emerging themes were categorised under these four themes, and developed into a set of stimuli for a toolkit (Figure 1).

47 influential factors found during the initial research have provided direct impact on to create original carative factors inspirational cards for the design processes. The aim of the toolkit is to allow designers to explore ideas

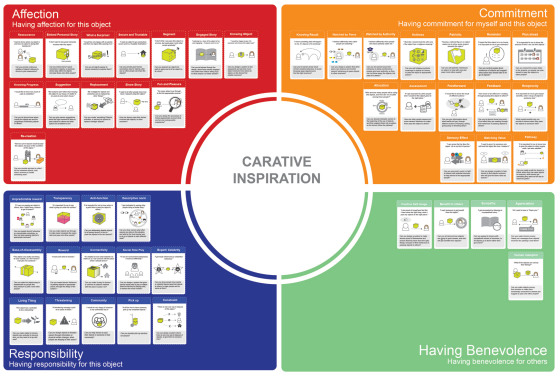

Figure 1. Carative factors and the framework.

through provocative and inspirational questions, to enable different ways to approach the design challenges and drive creative solutions for letting go of objects. The toolkit was distributed to designers to be tested for their own projects, and through an interdisciplinary creative workshop. The aim of the workshop and the design studies are twofold: to provide a critical research environment so it enables form and examine the carative factors and the original design to be produced; to develop a design methodological process to produce case-specific design knowledge to address concept of letting things go.

The Workshop: Pass the objects

The workshop was held at the Royal College of Art involving 6 participants for idea generation and discussion. The workshop participants were recruited via online advertisement in collaboration with Royal College of Art Students Union. Participants were asked to bring examples of 'unnecessary' objects.

During the session, the participants grouped into pairs and generated design concepts using carative factors inspirational cards, focusing on the ideas of relinquishing things for the purpose of sharing (Figure 2). This also enabled them to review the benefit of the toolkit. 24 design concepts were generated using this toolkit and the concepts are summarised according to 4 motives of carative factors framework (Table 1).

Group 1 selected an unopened ink cartridge to explore ideas around. The ink cartridge was kept at home because it is new and unused although the original printer was given away. The owner felt uncomfortable throwing the

Figure 2. Workshop idea generation session using carative factors.

cartridge away due to the environmental concern, but couldn't find the appropriate owner. Fifteen concepts were generated around this object, Responsibility and commitment were dominant carative factors.
Furniture ranked high among the objects that people keep with uncertain future plan. Although participants did not bring in this object to workshop, group 2 was interested to explore ideas around furniture. It was suggested size, weight and ways to disassemble influence owner to build burden of responsibility, as a result they tend to keep unnecessary furniture until moving houses (defra 2008). Ten concepts have been generated through the cards.
Group 3 chose unneeded shoes, It was kept at home because it was unhygienic to give away and psychological obsolescence. The group produced one solid concept by exploring four themes.

Finding
Group 1 mainly focused instilling **responsibility** or **commitment** among owners. None of concepts were generated through carative factors of affection. Affection is the loving form of care; people are naturally inclined to give care; owner's affective relationships with the objects are more important (Kirschen 2001). In this case, the owner had low level of affection towards ink cartridge, therefore group 1 had difficulty generating ideas in this theme. However, benevolence towards a recipient was a strong inspirational factor, seeking to enable community based circulation of resources.
Group 2 developed ideas on each of the four themes. Although burden of responsibility might be regarded as the main reason for keeping furniture, all three other factors were also used to generate the concepts. According to this group, obstacles to detachment for furniture owners may vary according to their personal experiences, and responsibility is not the only factor to consider but all of four themes are relevant.
Group 3 interestingly produced one solid idea by using 4 themes together. Although, each theme of cards was given out at a different time, they built upon the one idea by using all four themes.

	Chosen object	**4-motive of cataive themes and selected factors**		**Design concepts**
Group 1	Ink cartridge	Affection		None
		Responsibility	- Community - Pick up - Reward - Social role play	- Online ink swap platform. - Pick up and deliver services. - Printers talk to each other's to find other owners who are in need for certain colours of cartridge. - Ink party host by local ink ambassadors to meet and swap.
			- Reward	- Reward point scheme to build the reputation and get reward. - Send the unneeded cartridge to shops and reward donors with printed photos.

			- Threatening Constraint	- Getting a fine. - System that ink cartridge is scanned when it is manufactured and can't be disposed of through recycling bin to restrict owners' behaviours. - Make consumer humiliated by the action of disposal, neighbor puts the stickers on his/ her door 'I don't know how to reuse'. - Talking cartridge when it is binned 'Don't throw me' or 'Let me out'.
		Commitment	- Patriotic	- Add 'Made in new castle' on the objects to make prude of local objects.
			- Reminder	- Phone Application; Library of everything you own and remind to let go.
			- Reciprocity	- Return to manufacture and get deposit back.
			- Plan ahead	- When the contract ends, cartridge stops working and can be given to someone else.
		Benevolence	- Appreciation - Benefit to others	- Donate to school and school sends photos to donor of how pupils are using it.
Group 2	Chair	Affection	- Reassurance - Secure and trustable - Knowing progress Suggestion	- Platform for passing down furniture: Services based platform for people in need. People who are looking for a chair upload pictures and their stories and the donor makes decision to give away. Send the chair to a new owner and get feedback.
			- Reassurance - Share story - What a surprise - Knowing progress	- Swap website: Upload the chair with stories and pictures and receive a story of use or alternative things as rewards.
		Responsibility	- Pick up services - Ease- of – disassembly	- Unneeded chair pick up services. - Donate dissembled chair and make something new with other people's donations.
		Commitment	- Patriotic - Reminder - Plan ahead - Knowing result	- Penalty policy if thrown away. - Sharing purchase with other consumers and use chair for certain amount of time and pass it to other people. - Let people know that sharing the furniture with others will induce sense of national pride.
		Benevolence	- Positive self-images - Benefits to others - Appreciation - Re-creation	- Pop up shops to donate and make something new. - System to give feedback to receivers, such as sending photos or sharing happy memories.

