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DOI:

[10.17028/rd.lboro.9741272](https://doi.org/10.17028/rd.lboro.9741272)

Publication date:

2019

Document Version

Publisher's PDF, also known as Version of record

[Link to publication in Discovery Research Portal](#)

*Citation for published version (APA):*

Robertson, L., Lim, C., & Moncur, W. (2019). *Sonic Flock; Crowdsourcing, Exhibiting and Gifting Interactive Textile Birds for Wellbeing*. 1-9. Paper presented at Textiles Intersections, London, United Kingdom.  
<https://doi.org/10.17028/rd.lboro.9741272>

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REPOSITORY RECORD

Robertson, Lucy, Christopher SC Lim, and Wendy Moncur. 2019. "Sonic Flock; Crowdsourcing, Exhibiting and Gifting Interactive Textile Birds for Wellbeing". figshare. <https://doi.org/10.17028/rd.lboro.9741272.v1>.

# Sonic Flock; Crowdsourcing, Exhibiting and Gifting Interactive Textile Birds for Wellbeing

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Fig. 1. Over 80 birds were knitted and sewn by makers throughout the UK, displayed in An Lanntair and gifted to those living in care homes throughout the Outer Hebrides.

This paper outlines the crowdsourcing, display and gifting of a “Sonic Flock” of interactive textile birds in the Outer Hebrides. The research explores how the Sonic Flock can enhance wellbeing, social connection and facilitate conversation within and between Dementia Friendly Communities (DFC). A range of themes - including bringing the outside in, birds and textile making were identified through conversations with care home residents, staff and families of those living in care homes in the Outer Hebrides. These themes were fed into the Sonic Flock project. Knitted and sewn birds were crowdsourced from makers throughout the UK. The resulting Sonic Flock; over 80 birds, were displayed in An Lanntair as part of Cuimhne (‘memory’ in Gaelic) exhibition. Some of the textile birds were designed and developed to play bird songs when touched. After the exhibition, the birds were gifted to island residents living in care homes throughout Lewis, Harris and Uist. They acted as social objects and conversation starters, building relationships between the researcher, staff, residents and wider DFC.

Additional Key Words and Phrases: Sonic Textiles, Dementia Friendly Communities, Smart Materials, Interactive Textiles

## 1 INTRODUCTION

There are 850,000 people with dementia in the UK. 225,000 people will develop dementia this year which is 1 every three minutes and 70% of those in care homes have dementia or severe memory problems [11]. Dementia is an umbrella term for several diseases such as Alzheimer’s and vascular dementia. Dementia affects individuals differently depending on the impact of the disease and the individual’s personality before becoming ill and their cognitive function declines over time at different rates [32].

The Sonic Flock used crowdsourcing to engage the public and wider Dementia Friendly Community (DFC) involving 7 different care homes in the process. The project personalised the approach to the Outer Hebrides and it’s residents building trust between the researcher and the DFC. Alongside this the project embraced the culture of storytelling and the rich textile and making history throughout the islands. This

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**DOI:** <https://doi.org/10.17028/rd.lboro.9741272>

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approach of involving the public throughout the UK and the wider DFC has not been done in previous research. Also, the use of smart materials and interactive textiles for wellbeing is an area that is under explored for those living with Dementia.

As part of the lead author's practice-based doctoral research this work explores how the making and use of smart materials can encourage living positively with dementia through a person centred approach; valuing the lived experience of people and collaborating with them as experts [13]. This research works with Smart Materials which; 'can exhibit a repeatable behaviour (light, sound or colour change) in response to a stimulus such as strain or temperature' [17]. More information on the study can be found in the first author's previous paper 'Sonic Textiles for Wellbeing' [23]. The Sonic Flock project connected the DFC and facilitated conversations and playful interactions via the use and gifting of interactive textile birds.

## 2 LITERATURE REVIEW

### 2.1 Dementia and Wellbeing

The symptoms of dementia present both a challenge and an opportunity for designers who hope to enhance wellbeing through their practice. Solutions to help those living with dementia to live positively are urgently needed [31]. Dementia and wellbeing are both multifaceted and affect individuals in different ways [11] [8] [22] [4] [7]. This paper focuses on psychological wellbeing not physical wellbeing concentrating on 'in the moment' connections and joy. Seligman and Csikszentmihalyi introduced 'Positive Psychology' focusing on increasing wellbeing not just decreasing suffering [4] at a subjective level positive psychology 'is about valued subjective experiences: wellbeing, contentment, and satisfaction (in the past); hope and optimism (for the future); and flow and happiness (in the present)' [25]. Based around these levels Seligman developed the 'PERMA' model with five core elements of psychological wellbeing and happiness; Positive Emotion, Engagement, Relationships, Meaning and Achievement. Seligman aligns these five core elements with flourishing; Within the field of positive psychology this is the way of emphasising the optimal (rather than just the average) state of wellbeing [4].

