

Older Voices: Supporting Community Radio Production for Civic Participation in Later Life

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ABSTRACT

Community radio can support the process of having a voice in one's community as a part of civic action, and promote community dialogue. However, older adults are underrepresented as producers of community radio shows in the UK, and face different challenges to their younger colleagues. By working within the radio production group of an existing organisation of older adults, we identify the motivations and challenges in supporting this type of civic participation in media in later life. Key challenges were identified, including audience engagement, content persistence and process sustainability. In response, we 1) supported the group's audience engagement using Facebook Live and a phone-in option, and 2) developed a digital production tool. Reporting on the continued use of the tool by the organisation, we discuss how tailored and non-intrusive processes mediated by digital technology can support older adults in delivering richer media experiences whilst serving their civic participatory interests.

CCS CONCEPTS

• **Human-centered computing** → **Participatory design.**

KEYWORDS

Digital Civics, ageing, community radio, civic participation

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1 INTRODUCTION

Community radio, as an independent, non-profit and community based medium for public dialogue, contributes significantly to a pluralistic media sector, alongside commercial and public radio stations [40]. Its participatory nature can offer a route to civic participation for different communities, which can be overlooked or underrepresented by mainstream broadcasters, and therefore risk being left behind regarding information. These community groups can use community radio to drive their civic interests and participation by articulating interests and concerns, and by expressing themselves freely [40]. Even though engagement with media in later life has been underexplored in HCI research, with the majority of projects failing to engage older adults beyond the scope of assistive technologies which focus on deficits associated with ageing [41], there are a few community radio shows, including Angel Radio [8], produced by older adults for older adults. In addition to using the medium of community radio to discuss their interests in order to inform and stay in touch with their community, older adults' motivations to engage in the production of community radio might be manifold. Several aims can be pursued, including affirming older adults as valued members of society, offering support and friendship to peers, promoting older people's talents, and ensuring that these talents are acknowledged by a wider audience [8].

Working collaboratively with older adults as producers of a community radio show revealed their challenges in connecting better with their audience, and in ensuring the persistence and sustainability of their content. A digital tool was developed to support the group in labelling, editing and uploading parts of their radio show, creating a YouTube online archive of content. The tool integrates within the team's existing work flow and facilitates the curatorship and upload of broadcast content for on-demand access by the team. This allows the radio team to track audience interests and

engage more listeners, in conjunction with thinking strategically in terms of content creation and catering for listeners' wishes. Additionally, a simple Facebook Live video stream and phone-in option were deployed to make the show more interactive. While participants reported initial fears about engaging with unfamiliar technologies, the findings challenge ageist perceptions in HCI. This research therefore indicates that a diverse group of older adults can positively engage in learning processes that make use of digital technologies. In doing so, they enhance their community broadcasting and strengthen their civic participation. This can contribute to understanding **how older adults can leverage digital technologies to engage more people in a self-managed community radio show in order to extend the reach of their voices.**

2 CONTEXT OF ENGAGEMENT

To explore the potential of community radio as a means of promoting civic participation in later life and assess how digital technologies can support older adults in this process, this research focuses on a collaborative project with a group of older adults in Newcastle upon Tyne, UK. We approached an organisation, the city's Elders Council, some of whom use the medium of community radio to discuss their interests and reach out to their community. They produce a monthly community radio show called 'Older Voices', which "seeks to celebrate the older people of the region, discussing and highlighting issues that affect older residents, along with occasional music" [19]. It is broadcast on the community radio station "NE1fm" (which serves the city). Over ten years ago, "NE1fm" was seeking communities around the city who had an interest in broadcasting. They approached the Elders Council, who had an interest in running their own show. Since then, the production of the community radio show has been an ongoing and enduring process, with the production environment remaining more or less unchanged. The show is managed by a team of around eight members. Each two-hour show is planned in a monthly meet-up, which consists of a review of the previous show and the planning for the next month. Apart from the effort of putting on a monthly show, the group faces two key challenges: a lack of audience engagement, and resulting uncertainty about their listenership's demographic characteristics, as well as the lack of persistence of the content that is broadcast once only and not archived in a publicly-viewable form. Recent changes in the organisation's agenda have prompted a move towards using ICT and social media as a way of staying connected with their digitally literate members and the wider community. For the radio show, this shift raised questions regarding the programme's "visibility" in their online community and barriers around how to "get online".

3 BACKGROUND AND RELATED WORK

Ageing and HCI

While a variety of HCI research has been carried out in the field of ageing, most projects focus on technology solutions to reduce perceived burdens of old age, such as cognitive and physical decline and social isolation [41]. By stereotypically viewing older adults as a homogenous group, typically depicted as slow and inefficient users of technologies, the implications for technologies can be biased. Research can fail to reflect diversity in later life, especially with regard to active older adults who positively use technologies to meet their life aspirations [41] or engage with digital and media technologies in order to increase their civic participatory impact [27]. This lack of diverse HCI research on participatory media technologies and ageing reinforces stereotypes around older adults and technology. While older adults can still be considered a disadvantaged group with regard to Information and Communication Technology (ICT) use [25], the numbers of older adults using ICT are increasing [30]. Moreover, many older adults positively engage in ICT learning activities by focusing on learning in real-life situations and social settings [35].

