# Exploring Flash Fiction for the Collaborative Interpretation of Qualitative Data

Luigina Ciolfi, Eleanor Lockley
Sheffield Hallam University, UK
*[l.ciolfi] [e.lockley]@shu.ac.uk*

**Abstract.** This paper presents some exploratory reflections on flash fiction as a possible method to spark discussion and collaborative interpretation of qualitative research data. A growing body of work in HCI and CSCW examines the potential of techniques used in creative writing and creative fiction to generate design concepts, and narrative data analysis is adopted by social science using creative writing techniques for qualitative data work. Here we discuss our experience of an exercise where flash fiction was used not as a technique in support of design (which has been done before in human-centred computing), but as a means of probing data and facilitating collaborative data work among researchers. We reflect on the experience and outcomes of the exercise and also discuss exploratory ideas regarding how creative writing techniques could be further explored in human-centred computing as a way to probe findings from empirical data, particularly for collaborative teams.

## Introduction and Related Work

Methodological innovation in CSCW and HCI is very often concentrating on the design phase of the technology development process, and the process of design itself is usually the focus of experimentation with research methods (usually adapted from other design disciplines and from creative practice fields, such as the performing arts) to spark creative ideation (Wright and McCarthy, 2004). In

between the requirements gathering phase and the design phase sit techniques such as Cultural Probes (Gaver, Dunne and Pacenti, 1999), which have the goal to gather input to inspire design and are a design method in itself, not a user research methodology as such.

On the other hand, methods for collecting, analyzing and mining empirical data tend to be much more traditional and slow to change: whether field ethnographies, or controlled experimental studies, or surveys or questionnaires, the techniques that CSCW and HCI researchers use for data gathering are very consolidated ones, and so are those for analyzing and making sense of the data (i.e. statistical analysis and/or qualitative data analysis), with little in the way of innovation and experimentation. This, of course, makes sense in light of the pursuit of scholarly rigor where ensuring the validity of a study is a priority to satisfy research funding terms and peer-reviewers, and a core necessity in order to base the design of systems on strong empirical evidence and clearly identified requirements. However, at the same time, as a community we are perhaps missing out on opportunities for methodological innovation beyond the focus on design, and relating to more on how we make sense, internalize and respond to data. As the goal of CSCW and HCI research is usually that of impacting on digital systems (whether by designing them, evaluating them, or investigating how they shape people's practices), there is space to explore additional and/or alternative ways to reflect on user data and in doing so providing additional bridges between data and requirements collection and creative ideation.

Methodological innovations in user research in CSCW are usually tied to systemic shifts in the discipline, for example the argument in favour of field research in the early 1990s that introduced ethnographic approaches into a community that had predominantly worked in (experimental) labs up to that point (Bødker, 20015). As part of these lines of disciplinary growth, another example is how techniques with strong storytelling focus (such as scenarios and personas) have become established part of envisioning methodologies leading to design concepts and prototypes (Carroll, 1995). Scenarios are narrative descriptions of intended user interactions and experiences that have not yet been realized, depicting also the situation of use, features of people involved, etc. They are used to both communicate ideas within a team and brainstorm around how digital interactions could take place in a particular setting, or with the involvement of different people, before any prototyping or testing is done (Carroll, 1995). Personas are rich descriptions of realistic –albeit fictional- characters intended to embody various characteristics of expected real-world users (e.g. different age, role, technical skills, nationality, etc.) so to represent various intended user groups in less abstract terms (Grudin, 2003). Personas have often been critiqued for they can reproduce assumptions or even stereotypes associated to a user groups (Putnam et al, 2009), and can represent and reinforce the "othering" of a certain community (see Cabrero, Winschiers-Teophilus and Abdelnour-Nocera, 2016).

These techniques are grounded in elements of storytelling, however they do not lead to fully fictional outcomes. Rather, they blend realistic elements based on actual situations of technology use or actual user groups with some imagined characteristics, which tend to be all the same realistic and achievable.

In relation to design, several fiction techniques have been used to generate fully speculative outcomes. Notable examples are Critical Design Fiction and Speculative Design Fiction (Dunne and Raby 2013; Auger 2013; Brown et al 2016; Comber et al 2018), which have been widely adopted in interaction design. In this case, the goal is not to represent a near-future, realistic scenario of use, but rather imaginary and provocative situations, which can be used to probe the impact and role of digital technologies beyond the realm of what is considered possible and beyond the focus on providing a solution to a problem (Blythe, 2014).