Kitwood redefined the way dementia is considered and the way society should care for those with dementia, highlighting the need for a change in the approach for conversing, caring and engaging with those living with dementia through a person centred approach [19]. This approach acknowledges personhood and puts the individual at the centre of the care given [13]. A person centred approach was adopted within this research, ensuring that all participants were treated with the respect and dignity that they deserve, while recognising their individual personalities and input into the research findings and outcomes. Dementia awareness campaigns and dementia friendly initiatives are being set up all over the world. These raise awareness and challenge society to think about what the public and organisations can do to support those living with dementia, their families and their carers [32]. Working within the DFC in the Outer Hebrides, this study engaged with over 80 makers throughout the UK and visited 7 care homes in Lewis, Harris and Uist.

### 2.3 Textiles and Wellbeing

The making of textiles is deeply rooted within our history and sense of identity; a quilt can contain many memories and act as a protective layer both mentally and physically [10]. We use textiles for protecting our bodies, helping keep us warm or stay cool in different environments they are sensory objects that engage our sight, touch, sense of smell and even our hearing [14][22]. The making and use of textiles for wellbeing has been highlighted in various work looking at the different types of textile craft and their positive effects on wellbeing such as quilting [3], lace making [15], knitting [6] and a range of different textile crafts [5][21].

Alongside exploring the benefits of the different textile crafts, workshops in textile making have been conducted with a range of individuals including vulnerable groups of men [12], those with existing mental health needs [18] and the general public [22]. Outcomes include the use of making and designing for 'triggering memories' and providing an alternative way of expressing oneself, in turn building social wellbeing through making together.

### 2.4 Textiles and Dementia

Textiles and dementia have been paired in a number of studies (e.g.[20] [1][14][16]) looking at how the tactility, familiarity, warmth, flexibility and adaptability of textiles can be used to engage those living with dementia. Jakob and Collier [14] produced a guide on how textiles can be used to create multisensory

environments within care home settings. They identified the importance of textiles in providing safety, comfort, relaxation, stimulation and a multi-sensory experience. In a further study within a care home setting Nevay and Lim [20] co-designed with residents to understand the requirements and preferences that residents had for wearable devices within the care home. Branco used a similar approach to explore how design can enable those living with advanced dementia and members of their close social circle to develop personalised strategies for communication, encouraging the participant and social circle members to fiddle, play and manipulate textiles [1]. Kenning and Treadaway [16] worked with the public to create 'bespoke sensory objects to promote 'in the moment pleasure' for people with later stage dementia' using textiles as a media to encourage members of the public to share their experiences of dementia. These examples highlight opportunities for a personalised approach when designing for those living with dementia, listening to their needs, interests and ideas. The Sonic Flock embodies this personalized approach as it was shaped by conversations with those living in care homes in the Outer Hebrides and by those living within DFCs. Sonic Flock involved the public in the conversations about dementia, inviting them to make individual birds for the project, and presenting opportunities to shape the project through the birds they created and the requests that came with them. For example, a family of knitted birds (ducks, chicken, chicks and cockerel seen in Figure 6) made by one member of the public came with instructions for which care home they were to go to.

The LAUGH study developed playful artefacts through a 'compassionate design approach' by using technology and textile making to create personalised sensory textiles incorporating sound, touch, and haptics to stimulate the recall of memory [31]. This project engaged the wider DFC in Cardiff as well as establishing a creative collaborative way of making textile objects for those living with dementia for 'in the moment' interactions and wellbeing. More recently a range of objects for individuals such as 'Hug', which gives the sensation of receiving a hug and an 'experience reminiscent of nursing a small child' was made for a lady living with dementia who spent most of her days sleeping in bed. Since 'Hug' was made for her there have been significant changes in her wellbeing with her becoming more present, talking, eating well and spending most of the day out of bed. Another example is 'Luma', 'Luma' was inspired by the watching of birds through the care home window and was designed to bring the outside in. A wooden tube with a slider that moves can be moved from side to side to change light colours and trigger bird songs [29]. Sonic Flock explores how interactive textiles can create moments of joy and encourage conversation.