Considering how older adults positively experience the use of technologies and make meaningful use of them as part of their daily-life and community practices can shift the primarily homogenous focus on ageing in HCI towards a diverse view of later life [31]. This space has been explored in HCI by Sayago *et al.* through ethnographic studies, which show that older adults indeed make rich use of such technologies as e-mail or YouTube. This suggests that there is no need to oversimplify or design special technologies for older age groups [34, 36] and shows that older adults can be active creators of digital content as opposed to passive consumers [15, 21].

Community Media

Community radio is non-profit [22] and "owned by or accountable to the community that they seek to serve. Community media are open to participation in the programme making and management by members of the community" [20, p7]. Given its participatory and non-professionalised nature, community media offers a voice to different communities and encourages diversity. This diversity includes cultural, political and/or social contributions and is dependent on each organisation's intentions [20]. Community radio can also strengthen civic participation by encouraging people to become more active in their communities. The process of media production can help articulate and debate issues important for those communities. Such discussions contribute to social capital formation, helping to foster tolerance by

strengthening specific communities' interests and connecting them with other groups. If dialogue is created between citizens and service providers, community media can help shape local service delivery [27].

Community Radio. As Ofcom reports for 2016 and 2017, while most community radio stations in the UK run on an income below £50,000 a year, they produce on average 89 hours of original live or pre-recorded content per station per week. On average, a UK community radio station is run by 72 volunteers collectively working for 187 hours a week [30]. Although a range of communities are represented in community radio (e.g. ethnic minorities, rural/urban, religious, and youth communities), older adults are seldom producers of community radio shows in the UK. Shows produced by older adults are more prevalent in North America, where many retirement communities, such as the Holly Creek Retirement Community, host their own radio stations or produce podcasts in order to reach fellow residents and support them with information [3–6]. The few community radio shows produced by older adults that do exist in the UK open up a space for dialogue about later life in their communities.

Digital Technologies and Community Media. In 2007, digital technologies were identified by the European Parliament as both a challenge and an opportunity for community media [20]. Principally, such technologies can reach new audiences and involve audiences in different and innovative ways. Additionally, the radio world has itself been changing in this digital context with a move towards the consumption of digital, on-demand auditory content (e.g. podcasts). Different community radio stations have enabled users to re-listen to shows online or to select specific content they wish to consume through online platforms, such as Mixcloud [2].

Civic Participation in Later Life

Demographic change, with increased life expectancy and growing proportions of older people, has led to a growing interest in civic participation in later life and in the potential of older people to become more engaged in shaping their communities [37]. The term civic participation is used to refer to "voluntary activity focused on helping others, achieving a public good or solving a community problem, including work undertaken either alone or in cooperation with others in order to effect change" [9]. However, the concept of civic participation can include many, often differing, definitions [7, 9, 12, 18, 37, 38]. Conceptualisations typically encompass three dimensions. The first dimension involves differentiating between civic engagement and civic participation, with the former defined as psychological attentiveness to social and political issues and the latter implying some form of civic action [9, 12, 18]. A second dimension encompasses

activities conducted either on an individual or collective basis [7, 18]. The third dimension addresses the goals of civic activities, which can be primarily political or more social and non-political [7, 9, 12, 18]. In relation to later life, most existing research focuses on older adults' participation in individual or, especially, collective forms of social and civic participation (typically volunteering). In addition to positive impacts on local communities, civic participation can result in individual benefits (e.g. health benefits, skill development or increased life-satisfaction) [29, 37]. However, older adults are stereotypically viewed as being socially excluded, with age preventing full and purposeful participation in community. Older adults' heightened risks of exclusion from civic participation can lead to a variety of negative health outcomes [33, 42].

Having a Voice. From an experience-centred HCI perspective, participation can be defined as "a way of belonging" in a community [28]. The concept of having a voice, as articulated by McCarthy and Wright, relates directly to civic participation as it can foster connectedness and interactions within the community and lead to social action. The voice can play a constitutive role in communities, as diverse community dialogues can be generated, inclusive of a variety of different and differing voices. Older adults who are more likely to be socially excluded [42] face the risk of becoming "invisible" to others in their communities and people not directly linked to their lives [13]. Emphasising "having a voice" in research to create a community dialogue between voices, which do not usually engage with one another, can facilitate the process of making the invisible visible. Recent research in HCI highlights the importance and positive impact of community dialogues which involve older adults as opposed to deploying technological solutions for age-related problems. Digital and participatory media technologies, in particular community radio, can be used as a means of sharing experiences, creating dialogue about ageing and strengthening civic participation in later life [17].

4 METHODOLOGY

This project aimed to explore how older adults as producers of a self-managed community radio show can use digital technologies to broaden the impact of their voices, and therefore the impact of their civic participation, within their community and across their city. The research was carried out collaboratively with the Older Voices radio team of Newcastle upon Tyne, UK, over a period of six months. The radio team consists of eight regular members aged 65–83 years (3 male, 5 female), all of whom are given pseudonyms in the following analysis. Apart from James, all members are associated with or are active members of the Elders Council, the wider