Care and attention towards the narratives of data and the narratives of design elaborations signal the key importance of stories, plots and characterization in the HCI and CSCW field. Blythe (2014) argues how storytelling and narrative approaches have not very often embraced fiction creation: as Blythe notes, scenarios are usually based on findings pertaining to real people and on other factual bases. More recently, several HCI researchers have explored the potential of methods and techniques commonly used in creative fiction for imagining and discussing novel design and interaction concepts. A notable example is design fiction (Sterling, 2009; Linehan et al. 2014; DiSalvo 2012; Blythe and Wright 2006; Smit et al. 2018), which has been examined as an approach to explore both technical and interactional aspects of prototypes, and issues and open questions around technology use (Blythe, 2014; Hales, 2013; Linehan et al., 2014). According to Blythe, fiction stands on a different plane compared to other narrative techniques such as scenarios:

> Television and film scripts are also usually written in the present tense. Other forms of fiction, like novels and short stories, seldom are, so why this difference? Perhaps because, scenarios, like scripts, are in a process of becoming: they are there to be made into something else. A scenario is part of a process, a fiction exists in its own right. Perhaps for this reason also scenarios do not end, rather they stop, they are not resolved. For resolution to occur a conflict must be worked out and this is another structural difference between scenarios and fiction.
> (Blythe 2014, p 4)

In more recent years, there have been attempts to develop and apply "hybridized" techniques blending scenarios and fictions, mainly as a way to question design values (see, for example, Muller and Liao 2017). Advocating a role for fiction is a provocative position to hold, in a space where there is constant preoccupation with process, impact and translation into functionality, and indeed

the appropriateness of addressing some research domain through fiction approaches has been questioned (see Iivari and Kuutti, 2018). However, it is an interesting topic to probe and explore, especially in that "in between" space from data analysis to design.

As we mentioned, data work usually occurs on the basis of qualitative or quantitative paradigms for collection and analysis. Particularly when it comes to qualitative research, we argue that there is value in establishing a relationship with data beyond an analytical one, in empathizing with the perspective of other people while generating new ideas and thoughts of the researcher's own, and in engaging with the imaginary. Therefore, we believe that the potential of using fiction methods for aspects of the human-centred design process other than creative design needs to be further studied.

In HCI and CSCW, narrative- and fiction-based techniques have indeed been used to engage informants and design participants in developing imagined futures and in considering aspect of technology that might not be immediately apparent or might benefit for more open-ended treatment, such as ethical and value implications (Cheon and Su, 2017). Short fictions have been used as prompts for probing a focus group (Draper and Sorell, 2014), and groups of external participants have been engaged by researchers to create participatory design fictions (Muller and Liao, 2017).

In our case, however, we are interested in looking at fiction techniques – particularly literary fiction – as tools not for end-users or informants to engage in, but for researchers themselves, and particularly those who deal with qualitative data.

The parallels between finding narratives in data and weaving imaginary narratives from inspiration have been explored in methodologies such as narrative research analysis, where the researcher is reconstructing narratives from "messy" data (Kim 2016). Narrative inquiry instead focuses on storytelling on a factual basis (research data itself), but the characterization of the researcher as "storyteller" rather than detached analytical voice is a powerful methodological positioning, as noted also by Wright and McCarthy (2004). Richardson (1994) argues that writing is important as a *method of inquiry* as well as a *method of knowing*. Furthermore, fictional accounts can lead to empathy:

> Qualitative researchers have come to believe that fictional accounts can sometimes portray a research phenomenon more clearly than do the standard representations of qualitative data (…) The fictionalisation of research data provides researchers with the opportunity to work with raw data in order to speak to the heart of the reader's social consciousness, while providing the protection of anonymity to the research participants.
> (Kim, 2016, p. 140)

We believe that such approaches can aid CSCW and HCI researchers tackle the long-existing challenge of moving from data analysis to "implications for design". Naturally, we do not argue that established techniques for data analysis should be ignored or replaced, but rather that additional techniques can be used to facilitate other aspects of working with data, particularly in collaborative teams designing together, and that they are worth exploring and discussing within our field.