These projects have shaped the conversation around textiles, and dementia for wellbeing. However as each person, DFC and culture is unique, different approaches are required and therefore further research is necessary within this area. In this study we embraced the traditions, culture and need for personalisation within the DFCs in the Outer Hebrides through working with the public and a range of organisations and care homes.

### **3 METHOD**

#### **3.1 Aims of study**

This study explores how the crowdsourcing and gifting of textiles can facilitate conversations and affect wellbeing within and between DFCs. Through a person centred approach, the study also aim to create connections between the researchers, public, those living in care homes in the Outer Hebrides, their family and friends.

#### **3.2 Working within Dementia Friendly Communities**

This project was shaped by observations and participation during arts activities such as weaving, sewing, knitting and singing while working as a PhD intern with An Lanntair Art Centre, DFC project Cialalas. Through observations and conversations during these activities a range of themes were identified - including bringing the outside in, sharing stories and oral history as well as the rich textile and making history of the islands.

For those living in care homes it is not always possible for the person to get outside and experience outdoor environments and stimuli [28]. Alongside this many of the individuals personal belongings cannot come with them to the care home and their familiar home environment is lost [30]. The project therefore looked to provide familiar textiles (such as Harris Tweed and knitted patterns) and sounds bringing the outside of the Hebrides inside the care homes.

### 3.3 Process

A call was sent out to makers throughout the UK to knit or sew birds for the DFC in the Outer Hebrides using a blog post on Cialalas WordPress site, through communication emails at the author's university and on social media using #SonicFlock. Wool, knitting needles and kits of Harris Tweed along with the sewn and knitting patterns were available at An Lanntair Art Centre in Stornoway and Duncan of Jordanstone College of Art and Design in Dundee. A certain amount of control was given to the makers, they could personalise the birds in any way they wanted, and each was a unique interpretation of the 4 patterns provided or a completely new pattern. A range of the interpretations can be seen in in Figures 2 and 3.



Fig. 2. Left to right; the sewn pattern being shared with a carers group, knitted patterns provided including Lapwing, Robin and a basic bird, the sewn pattern made from Harris Tweed and a Tunnocks wafer wrapper.



Fig. 3. Left to right; dry felted Blue Tit and Owl, Sewn pattern made from machine knitted off cuts, a knitted Robin from the provided pattern.

It is estimated that over 200 people saw the call and over 80 textile birds were made by makers throughout the UK and delivered to An Lanntair through the post or deposited at the kit pick up points. A family of birds (Hen, Cockerel, chicks and multicoloured ducks (Figure 6) came with instructions of what care home they would like them to go to which was later honoured on the gifting tour.

Some birds were adapted to play sound using simple adapted record/playback sound chips and the Bare Conductive Touch Board, further information on the method and technology has been reported by the first author [24]. The entire flock (Figure 1&4) was displayed in An Lanntair's main gallery during Cialalas 'Cuimhne' (meaning memory) symposium. No research data was collected during this phase however the birds were free to be touched and played with by the public inviting the wider DFC to be part of the research through interaction. Makers visited their birds in the exhibition with their families and friends, spotting where in the gallery they were hung.

After the exhibition 6 care homes and 1 day centre that the Cialalas team regularly work with were visited across Lewis, Harris and the Uists. The staff of Cialalas supported this gifting tour arranging and attending the visits to the 7 locations. The first author and Cialalas staff (Cialalas Project Co-ordinator in Lewis and Harris and Uist Art practitioner and Gaelic speaker in Uist) acted as participant observers while engaging in conversations with residents. Altogether 33 resident's throughout the 7 care homes were involved in the visits. Residents were all living with different stages of dementia from moderate to late stage.

With permission, we recorded the conversations, took images and noted any interactions with the birds. Informed consent was managed by Cialalas and the care homes. As the first author was working with An Lanntair's Cialalas project at the time their permission has been given to use anonymised words and images for this research. Each visit was different and we worked around the needs of the care home. The timing of the visits was determined by the home depending on what time of day was best for the residents and staff.

After each care home the researcher and Cianalas staff discussed the visit and noted conversations and interactions of interest. The first author used thematic analysis to categorise the notes into themes[2].



Fig. 4. The birds sat within the Cuimhne Exhibition which brought together a range of projects around memory, oral tradition and creativity within the Cianalas Dementia Friendly Community.

## 4. FINDINGS AND DISCUSSION

### 4.1 Connecting across the UK through making

A range of materials were used including the supplied Harris Tweed, tartan, machine knitted off-cuts (Figure 3). Some interpreted the 'Sonic Flock' literally and added decorative sonic elements with beads, bells and the rusty Tunnocks Caramel Wafer wrapper (Figure 2).