organisation. Regarding production tasks, since roles are determined by a monthly rota, everybody has the opportunity to take on different production roles. We responded to the research question in three stages, encompassing: 1) scoping research to explore the setting, 2) co-investigating the challenges faced by the team in their community radio production, and 3) realising two distinct design responses. The ultimate objective was to address the challenges that older adults face regarding the production process of community radio as well as the civic participatory impact achieved through the community engagement as a result of the broadcast. A Participatory Action Research (PAR) approach informs the methodology of the different research stages, and supports the process of democratic and collaborative research with the Elders Council. PAR is a highly contextual and inclusive way of researching, which was especially important for conducting research with a diverse group of people, stereotypically and erroneously viewed as homogeneous and "digitally illiterate" [23, 24, 41]. PAR describes a repeated process, consisting of cycles of planning, action and reflection, that build on each other and inform subsequent steps. These cycles were not only reflected in the project's overall context, but in particular describe the ongoing observations of attending four broadcasts and five planning meetings as well as being embedded in the Elders Council's community as part of the production team and the resulting deployment of an inter-generational radio show. The three research stages with their differing methodological approaches and their main outcomes are described in more detail in chronological order in each subsection with regard to study design and findings. The project was granted ethical approval by the host University. It was conducted in accordance with ethical guidelines of the British Society of Gerontology [1] while placing value on existing working practises and priorities concerning the production workflow.

5 STAGE 1: SCOPING

In order to explore the production structures, the lead author embedded herself in the Older Voices radio team. She also conducted observational research supported by scoping interviews of an explorative nature.

Observational Research

What began as observational research, in the form of shadowing planning meetings and broadcasts, soon changed as the lead author was welcomed as a regular team member.

Data Collection and Analysis. At meetings, she collected data in the form of field notes written contemporaneously, which reflected her observations regarding the group's work flow, personal emotions and experiences she observed. Field notes were thematically arranged with regard to work flow stages,

resulting in an overview of how things are structured and planned. The lead author was able to see in practice how the show was produced and how the team coped with unexpected technical faults. This informed our decision to run a workshop with the group in order to identify the design space.

Findings: The Production Work Flow. Planning meetings and broadcasts follow a particular structure. All meetings start with a short evaluation of the previous radio show and move on to map out the structure of the following broadcast. This time is used as a space for discussion, where team members explain in detail which guests have been invited for chats, the specific topic and likely content. There is also opportunity to allocate and potentially adjust the roles from the monthly rota: 1) who is presenting the show (and therefore who selects the music to be played), 2) who is responsible for running the desk, and 3) who is responsible for writing the "notices of the month" (a selection of things happening in the city). The team then moves to a broad discussion of the show in two months' time, which involves brainstorming for possible guests. They also specify roles and responsibilities (e.g. desk, presenter, notices, etc.). The final part of the planning meeting is used to select the topic for the show in three months' time. All broadcasts aim to follow the structure determined in planning meetings. There are four guests and slots for stories, poems and notices. One team member prepares a running order, which structures the timing of the planned content to the second. All planning meetings are precisely written up in the minutes by the same member each time. Regarding the broadcasts, the observations showed that, even though the team arrives early in order to ensure that the desk works correctly, minor incidents and faults occur regularly. This might involve not being able to play the right music or issues with microphones. However, the team has developed a variety of coping strategies, such as apologising directly to listeners and rescheduling content, in order to keep the show up and running. A general feeling of success is expressed by the team after each show when "it's a wrap". It is important to note that the production process is a tried and tested practice, which has been working in this exact way for over ten years. Thus, it was crucial for our work to acknowledge this and not interfere with the structure. From this observation, we formed a current understanding of the production work flow, structures within the team that determine the work flow and an overview of longstanding practices.

Scoping Interviews

To gain a comprehensive idea of underlying work flow structures, we conducted three exploratory semi-structured interviews. One of the interview participants, Matthew, is a

member of the Elders Council and regular guest on the radio show. The other participants, James and Emma, are part of the radio team. We aimed to explore the current practise in conjunction with how the production team perceive the structure. Additionally, we sought to gain an overview of possible challenges that the group faces.

Data Collection and Analysis. Interviews were audio recorded, transcribed and analysed using thematic analysis (TA). TA seeks to analyse and report themes across a dataset, while acknowledging the active role of the researcher, to make sense of shared meanings and experiences [14]. Using an inductive approach to TA, developing codes and themes from the collected data, we aimed to explore the work flow, challenges and motivations. Data were coded as sentences or paragraphs by the lead author and subsequently grouped in themes. Three emerging themes reflect the social dimension of civic participation, highlighting: 1) the social importance of the radio show for the team, and reflecting a possible design space for the Older Voices show; 2) audience engagement, and 3) the production process and skill development.

Social Importance. As part of a reflection on the production process and underlying planning structures, it became clear that the production process relies on the group being socially connected. Rather than following strict production guidelines, *"it's a structure which is built around the group's knowledge of each other [...] So it's an instinctual group in that sort of sense"* (James). Production tasks are determined with regard to the specific skills of each member, which the radio team implicitly know. Regarding the production process, social connectedness and the resulting trust play an essential role in the team's approach to hosting the monthly radio programme. However, the two members of the radio team highlighted the importance of the community radio show as a social event, the purpose of which is to be inclusive, provide a point for being socially connected and integrated on a regular basis. Even though the production of the radio show is important, the meetings go beyond "simply" producing a community radio show, as there is an opportunity to *"sit and chatter. You're supposed to listen to the programme, but... Well you've got to find out the gossip, haven't you?"* (Emma). Additionally, the notion of care for one other is strong. When people can't attend the regular meetings and broadcasts, *"people are very kind and have kept in touch. So, when I came out of hospital, I was quite surprised 'Would you like to come?' I thought 'Crikey, they still want me at my age!'"* (Emma). Being embedded in the group the lead author witnessed the care of team members for each other through small gestures, like offering lifts to and from the show and catching up with each others' news in the studio. This highlights that it is not only the broadcast output which matters. The input of

being a social group is equally important, as is recognised by members of the radio team:

"I would not underestimate the social importance - just for us as a radio group what keeps it together is the fact that we meet these people who we might not have otherwise met. [...] So what drives us on is to be in the company of those people [...] it is a sort of social grouping built around something that's worth doing and is interesting to do" (James).