Inspired to explore this methodological approach both by the body of work we have now briefly discussed, and also by our interests in how to communicate ideas and encourage reflection in collaborative, data-focused workshops, we designed and conducted an exercise exploring fiction writing as a technique for the collaborative reflection over qualitative data among researchers, which we present in the following section.

## The Flash Fiction Workshop

The exercise took place as part of a research project that explored human practices of blurring and/or balancing work and life demands and of using digital technologies for these purposes (Ciolfi and Lockley 2018). After having conducted an interview study with 26 participants collecting empirical data on such practices, we disseminated a summary of our results as part of a one-day workshop called "Managing Technology Around Work and Life" aimed at other researchers interested in these topics, and involved the workshop participants in a creative exercise that adopted the technique of *flash fiction*, commonly used in creative writing.

Flash fiction (Galef, 2016) is an approach to creative writing where the author responds to one or more short prompts by creating a brief story in a short time frame, usually within one hour. Flash fiction generates writing that is longer than micro-fiction (which is usually less then 300 words) and much shorter than literary short stories of several thousand words. In addition, flash fiction has the characteristic of being less polished and rather a way to put ideas, reactions and explorations down on paper. Flash fiction is seen as both a way to maintain writer's creativity and flow of ideas, and to generate fiction that captures illuminating thoughts and reactions despite its short length and short preparation time.

Creative writers experimenting with flash fiction usually rely on *prompts*. Flash fiction prompts can take a variety of forms, from specific instructions or directions (e.g. "Write about a lonely child who finds a friend"), to out-of- context sentences or phrases to be extended and elaborated ("He was such a lonely child...He couldn't believe it when he realised that he had found a friend").

Flash fiction writing aids exist such as flash fiction notebooks and diaries with daily prompts, and toolkits containing prompts, drafting cards and other inspirational materials. A number of websites, mailing lists and online groups also offer daily prompts to subscribers. Examples are 3AM Magazine (http://www.3ammagazine.com/3am/), Everyday Fiction (http://everydayfiction.com/), Nano Fiction (http://nanofiction.org/category/weekly-feature/writing-prompts) and Brevity (http://brevitymag.com/).

Beyond creative writing, flash fiction as a technique has been used in education, for example to encourage students to write opinion pieces (Setyowati, 2016). It is also a popular technique in the digital fiction world, especially for collaborative fiction using microblogging platforms such as Tumblr and Twitter (Bell, Hesslin and Rustad, 2014; Shapard, 2012).

For our work/life project's workshop, we designed the prompts on the basis of the empirical data that had been collected in our interview study (for full details about the study see (Ciolfi and Lockley 2018)). We now very briefly describe the study to provide an idea of the type of data we gathered and its themes.

The interview study involved a sample of 26 people of working age (the youngest participant was 24 and the oldest 62) in knowledge-intensive roles in high employment sectors in the British city of Sheffield (education, IT, creative industries, design and engineering). 12 participants were women and 14 were men. Occupations included: Education/training consultant, Business Development Manager, Senior Producer, CEO, Information Officer, Strategic Development Manager, Knowledge Transfer Researcher, Designer, Librarian, Lecturer. The interviews were semi-structured, and participants were asked questions about themselves (educational background, professional role, etc.), the work that they do, some aspects of their private life, and about how they deal with the challenges and demands of work and life. They were also asked about their use of digital technology for managing their time and multiple demands. The interviews were audio-recorded and lasted between 40 and 90 minutes. The transcriptions were then analysed by the authors of this paper through repeated readings and the identification of thematic codes. The study captured a set of lived practices around work, life and the role of technology and the interviews provided detailed insights of the participants' perceptions, decisions and strategies.

In the workshop, excerpts from the interview data were used as flash fiction prompts. We selected and slightly edited (e.g. removing pauses and repetitions) the excerpts to make them work as prompts that would mimic those used in creative flash fiction.