This activity of crowdsourcing the birds allowed for the public to engage with the process and raised awareness of the DFC in the Outer Hebrides. Feedback and information about the making experience was shared with the researcher via email and social media, using the hashtag #SonicFlock. Many came with stories of families making the birds together; one family of 5 and their mother made a clan of birds who were to 'stay together', another was made by 7 year old Hetty who had chosen the fabrics and decided to put a bell inside the birds tummy. Many makers talked of finding it hard to part with their creations but that they were happy to be part of something bigger.

Involving the wider public throughout the UK and within the DFCs in the Outer Hebrides has created ownership for everyone involved as well as a dialogue between the DFC and the researcher. Crowdsourcing the birds in this way connected us through making. When we make together at home, in a workshop, at work, during play, as a community or as society we are part of something that connects us through ideas, making and tangible artefacts. Gauntlett states in his book 'Making is connecting'-'because through making things and sharing them with the world, we increase our engagement and connection with our social and physical environments' [9].

### 4.2 The gifting tour

The birds allowed us to share the outside environment of the Outer Hebrides with residents of care homes throughout the islands, 'bringing the world' [29] to the person and creating opportunities for conversations, stories and oral history to be shared. Themes recurred throughout the gifting tour; textiles and making, stories involving birds and Gaelic words. A range of interactions were observed by the researcher including hugging, throwing and stroking the birds. The topics of conversation and interactions are expanded upon below.

#### 4.2.1 Identity through making

The different techniques of knitted and sewn birds evoked conversation with many residents linking the textile birds to their own identity of being involved in the Harris Tweed industry or using knitting to make garments for themselves and family. Harris Tweed is known for its unique colours, textures, orb logo and an Act of Parliament legislation which provides the Hebrides with a rich textile heritage passed down through generations [33]. One resident in Lewis shared stories about working in the wool mills (part of the Harris tweed Industry). When handling a Harris Tweed bird decorated with embroidery she said *'I was working in a mill, we used to make wool, I never thought I would get it (Harris Tweed) done like this'*. The same resident who was wearing a hand knitted jumper made by herself told us that her mum could *'Knit anything, she would just look at the pattern and know what to do'*.

In the day centre there was a lady knitting *'I am knitting squares at the moment, I like to knit'*, while we talked to her she told us she used to knit for her grandchildren and children but that she didn't do that anymore. In Harris a lady showed us her knitting that was stored in the basket for her walking frame, she was making pair of socks. Following this study and our visit the same lady taught a member the Cinalas team how to knit socks. These conversations inspired by the Sonic Flock highlighted the rich textile heritage throughout the islands and the ability of those living with dementia to pass skills down through the generations.

One care home was just sitting down to lunch when we visited. Residents chose their birds, and kept them as lunch companions sitting on the tables while they ate. The staff made sure that every resident had a bird. *'Who made these?'* one resident asked. *'They are marvelous, I think I will choose this Penguin, thank you'*. The penguin was knitted with a blue scarf and stood up on its own.

One resident who had attended every singing session during the researcher's internship chose a knitted lapwing to sit with her at lunch (Figure 5). *'Oh that's lovely, will we see more of you?'* she asked, enquiring when the next visit would be. She wanted to choose a bird for her friend, and chose one made with a pink sequin fabric. When her friend joined her, she picked up a blue and purple Harris Tweed one instead: *'I don't think I am glamorous enough for that one, I think I need this one. He is a bit more tweedy, like me'*. This relation to residents' identity, and the type of bird they chose, reinforces the need for personalised objects and projects to suit different individuals, allowing the unique personalities and identities to be recognised and designed for.



Fig. 5. Knitted Lapwing from the provide Lapwing pattern was chosen by one resident to *'join her for lunch'*



#### 4.2.2 Stories involving birds

There is a strong tradition of oral history in the Outer Hebrides; passing information through the art of storytelling [26]. The flock evoked stories of birds, with different bird shapes triggering specific stories. A knitted Hen and her family were gifted to a home in Uist (Figure 6) where a lady told us a story about her son and his fear of chickens, she carried on to tell us about when a black bird was in his house as an adult and that he had to call for help to get it out. The corncrake bird song inside one of the flock triggered different reactions *'they keep you awake'* one resident said *'I have my ear plugs with me.'*

The researcher was taught Gaelic words along the way by the residents *'tha a snog, do you know what that means? It is nice'*. When talking about birds, the word was translated into 'ean', they talked of the birds on the 'machair' which is the Gaelic word for the fertile moors on the islands where wildflowers grow and birds feed and breed. These stories allowed the researcher to gain a better understanding of how different types of birds – e.g. the chicken – could evoke specific stories that might not have come up otherwise. Alongside this, it added to the researcher's own learning of Gaelic words, influencing future research.