Audience Engagement. The radio team's main problem is a perception of not being connected to their audience. Even though a core aim of the show is to reach older adults who are housebound, socially isolated or 'hard to reach', there is no actual indicator of whether this is achieved. Questions about their audience are concerning issues for the radio team:

"Who, if anybody, is our audience? What is it that their expectation is? Why would they listen to it? More importantly, why would they get their friends to listen? Why would it matter to them? [...] I have no confidence at the moment that what we're doing is necessarily that important to people" (James).

This lack of audience connectedness results in doubts about whether the show is of meaningful value for their community. Despite efforts to tailor the programme to their audience's wishes regarding content creation, in an attempt to make interesting and relevant discussions, the current content creation mainly relies on ideas from the team. While friends and family of radio team members occasionally listen to the show, Emma reports that her friends *"don't believe me, they think I'm in the fairyland"*, highlighting the lack of awareness for a radio show run by older adults as well as preconceptions that older adults can't do such things. This lack of awareness might result from limited advertising of the show. For example, while team members advertise the show in casual conversations, no other planned promotional activities are organised. James noted the difficulties faced in engaging with their audience:

"Word of mouth is a great recommendation. How do you both contact your own audience and how do you get them to recruit friends? [...] It's beyond our resources to in any way advertise or something or other outside that." (James).

From the listener's perspective, it is difficult to engage with the show outside broadcast hours, as there is no opportunity to listen again to the show or certain parts of the show. Matthew, who had been invited as a guest on the show but is not a team member, reflected: *"I haven't listened to the radio, but I have gone onto the website specifically because I was*

interested in the show and I could never find it on the radio. So I have gone onto the website, just to see if I could get hold of it, something from the past." Apart from timing difficulties for listeners, "I mean there have been times when I simply, physically, haven't been around and haven't been near a radio at the right time" (Matthew), the radio station's wavelength is narrow and hard to find, especially on older radios: "It's a really small place, you're tuning into the radio and you're going backwards and forwards and you miss it, and you've got to be very, very, very careful. [...] I've never yet found it" (Matthew). However, the possibility of tuning in online on the community radio station's website has not been widely advertised amongst listeners and was even unknown to some team members. Thus, the lack of connectedness is two-sided: members of the show failing to connect to their audience and possible external barriers for the audience to connect to the show.

Community Radio as a Continuous Improvement Process. Building on the first two themes, the social importance of the production of the show and the willingness to connect to their audience, one main characteristic that defines the radio group is the motivation to **strive for innovation and change**. Most team members are eager to produce a high-quality radio show of importance to their audience. To achieve this, they are enthusiastic to engage in the learning process associated with producing and running the show. The lead author observed that the team arrives very early before the show, ensuring that the studio is set up correctly and that they are willing to invest extra time in learning activities such as audio editing tutorials offered by a volunteer of the community radio station. Making the learning process one of the main goals of the production show might be different to younger people, who potentially use engagement with community radio as an opportunity to gain employability skills or build their CV. Without consciously applying concepts of learning in their show production, the group's working process reflects adult learning principles such as self-directed learning in a collaborative, respectful climate with the goal of success and enjoyment [37]:

"I think it's kind of driven on by that sort of [...] 'make do and mend' kind of thing, and then you find out what you need to do as you go along, which has great merit and great drawbacks. [...] Later on [in the meetings] you may tease somebody about, you know, 'I loved that silence, that wonderful silence that seemed to go on and on' and they will sort of tease away that kind of thing. It's self-policing" (James).

Peer-learning, especially valuing others' contributions, plays an important role in the show's creation: "There were many more people when I went there that had much more

knowledge and I learnt quite a lot from them" (Emma) and we saw the team helping each other out on many occasions, like Mary, who is experienced in operating the desk quickly adjusting a control for James. The positive impact of acknowledging the strengths and skills that each member brings to the show contributes to a positive and joyful working atmosphere: "I like all the people there at it and I admire some of them very much. [Mary] has a wonderful broadcasting voice, [Charlotte] is a wonderful, driven person. [...] I like [Elizabeth] and her thought for the month and this kind of stuff, which has a charm and an authenticity. It's just lovely" (James). Realising that the production of the community radio show is a continuous improvement process for personal development of skills drives the group. However, while it is important for group members to engage their audience more, it is clear that: "You're not doing it for the audience, you're doing it for yourself and you're doing it to get better at something" (James).

In summary, the interviews showed that the show's gains are not just limited to the radio output, but that it offers an opportunity for group members to be socially connected as well as the possibility to engage in a learning activity. The interviews contributed to an understanding that the main challenge the group faces is to discover more about their audience. Building on the radio team's motivation for change and considering the broader themes, we collectively decided to run a workshop as an opportunity to begin exploring the Older Voices team's production challenges.