Our rationale was to select quotes from different interviewees that could be thought-provoking, hold multiple meanings, or lead to multiple interpretations, to see which aspect the workshop participants would choose to focus on and develop, and in what way.
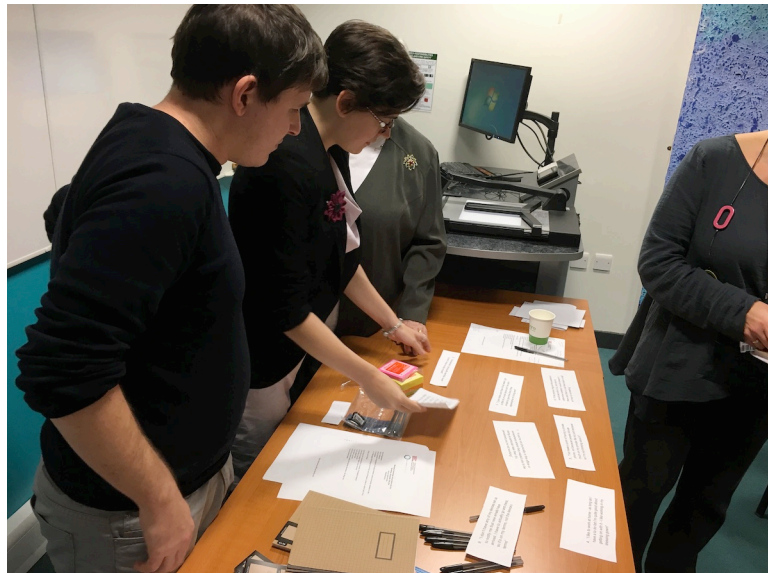


Figure 1. Workshop participants selecting flash fiction prompts for their story.

We chose to present the prompts without giving any information relating to the interviews they came from (i.e. what kind of person they involved, working in which sector, or speaking in relation to which context). This decision was motivated by the need to maintain the conditions of anonymization of the data, and in part to do with not wanting to tie the flash fiction exercise to the real-life circumstances of the interview respondents and therefore to scenarios that might be too closely related to them.

Twelve people took part in the event and they were a mix of academic staff and postgraduate students interested in the research topic of work/life boundaries and coming from the disciplinary areas of HCI and social science (cultural studies, communication and sociology). Some of the participants were colleagues from our university while others were external attendees from other institutions who had joined the workshop for the day.

All of them had experience of gathering and analyzing qualitative data and they were informed that the prompts for the flash fiction exercise were extracted from interview transcripts. The participants were not part of the original project and were recruited through academic mailing lists. None of them had any relationship to the interviewees from whom we had collected data.

The workshop started with short presentations (followed by a Q&A) by the authors of this paper about our project and about the interview study and its main thematic findings. The rest of the workshop was then dedicated to the flash fiction exercise, for which we took on the role of facilitators.

Four groups of three people were formed for the exercise, and each group was assigned an initial prompt by us. The motivation for this was to reduce the start-up time for the exercise and to distribute prompts that could lead to very different narratives.

The groups were briefed on flash fiction and on the modality of the exercise. The brief stated that each story had to feature interaction with technology that is not limited to what is technically possible or already existing. Participants could be as creative or speculative as they wished.

The groups were given two hours overall to produce their stories. After one hour, the groups were asked to choose a second prompt from a selection (Fig 1). They could either choose a prompt that pushed their story in a different direction, or provided a 'twist', or a prompt that supported the storyline that they had developed up to that point.
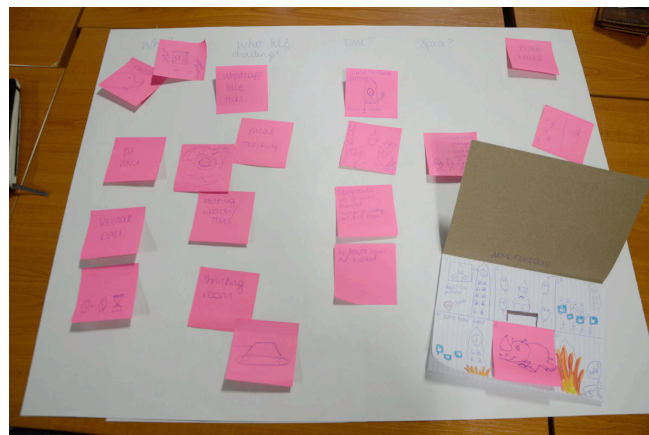


Figure 2. Plotting the flash fiction through post-its and simple storyboarding.