Group 3	Shoes	Affection Responsibility Commitment Benevolence	- Reassurance - Embedded personal story - Feedback - Assessment - Ease-of-disassembly - Reward - Anti-function	Shoes community-based application. An interactive tool to match donor and receivers through their requirements. Both parties up load their stories and the system finds the matching donors and receivers. Share the story of how to take care. Set the time of use and if not pass it to others then punishment.

Table 1. Ideas generated by workshop participants.

Design studies

Two designers were given the toolkit to use in their own design projects.

Designer 1 created a design brief to deal with the problem of unwanted clothing waste, addressing the question of how the design could be improved to help owners enable a shared use of unnecessary clothes and elevate the objects' efficacy. By applying the inspirational carative factors cards during the idea generation process (Figure3), one strong and solid concept was created. Eleven carative factors influenced the design development process by crossing over the four themes. The factors of the cards used are *reward, community, pick up, descriptive norm, reciprocity, matching values, embedded personal story, engaged story, reassurance, share story and re-creation.*

Figure 3. Designer 1 is exploring the carative factors inspirational cards.

The output of the design idea was a story-telling based, peer-to–peer, online and off-line platform where people can donate and purchase second-hand clothes, and in doing so, receiving points or credits. The platform also offers design tutorials or workshops on upcycling skills and techniques to enable people to repair, adapt and customise their purchased clothes. Later the recreated clothing can be exhibited at the gallery or re-sold (Figure 4).

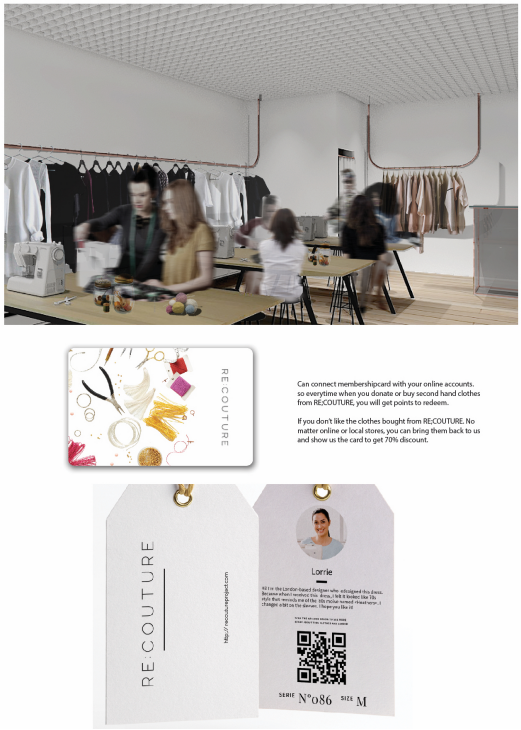

Figure 4. The concept generated by designer 1.

Designer 2 explored the problem of unneeded pharmaceutical products left to accumulate in the home, either forgotten, or kept 'just in case' even if they may have expired.

Prompted by the carative factors cards, of *reminders*; s*ecure and trustable home; better use; reward,* the resulting concepts was a smartphone application to manage pharmaceutical products, linked with unique scanning codes which are printed on the packaging. The app helps users manage their medicines, gives notice of expiry dates, provide information on how and where to dispose the pharmaceutical waste and its packaging and offer services to request a pharmaceutical waste disposal bag (Figure 5).

Figure 5. The concept generated by designer 2.

Findings

Designers in these trials preferred to use cards in combination, by mixing the themes. They found it was easy to use and understandable without a facilitator, however they took some time to digest the contents, partly because of the amount of explanatory text, and to understand the meaning of each theme in the framework.

However, overall the designers reported that the toolkit was beneficial for their design process. The toolkit enabled openness to new design ideas according to participant 1. Participant 3 strongly engaged with the issues and design methodologies, and would like to adopt the original and transferable methodology developed through this study for future projects.

Most of concepts generated focused on ways to pass objects to new recipients or manufactuers, which would have a positive effect on object's longevity.

Conclusions

This exploratory study has described how the carative factors allow designers to explore ideas and drive creative solutions for letting go of unwanted objects in order to elevate the efficacy of products. The designed toolkit, consist of motivational factors are adopted and validated through designers' live projects and the workshop. The potential benefits of using toolkit on designers' idea development process were established and the positive effects on object's lifespan were demonstrated.

It should be noted, however, the study was based on a limited samples. Moreover, the actual impacts on environment have not taken into account.

Nevertheless these limitation, this study has demonstrated that introducing the notion of carative factors has potential as a design method for extending the lifespan of objects by enabling object-owner's detachment of unneeded objects and allowing the material to circulate.

Following on from this study, future research will attempt to re-contextualise carative factors under easy and accessible themes. Further case studies will be conducted for testing and validation of the toolkit. This study will contribute to the growing field of emotional design and sharing economy and provide design approaches for new sustainable design knowledge.

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