6 STAGE 2: PRODUCTION CHALLENGES

Data Collection

Five members of the Older Voices radio team and one community radio station volunteer (a supporter of the show since its inception) took part in the workshop, aimed at co-investigating the challenges that the team faces regarding production. Data were collected in the form of: an audio-recorded discussion, partly transcribed by the lead author; a written mind map to reflect the production structures; and paper-doll personas to reflect the Older Voices audience. The production challenges were identified together with the participants as part of the discussion and consensus-building. The audio recording and transcripts were used later on to check the outcomes for completeness.

Mapping the Production Process

As some processes did not become clear as a result of the observations, we wanted to explore collaboratively with the team which underlying structures determine the production process and how the team perceives the show's production. The first part of the workshop therefore aimed to create, on whiteboards, an overview of the production process, similar to a simplified version of a service blueprint [39, p112-113].

To make this activity more relatable for the radio team, who had never strategically considered the structure of the planning process, we created prompts to point the discussion to find out "what, who, how, why, where, when" which sub-process takes place [39, p88-89]. Even though the activity aimed to provide an overview of the production process in a chronological and thematic order, participants were eager to discuss freely different topics that were relevant to them. This activity formed the basis for a more general "mind map", which reflects important stages of the production process, but also defines different problem spaces that the radio team would like to explore.

Co-creation of an Audience

For media in general, the audience is a central reference point for the production of content, as it drives the curatorship of content and the agenda of media producers. Previous field-work showed that the Older Voices radio team have yet to identify their audience and, thus, cannot reflect their listenership in their content-creation. However, the wish to adjust and provide content of interest to their audience remained strong. Due to financial restrictions, the radio team could not conduct market research to determine audience numbers and demographics. Therefore, it was relevant to explore the idea of their audience's identity to better understand the process of content creation. The second part of the workshop was used as an opportunity to find out two things: 1) who the radio team imagine their audience are; and 2) who they would like their audience to be. We used the method of co-created personas, as opposed to presenting participants with pre-produced personas [39, p100-101]. To achieve this, participants craft their own personas in the form of paper-dolls. These personas are introduced back to the group with a background story. In order to facilitate the creation of a biography, a sheet with prompts was provided. These prompts covered details about their persona and the persona's engagement with the radio show, such as: age, a short bio and

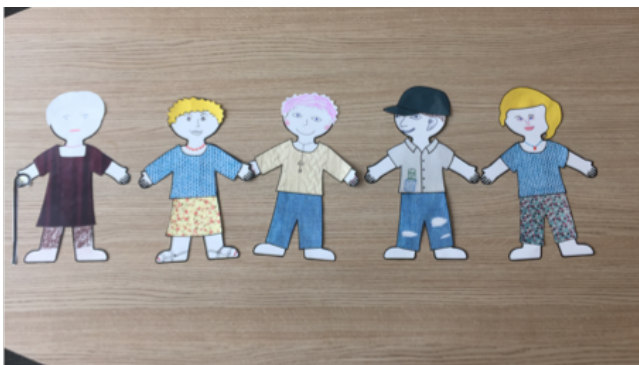


Figure 1: Co-created personas

relevant factors for the radio show (e.g. "favourite part of the show" or "suggestions for improvement").

Workshop Findings

Main topics discussed in the first workshop activity were the identification of the show's topic and, by extension, a selection of sub-topics and guests to invite. Most of the radio show's content is selected based on the assumption of a shared view with the audience. Therefore, the topics selected are mainly ones that radio team members find interesting or think would be relevant based on such criteria as: season, local events in the city, and their personal interests. All topics selected are aligned with the Elders Council's agenda and are aimed at older people or reflect the lives of older adults in the city. Among the group, a clear notion existed that *"focusing on what interests us and trying to make as much possible contact with our audience is a way of moving forward"* (James). Workshop participants also used the discussion as an opportunity to reflect in detail on current structures. Even though according to the community radio volunteer "[Older Voices] is the best planned show on the entire station", matters of sustainability of the show's content were questioned. Throughout the discussion, the team realised that regular slots had disappeared from the show if a member of the radio team left. There is currently no process for seeking replacements for these regular slots (e.g. gardening). Arising from this specific discussion, team members decided to be more "outgoing" and actively seek replacements *"to fill certain roles like that"* (Mary). Additionally, the lack of persistence of content was discussed. This is especially important with the amount of effort that members invest in producing the programme. As Luke states: *"When people listen to the programme they hear a two-hour programme. But it's actually a four-week programme and the amount of time and effort put into this is phenomenal."* There is currently no other way of accessing the content apart from listening to it live on air. This is perceived as *"such a shame, [because we've] had some brilliant interviews and they've just gone"* (Mary). Even though a variety of topics were discussed in the first part of the workshop, the overall findings were in line with the themes of the initial interviews. The team emphasised the importance of finding out more about the Older Voices audience, as this information is closely related to content-creation and production of the show. The first workshop activity was also an opportunity for the team to reflect on their continuous learning process and to emphasise that *"We want to do the best job we can"* (Mary). The co-creation of personas in the second part of the workshop added a significant amount of fun and ease to the group. This was especially important, as the Older Voices radio production is part of a volunteering activity as a form of civic participation (the main purpose of which is being enjoyable and fun). All participants expressed

joy and excitement about the activity. Thomas related the activity to his personal life experience by creating a persona of similar age to his own: *"I'm looking for granny's dress... where is granny's dress... A bit daring, short sleeves, but still..."*.