Examples of the 18 prompts we generated were:
- *"We've been in a variety of deserted desert islands with no electricity yet still been working, which is not ideal but these things do chase you around"*
- *"I just made sure that in that week I got a little bit of work done and I've sent emails to give the kind of the appearance of doing work"*
- *"Sometimes I physically feel like I want to and I have to stop myself"*

8

- *"I don't have any of my devices set up to notify me that new emails have arrived. I have to actually go and check, so it's on my terms, not the device's terms"*
- *"If I'm on holiday and I am not gonna look at anything work-related, then I'll pay the penance on the other side"*

The groups were given notebooks, sketching paper, pens and post-it notes to help them discuss, plot and organise their story (Fig 2; Fig 3). Two groups wrote their story by hand in the copybooks provided, two decided to write it using a laptop and word processor.

In responding to prompt 1 (*I need people to think my business is bigger than a one man band so I never have my office hours on my signature*), Group 1 devised a surreal and fantasy-laden story titled "Armorgeddon: There is a rhino loose in the city". "Armorgeddon" took aspects of work/life demands and blurring to extreme and thought-provoking paradoxes:

> "*He* [The Protagonist] *opened an online shop, Armorgeddon, selling a variety of weird and wonderful sea shells from around the world. He was adamant to run his shell business alone, but had big ambitions - he wanted the world to view his business as a considerably bigger entity than the reality. "I need people to think my business is bigger than a one-man band so I never have my office hours on my signature", he would think. One consequence of his approach was that he needed to spend long hours working, and always had to be on call – constantly checking his emails on his phone, and dealing with orders on his laptop.*
> *He situated his business and his life in a beautiful disused ivory tower looking over the local town's square, Shellington. He surrounded himself with Minions to help with his dastardly deeds… unfortunately his Minions were not real, and were instead faces painted onto balloons hanged against the windows of his tower, to give the correct impression. To anyone looking from the town square, it would appear he had an army of minions working for him*" (excerpt from "Armorgeddon")

Group 2 responded to prompt 2 (*If I don't focus on work when I'm at work, I could kill someone!*) with "Under Pressure", a story set in 2019 and about the crew of a deep-sea nuclear submarine stuck under the Polar ice cap in the dead of Winter. As the ice is too thick for them to surface, they cannot move and have limited provisions on board. The boundaries between life and work completely dissolve, although the professional roles that some of the crew members have (for example, the medical officer) make them decision-makers for issues to do, for example, with rationing food. Group 2 also selected background music to accompany the recitation of their story – the song "Under Pressure" by Queen and David Bowie.

Group 3 (Fig. 3) worked from the prompt *"We've been in a variety of deserted desert islands with no electricity yet still been working, which is not ideal but these things do chase you around"*.
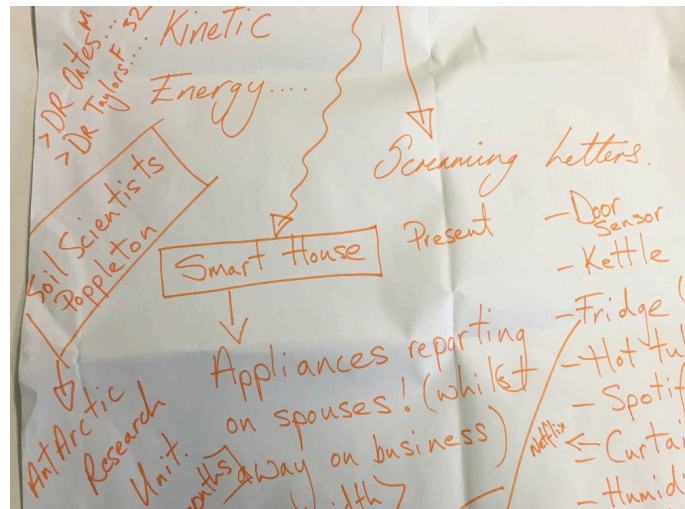
Figure 3. Group 3 plotting the story through brainstorming and keywords.