#### 4.2.3 Playful interactions and social objects

Interactions showed signs of joy such as laughter and smiling and a playful approach to interacting with the birds. Treadaway's LAUGH project emphasises the importance of play in improving wellbeing at 'all stages of life, not just childhood' [29]. These playful and emotional interactions highlight the significance or meaning that the shape of the birds had for the residents, representing living creatures.

In the day centre a man burst into song *'There'll be bluebirds over, The white cliffs of Dover, Tomorrow, just you wait and see'* During the singing he flung a bird across the room to ladies who were knitting on the other side *'oh the birds can fly'* he said. This caused the whole group to laugh as the bird was flung back to him. On receiving the bird back he noticed that the tail had not been stitched up (this was to allow for electronics to be placed inside) *'he's lost his knickers, you better get him dressed properly'* he said, that man chose to take home a dry felted Owl, he was making the *'twit twoo'* noises as we left. In the North Uist care home one of the residents was playing with the Hen family (Figure 6) and the Cockerel kept falling over *'he has had one too many Baileys'* she said, the whole room laughed.



Fig. 6. A family of birds; Hen, Cockerel, chicks and multi-coloured ducks.

Simon states ‘Social objects allow people to focus their attention on a third thing rather than on each other, making interpersonal engagement more comfortable’ [27]. The textile birds acted as social objects facilitating conversations not only between acquaintances such as the researcher but also between the residents and their families. A daughter encouraged her Mum to choose a bird for her room, her mum was concerned that it was real ‘*it’s not real mum*’ the daughter stated. ‘*wouldn’t this be a nice one to have in your room?*’ Once they had chosen their favourite bird to keep they continued to chat holding it.

The birds fitted with sound were often held close to ears so that they could be heard. Some birds contained or were decorated with bells inviting them to be shaken. One bird sat on a resident’s chair for the whole visit, chirping away. The birds were stroked on the tops of their heads similar to how one would pet a dog or cat, this was also seen in a study analysing PARO- a socially assistive pet seal robot [34]. Another was hugged close to their face for the majority of the visit, showing signs of comfort for the resident.

## 5 CONCLUSION

In this paper we describe the innovative use of a “Sonic Flock” of interactive textile birds to explore how the making, use and gifting of textiles can facilitate conversations and effect wellbeing within and between Dementia Friendly Communities (DFCs).

Using crowdsourcing, an exhibition and gifting tour the Sonic Flock built trust between the researcher and DFC, connected makers from all over the UK through making and facilitated conversations throughout care homes in the Outer Hebrides.

The Sonic Flock birds acted as social objects allowing conversations about birds, textiles, making and language to be had. Interactions such as singing, laughing, smiling and hugging were observed showing signs of joy and happiness in the moment. The sonic element of bird song alongside the familiar textiles used brought the outside of the Outer Hebrides into the care home. This research has resulted in a subsequent study exploring textile making to connect those living with dementia between two DFC; East Lothian and Outer Hebrides. Through the use of craft, textiles and technology this study aims to build, grow, extend and strengthen links and friendships between two DFC while improving individual’s wellbeing. Working with craft materials, e-textile tools and digital tools we will establish a way to nurture the peer to peer connections within and between the DFC.

With more research happening within the area of textiles for wellbeing (e.g.[3][15] [6] [5][21]), smart textiles [18] and textiles for dementia (e.g.[20] [1][14][16]) this is a growing field. Due to the multifaceted nature of both wellbeing and Dementia, designing for them requires a person centred approach and takes time to gain trust of the DFC in turn understanding what activities and making would suit those living within it. Working with the public and those living with dementia through a person centred approach provides a rich understanding of how smart materials can affect wellbeing within DFCs.

## ACKNOWLEDGMENTS

This work was part of a PhD internship at An Lanntair Art Centre, Stornoway funded by Scottish Graduate School for Arts and Humanities. Lucy Robertson’s PhD is funded by Duncan of Jordanstone College of Art and Design. We would like to thank An Lanntair’s DFC Cialalas project, specifically project co-ordinator Paula Brown. Alongside this, thanks go to Harris Tweed Hebrides for their donation of tweed scraps, Nicky Fijalkowska and Search Press for their free use of bird knitting patterns. Finally we would like to thank the makers who donated birds to the flock and the care home staff, residents and families involved in the gifting tour.

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