Five co-created personas were introduced to the group. Spending time on something creative and joyful helped to generate rich persona data. All personas were presented with lively, humorous and relatable background stories. A notable outcome of this activity is that the personas reflect a wide range of listeners - teenagers, nearly-retired people and the oldest old. The personas' motivations for listening are manifold: keeping up with age-group concerns; taking a break from the day; learning about the guests; or "simply because it's good". Personas enjoy the music of the 1950s and 1970s, the discussions with the guests and being informed about what's on in the city. As suggestions for improvement, they would like to hear more about book tips, less "boring talk" and more "oldies" or even younger people on the show. Additionally, two personas would like to hear the show more often and get more publicity, as it's easily missed or they can't make enough time to listen to the whole show. Using the blank canvas to project their imagination of "who the audience is/who they would like the audience to be" clearly resulted in different visions that can be reflected in the process of content-creation. However, in the following discussion it became clear that *"the issue about the programme is getting it out there rather than the format"* (Mary). In summary, the two main challenges identified as the design space were: 1) engaging the radio team with their audience and generating a wider outreach; and 2) increasing the persistence of their content beyond the initial broadcast.

7 STAGE 3: RESPONSE

To address the challenges the Older Voices team faces in their radio production, which were identified in the workshop, we developed two distinct forms of design response: live show engagement activities and a digital tool.

Live Show Engagement

To address the first challenge, engaging the radio team with their audience and generating a wider outreach, thus heightening their civic participatory impact, we deployed different ways of engagement: recordings, a Facebook Live stream with the possibility for a live chat, and a phone-in option. All of these are simple-to-use tools that other radio stations deploy to engage their audience. As part of our ongoing engagement and the participatory action research with the Older Voices radio team, we were involved in the production of a variety of outdoor recordings aimed at increasing the team's engagement with their audience and guests. Previously, most content was created as live chats on the broadcast. One team member expressed an interest in curating a whole

feature on a specific topic, which involved audio editing and editorial decisions. We explored the use of pre-recorded material in the broadcasts as an option for the team to chat to guests who could not attend the live broadcast, as well as opening up the option of re-using the content for their own purposes after the broadcast. Only one member of the team was previously familiar with recording and audio editing and by supporting two other members in the process, the expertise was increased amongst the group.

Additionally, the radio team expressed interest in having a show featuring the topic of research and students. As part of this, the August 2018 broadcast was an inter-generational co-production between Open Lab and the Older Voices team. In this context, the Facebook Live¹ video and the phone-in option (based on a software solution in order to make the process sustainable for the group) were deployed in order to generate a wider outreach of the show. It also allowed us to explore further questions about the audience and to get some indication of what they would like to hear. The Older Voices team had previously created a Facebook page before our research engagement. However, this was rarely used to communicate with their audience (30 people liked the page before the deployment). Building on the pre-existing page, we used an event camera to live stream from the studio. Facebook Live has the option for viewers to give direct feedback and Mary was responsible for monitoring reactive feedback. From the previous engagement, we were aware that there used to be a phone-in option, which was cancelled due to financial restrictions. Members of the radio team used this phone-in for phone interviews, but rarely had unplanned calls into the studio. As the phone-in option seemed to be missed by members of the radio show, we deployed a freephone number for calls into the studio. These pre-existing technologies were used by the team to strengthen the connection with

¹Using a Mevo event camera <https://getmevo.com/>



Figure 2: Collaborative Live Show

their audience, thus making use of the the technology as an enabling force for their community purposes.

Findings: Live Show Engagement. The deployment of the Facebook Live video stream as part of the show added an interesting perspective for the radio team. At the time of writing (September 2018), the Facebook live video has over 890 views, their Facebook page increased by eight likes in a week, and included shares by other organisations within the city. Several people commented and reacted to the Facebook Live video and gave feedback such as: *"It's really fun to watch what is happening in the studio. Such a buzzing group of people with great sounding voices"* or *"Lovely relaxing music for a Friday afternoon"*. Mary, who was "managing" the Facebook Live stream reported those comments back to everybody present in the studio. The radio team were happy to react to the feedback and include it in the broadcast. In the following planning meeting, team members commented that they had enjoyed having the Facebook Live: *"What fun it was, it was very interesting"* (Mary). When they were told that *"Our Facebook video had over 800 views"* (Mary) other team members expressed that they were stunned by this fact. Questions about whether the Facebook Live should become a regular feature of the show were raised, but did not result in any conclusion, as the team members decided to have another meeting dedicated to this topic to discuss how they can build on their learning experience: *"I think we need to have a discussion about what we've learnt from the experience with the webstreaming and the Facebook stuff [...] 'cause obviously we've reached more people and that's very good. But how are we going to capitalise on that?"* (Mary).

Radio Grabber

As a response to address the challenge of increasing the persistence of the created content beyond the initial broadcast, which was identified as part of the workshop, we developed a digital tool, later named "Radio Grabber" by the participants, to support the team. The technology's main goal was to create an online archive of Older Voices content on YouTube, to achieve two aims: 1) allow audience engagement to be tracked (such as clicks on particular topics); and 2) to ensure that the content can be re-listened to and accessed by a wider audience. Being mindful about their tested working practices, the tool was designed to be non-intrusive, yet build on existing production structures. As part of their existing workflow, a detailed running order is created before each broadcast, which reflects the planned content in the given time. The tool therefore needed to take this running order and the associated audio input without much additional work from the team. We also placed value on usability with regard to a user group of digitally inexperienced older adults. The team can upload their running order as well as the broadcast

recording to the Radio Grabber and both will automatically launch in an audio-editor program (Audacity), similar to one they were somewhat familiar with, but free to use, in order to ensure accessibility. The parts of the running order appear in the editor as labels, associated with the audio file in order to indicate roughly the time where content should be located on the audio recording. As the running orders are very precise to the second, the team need only adjust the labels slightly to match the start and end of each content section in the audio file. Once this step is done, the tool encourages the team to make editorial decisions about if and which content should be uploaded and how it should be labelled. This opens up a space for reflection on the production as well as the content-creation process. After adding information about the content (e.g. broadcast date, host, topics, format), the program will generate a video file with the audio and the logo as the background, which is automatically uploaded to a YouTube channel.