Their story is written as a set of log entries and automated notifications from smart home systems being received by academics currently on a field mission in Antarctica. It plays on how automated life-related interruptions in a physically remote and "extreme" work setting might be interpreted and dealt with in a context that is as far removed as possible from the location where they are received:

> "[Wild Oates] 24 Railway Cuttings: 13/12/2016: 4.32PM: Spotify. Playlist. Kanye West.
>
> [Taylor Towers] 32 Windsor Gardens: 13/12/2016: 7.14PM: Curtains. Closed.
>
> [Taylor Towers] 32 Windsor Gardens: 13/12/2016: 8.16PM: Fridge. Waitrose shopping list ordered.
>
> Mission log. Prof. Pankhurst. Expedition Day 95. Getting tired of eating these Waitrose Essentials Ships' Biscuits. Dr Taylor has been complaining again about the limited bandwidth. I've already told him that Skype and Youtube are not essentials. However, we do frustratingly seem to have the bandwidth for Oates and Taylor to both keep receiving their smart home updates. Personally, I have to turn my phone off at night or it'll constantly vibrate with notifications and email alerts. Vodka has still not arrived.
>
> [Taylor Towers] 32 Windsor Gardens: 14/12/2016: 8.00AM: Fridge. Waitrose Fishy Friday Oysters Special Offer Prompt" (excerpt from Group 3 flash fiction)

Group 4 worked from the prompt *"Social media lets us unlock lots of different identities...And I find it strange to try and bring these together. I think I am a different person to different people"*. It was written in the form of three diary entries from the perspective of the main protagonist, Crosby, a transgender man

who is now a successful entrepreneur and happy with his professional and personal life. Crosby encounters someone from his past who blackmails him by threatening to make his history of transition known to the public without Crosby's consent by hacking into his old social media accounts.

At the end of the exercise, all groups read their story aloud for the other participants and a concluding debate followed. Interestingly, each group chose a very different register and format to tell their story (fairytale, "thriller", short logs, and diary entries).

All groups keenly engaged in the exercise, and while at the beginning they felt that the time they were given to write the story was quite short, once they began working on the prompts and sharing ideas and inspiration they were able to develop storylines and agree on the plot fairly quickly.

It is important to note that the four stories that were produced elaborated more on issues of *impact* of technology on work and life and on challenges emerging when work and life blend, rather than technological scenarios where technology perhaps behaves in surprising or unusual ways. This could be due to a number of factors: the background and interests of the participants for one, or the earlier part of the workshop, which focused more heavily on the results of the interview study. However, interestingly, the flash fiction exercise seemed to work very well to go deeper into some of the issues that had emerged from the data in terms of people's lives and choices. In other words, they creatively explored and developed some of the overarching themes from the empirical material, although this was not encouraged or prescribed.

# Discussion and Conclusions

This was our first time using a fiction technique for this purpose, and, subsequently, using flash fiction. As it was an exploratory exercise, we can only draw some limited insights from the experience, which nonetheless can be useful to us and to others in planning and executing future similar activities.

We found the phrasing of the prompts to be key in shaping the development of the story and its tone. While we chose the prompts on the basis of their potential to generate a surprising story because they included ambiguous words or situations, it is clear that the themes that the quotes brought up were equally resonant with the participants. The fictions that were produced highlighted certain dimensions of the empirical data that we identified through the thematic analysis we had conducted, therefore there was a definite resonance that emerged in the fictions even if the data excerpts were removed from their context and adapted as prompts.

The participants commented on how the exercise helped them to reflect the open questions surrounding the subject area of work/life boundaries. This is not surprising in itself as they were already interested in the topic (hence their participation in the workshop), they did however mention how they developed those themes in ways that they had not imagined before. They particularly engaged with issues of isolation, pressure and frustration, which heavily featured in the stories. Group 4 particularly stressed how the prompt encouraged them to think about deeper and more personal aspects of identity (i.e. gender identity in their story), while up to that point they had been thinking about identity more in terms of online presence (e.g. digital accounts, different approaches to self-presentation online, etc.).

From our perspective as facilitators, the discussion that groups were having while plotting their stories and how the story was developed collaboratively also constituted valuable data. We were able to take notes while observing the groups at work, and to flag important points in their process of plotting and composing the story. Group 2 removed themselves from the workshop room and to another area nearby so that they could play the song "Under Pressure" in the background as they were working to keep them in the mood of the story. The subsequently decided to have the song playing in the background as they read the story aloud as they felt it was an important part of their work.

Overall, the exercise was useful in exploring the potential of flash fiction as a technique to elaborate on data excerpts through fiction and imagination. The rapid response and short frame for the stories pushed the participants to choose which themes to develop, but also prompted their creativity.

Of course, as we mentioned, this was a small and exploratory exercise and it presented several limitations, and therefore it cannot be used as basis for generalisations. The participants were researchers external to our team and were not familiar with the data beforehand. Furthermore, the length of the subsequent discussion was limited due to the workshop constraints, and no follow-up exercise with the same people was possible. Also, the exercise took place in groups (which was also unavoidable due to time constraints), and it would be interesting to see what could emerge from individuals to write their own stories. By choice, we decided to only play the role of facilitators and documenters of the exercise, instead of taking part in the group work. This enabled us to see which themes emerging from the data were elaborated by external people, however it could be very valuable for those researchers who know the data intimately to be engaged in an activity that is outside the more consolidated approaches to analysis.

At the same time, it was interesting to see what people decided to create through the inspiration from data that we knew well. It would be interesting to carefully design and embed a fiction-focused methodology along these lines as part of a research project and with a group fully immersed in the data, to see

which directions the stories would take and which impact it could have on how data is made sense of and interpreted.

The workshop exercise we described in this paper constituted an important moment of reflexivity for us - the researchers. Reflexivity is in our view an essential aspect of conducting qualitative research (Altheide and Johnsen 1994; Gergen and Gergen 2000). In terms of how the exercise impacted our own relationship with the data, a first round of analysis had been completed at the time of the workshop, and (as we mentioned) some of the themes we had identified also emerged in the fictions that the groups created. This surprised us to a certain extent, and also encouraged us to continue our reflection over the data to expand the discussion of such themes. Furthermore, the activity of creating prompts out of the interview transcripts was a valuable exercise as it made us pay attention to some of the nuances in the way participants expressed their view, such as choice of particular words and the humour they put in describing their work/life challenges to us. This encouraged us to look back onto the emotional tone of the answers we received, which is a novel angle for analysis that we hope to develop further in future work.

In conclusion, in this exploratory paper we presented our views on adopting a fiction technique for the collaborative reflection among researchers over qualitative data, and presented what was a very small exercise that only explored using this technique and barely scratched the surface. It is obvious that more substantial exploration of this topic is needed. However, we do believe that reporting our reflections on the experience can spark methodological debate and discussion in the CSCW and HCI communities.

# Acknowledgments

# References

Altheide D. L, Johnsen J. M. (1994): 'The reflexive turn in qualitative research', in Denzin N. K, and Lincoln Y. S. (eds.), *Handbook of qualitative research*, Sage, Thousand Oaks, CA, pp. 485–499.

Auger, J. (2013): 'Speculative Design: crafting the speculation', *Digital Creativity*, vol. 24, no. 1, pp. 11-35

Bell, A., Ensslin, A. and Rustad, H. K. (2014) (Eds): *Analyzing Digital Fiction*, Routledge, London

Blythe M., and Wright, P. (2006): 'Pastiche Scenarios: Fiction as a Resource for Experience Centred Design', *Interacting with Computers*, vol. 18, issue 5, September 2006, pp. 1139-1164

Blythe, M. (2014): 'Research through design fiction: narrative in real and imaginary abstracts'. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI '14)*, ACM, New York, NY, USA, 703-712. DOI: http://dx.doi.org/10.1145/2556288.2557098

Brown, B., Bleecker, J., D'Adamo, M. et al (2016): 'The IKEA Catalogue: Design Fiction in Academic and Industrial Collaborations', *GROUP'16 Proc. Of the 19ᵗʰ International Conference on Supporting Group Work*, ACM, New York, pp. 335-344

Bødker, S. (2015): 'Third Wave HCI, 10 years later – participation and sharing', *Interactions*, vol. 22, no. 5, pp. 24-31

Cabrero, D. G., Winschiers-Teophilus, H. and Abdelnour-Nocera, J. (2016): 'A Critique of Personas as representations of "the other" in Cross-Cultural Technology Design', in *AfriCHI'16, Proc. Of the First African Conference on Human-Computer Interaction*, Nairobi, Kenya — November 21 - 25, 2016, ACM, New York, 149-154

Carroll, J.M. (1995): *Scenario-Based Design*, John Wiley & Sons, New York

Cheon, E. and Su, N. M. (2017): 'Configuring the User: "Robots have Needs Too"', *CSCW'17 Proc. of the 2017 ACM Conference on Computer Supported Cooperative Work and Social Computing*, ACM, New York, pp.191-206

Ciolfi, L. and Lockley, E. (2018): 'From Work to Life and Back Again. Examining the digitally-mediated work/life practices of a group of knowledge workers', *Computer-Supported Cooperative Work*, vol. 33, 2018, no. 5-6, pp. 499-543