Creating content snippets, rather than uploading the broadcast as a whole, opens up the potential for meta-podcasts, the creation of playlists on YouTube and re-broadcasting. It avoids issues with music copyrights or unwanted advertisements. Four two-hour training sessions on the functionality of the Radio Grabber were conducted with four members of the radio team in pairs. While each pair had two training sessions, the training sessions continued as part of sustainability of the project. In order to ensure that the process can be replicated by the radio team without our help, a step-by-step guide to the tool was created with screenshots and detailed instructions. With regard to analysing the impact of these technologies on the engagement of the community with the Older Voices radio show, getting the content out online counts as the first step of generating objectively measurable audience engagement. At the time of writing (September 2018), the radio team has uploaded 19 videos with different chats, poems, thoughts of the month and stories.

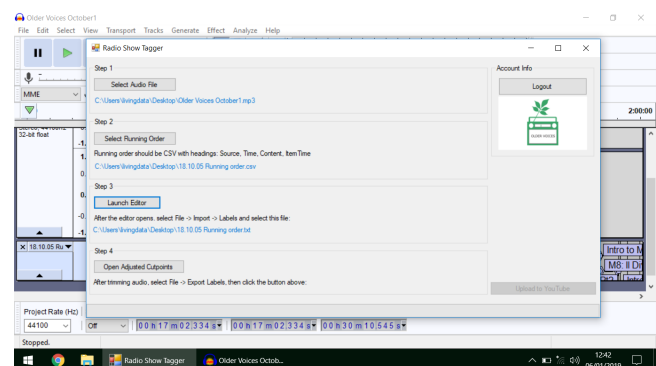


Figure 3: Screenshot of the Radio Grabber tool

Over 100 people have looked at their profile with a watch time of around 170 minutes.

Findings: Radio Grabber. Direct feedback on the development of the tool regarding the accessibility of the technology (e.g. using a bigger font) was collected in the training sessions. In order to evaluate the deployment of the Radio Grabber, two interviews were conducted after the initial deployment phase and training sessions using a semi-structured interview guide and transcribed. To capture evaluative feedback from as many different voices as possible, these two people did not take part in the project's scoping-interview stage. Overall, the two participants interviewed after the deployment of the Radio Grabber stated they enjoyed the research process of defining the design space and learning, how to use the digital technology: *"I think that the actual process has also been quite interesting, because we are learning the skills of this radio grabber program and that, for me, that's been quite a learning experience"* (Mary). This aspect of learning new skills and using the radio show as a continuous learning opportunity reflects the initial continuous improvement theme. Even though there was doubt about using the new technology, the printed guide to the Radio Grabber was perceived as a helpful resource for the team in overcoming initial fears of the technology. The training sessions were perceived to contribute positively to their learning process and helped building up confidence: *"What I found was I was quite thrilled about having to do this, but still a bit scared because I get frightened, I have to admit, with computers. When something goes wrong, anything technical goes wrong, I panic and that's it. [...] When we had the session here a few weeks ago when we actually were doing the auditing, I thought it would be much more complicated, but it isn't because you explained it in such an easy way"* (Charlotte). With regard to the anticipated outcomes of the deployment (accessibility, longevity and sustainability of content), both participants highlighted that the creation of a content archive will support their aim to engage more listeners. As Mary stated: *"I think it's going to help the programme get listened to by many more people. Purely because, one aspect of the programme, which I think can be quite problematic, it's two hours long. OK, some people can sit down and listen to a whole two hours, but not many people would even want to dip into a radio programme. This is going to enable the programme to be available for people to use as and when fits to their timetable and not ours."* Feedback on numbers of people who have re-listened to the content was perceived as an encouragement as *"people always say 'Oh, we're just broadcasting to one or two people'. That can be a bit disheartening [...] Anything which gives us some kind of feedback on numbers and who is listening in is great"* (Mary).

8 DISCUSSION

The research aim underpinning this project addressed how older adults use digital technologies to engage people in a self-managed community radio show in order to extend the reach of their voices within the community as part of civic participation. It was carried out in collaboration with a group of older adults who produce a monthly community radio show. A vast body of literature explores how younger people make use of community media as a means for civic participation [10, 11, 16]. However, this project considered the potential for older adults to engage with these technologies and, therefore, contributes to our understanding of how an age group, who face heightened risks of social exclusion from civic participatory activities [42], has their voices heard in their community. An inductive thematic analysis conducted in the first stage of the research showed that older adults as producers of community radio place importance on three main themes: 1) social connectedness as a group; 2) connection to their audience; and 3) the radio show as a continuous learning process. Main issues of the radio team identified through observations and a workshop related to the sustainability and persistence of the created content. Their wish to create content specifically for older adults in the city was challenged by a lack of audience engagement. Subsequently, we participated in a live show with a Facebook Live video deployment and deployed a phone-in option to increase listener engagement. Additionally, a digital tool, the Radio Grabber, was created to address this design space. Building on their pre-existing working practices, the tailored tool supports the group in editing and uploading content online as part of their work flow. This allows more people to listen to the content at their leisure, thus increasing the potential for engagement and heightening the group's civic participation impact.