Comber, R., Pargman, D., Bates, O. and Eriksson, E. (2018): 'The Futures of Computing and Wisdom', In Proceedings of the 10th Nordic Conference on Human-Computer Interaction - NordiCHI '18, ACM Press, 2018, p. 960-963

DiSalvo, C. (2012): 'Spectacles and Tropes: Speculative Design and Contemporary Food Cultures', *Fibreculture: Special Issue on Networked Utopias and Speculative Futures*, Issue 20

Draper, H. and Sorell, T. (2014): 'Using Robots to Modify Demanding or Impolite Behavior of Older People', in Beetz, M., Johnston, B., Williams, M.A. (eds.), *Social Robotics. ICSR 2014*, Lecture Notes in Computer Science, vol. 8755, Springer, Cham, pp 125-134

Dunne, T. and Raby, F. (2013): *United Micro Kingdoms (UMK) Design Fiction*. The Design Museum, London.

Galef, D. (2016): *Brevity: A Flash Fiction Handbook*. Columbia University Press, New York.

Gaver, W., Dunne, T. and E. Pacenti (1999): 'Design: Cultural Probes', *Interactions*, vol. 6, no. 1,

pp. 21-29

Gergen M. M. and Gergen K. J. (2000): 'Qualitative inquiry: Tensions and transformation', in Denzin N. K, Lincoln Y. S. (eds.). *Handbook of qualitative research*. *2nd ed*, Sage, Thousand Oaks, CA, pp. 1025–1046

Grudin, J. (2003): 'The west wing: fiction can serve politics', *Scandinavian Journal of Information Systems*, 15:1, 01/01/2003, pp. 73-77

Hales, D (2013): 'Design Fictions an introduction and provisional taxonomy', *Digital Creativity*, 24:1, pp.1-10, DOI:10.1080/14626268.2013.769453

Iivari, N. and Kuutti, K. (2018): 'Critical design in interaction design and children: impossible, inappropriate or critical imperative?', In *IDC'18 Proceedings of the 17ᵗʰ ACM Conference on Interaction Design and Children*, ACM, New York, pp. 456-464

Kim, Jeong-Hee (2016): *Understanding Narrative Inquiry. The Crafting and Analysis of Stories as Research*, SAGE, Thousand Oaks, CA.

Linehan, C., Kirman, B., Blythe, M., Reeves, S., Wakkary, R., Desjardins, A. and Tenenbaum, J. (2014): 'Alternate endings: using fiction to explore design futures', *Proceedings of the ACM SIGCHI conference on Human Factors in Computing Systems (CHI 2014) extended abstracts*. Toronto: Canada.

Muller, M. and Liao, V. (2017): 'Exploring AI Values and Ethics through Participatory Design Fictions, *HCIC 2017: Design Futures*, available online: http://qveraliao.com/hcic2017.pdf

Putnam, C., Rose, E., Johnson, E.J and Kolko, B (2009): 'Adapting User-Centered Design Methods to Design for Diverse Populations', *Journal of Information Technologies and International Development*, 5: 4 (Winter 2009), pp. 51-73

Richardson, L. (1994): 'Writing: A Method of Inquiry', In N. K. Denzin & Y. S. Lincoln (Eds.): *Handbook of qualitative research*, Sage Publications, Thousand Oaks, CA, pp. 516-529

Setyowati, L. (2016): 'Analysing the students' ability to write opinion essay using flash fiction', *JELTL Journal of English Language Teaching and Linguistics*, 1(1) 2016, pp. 79-91

Shapard, R. (2012): 'The Remarkable Reinvention of Very Short Fiction', *World Literature Today*, 86:5 (Sept/Oct 2012), pp. 46-49

Smit, I., Cila, N. and Lupetti, M. L. (2018): 'Near future cities of things: addressing dilemmas through design fiction', *Proceedings of NordiCHI '18*, ACM, New york, pp. 787-800

Sterling B. (2009): 'Design Fictions', *Interactions*, vol 16. issue 3, pp.

Wright, P.C. and McCarthy, J.C. (2004): 'The value of the novel in designing for experience', in A. Pirhonen, C. Roast, P. Saariluoma, H, Isom (eds.): *Future Interaction Design*. Springer, Amsterdam, pp. 9-30