Usability and Sustainability

Despite the radio team's enthusiasm for the return of the phone-in option, the opportunity to call live was not taken up by listeners. This aligns with previous outcomes in which the radio team had tried to ask for call-ins. However, different reasons might affect the lack of calls into the studio. Psychological barriers associated with being the first caller or calling into a live show in general may have been casual factors. In addition, no pre-show advertising for this opportunity and a lack of specific questions for the audience are factors that may require changing to produce a different outcome. Regarding the digital tool, even though changes to the tool with regard to accessibility (font size) were made, the tool delivered a feasible and usable support for the challenges that the team faces. Facilitated training sessions, which are offered as an ongoing part of the engagement, and a printed

user guide support the learning process for the tool in their own time frame. The team successfully uploaded a variety of content to the archive. With regard to the project's sustainability, the team integrated the tool into their existing work flow by adding another task on their rota, thus making it a regular production task and sustainable in the future. The ongoing use of the digital tool beyond the scope of this project shows that the digital tool was perceived as a valuable contribution to their work flow. Since the end of the project, the team have uploaded an additional 9 videos. Even though only some team members decided to work with the tool, the successful deployment of the Radio Grabber demonstrates that older adults are not averse to using digital technologies as part of their community practices, thus challenging stereotypes with regard to ageing and ICT use.

Learning and Social Importance

As part of the deployment phase, we facilitated training sessions and created a user guide. The opportunity for autonomous learning in a collaborative environment reflects adult learning principles [37] and bolsters Sayago *et al.* findings [35] that older adults place importance on the social aspects of being involved with ICT use and community media. The benefits of feeling socially connected were also apparent from this project's empirical data, which aligns with a general consensus that group activities in later life heighten well-being and support longevity [29]. In the space of media production, it is important to investigate the human potential in the form of work flows rather than limiting our design responses to the deployment of technologies alone. Adding non-intrusive technologies that can be integrated with existing work flows or re-designing ongoing working structures of any community driven media production can engage older adults directly and strengthen their autonomy in the deployment process. It can also help foster social connectedness within community media groups and as a result create a point of engagement. This can ultimately lead to an exchange of knowledge and re-purposing of skills to engage a wider audience.

Designing for Diversity in Later Life

Evaluation of the digital tool highlighted that, despite initial fears of engaging with an unfamiliar technology, the learning process was enjoyable for the radio team. This challenges existing stereotypes and assumptions that view older adults as a homogenous group who are non- or inefficient users of technologies [41]. It shows that older adults can indeed engage with and enjoy using digital technologies that are of meaningful use for them. Additionally, most HCI research has a strong focus on assistive technologies and emphasises on techno-solutionist designs for older adults [32, 41]. This does not appropriately reflect diversity in later life. Older

women are particularly underrepresented in HCI research with a limited number of papers explicitly addressing middle-aged/older women in the context of medical HCI research (e.g. [26]). In this context we would encourage researchers to consider PAR as a method of assistance in itself, complemented by technical innovation to facilitate processes in this space. This project contributes findings about designing digital media tools for older adults as an active and autonomous user group, who make civic participatory use of a tailored digital technology that adds to their pre-existing working structures in a non-intrusive way.

Challenging predominantly biomedical views on technologies for later life, this deployment affirms previous work that shows that it is possible for older adults to positively engage with digital technologies in general [30] and especially the production of community media regardless of age, gender and health status. In critique of the construction of older adults as an homogenous age-group in HCI research, this project demonstrates that we need to consider older adults beyond the design for care. As Righi *et al.* suggest, designing for communities and their needs and aspirations instead of focusing solely on the design of easy-to-use technologies for older adults, reframes HCI research towards diversity and supports sustainability [28].

9 SUPPORTING FURTHER ENGAGEMENT

Even though participatory action research is highly contextual in its nature, findings concerning how the Radio Grabber can support older adults as producers of a community radio show in archiving their content could be transferred to any similar community driven production work flow, especially situations where such groups work within structured teams to engage their local community, and in particular those who are producing media artefacts as an output.

While the creation of an online archive opened up the possibility for the content to be accessed more widely and for audience analytics to be tracked, content that is meant to reach the specific audience of older adults in the city is now available to be accessed by other audiences (YouTube analytics showed that the content was also accessed beyond the UK). Therefore, this raises more questions about the listenership than it provides answers: who are these audiences and in what ways can they continue to be engaged? This project was limited by the short time frame available (deployment phase: four weeks). With regard to the continuous learning process associated with the production of the community radio show, future projects might consider planning more time for testing and training sessions and evaluations with regard to sustainability.

10 CONCLUSION

This research contributes to understanding of how older adults make meaningful use of digital technologies and community media as part of their community practices regarding civic participation. The deployment of digital technologies in the context of a community radio show produced by older adults was perceived as valuable, principally with regard to the current and future collective aims of audience engagement and effective content archiving. However, in conjunction with this, the social importance of regular meetings and learning processes associated with the deployment should not be underestimated.

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