Playing with Provocations

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Abstract: While designing for experience is now mainstream, the technology design community is still grappling with understanding meaningful ways of involving users and participants in the design of experiences and technologies that don't yet exist. In this chapter, I discuss three distinct techniques collaborators and I have used across different projects to involve participants in exploring future experiences and to anticipate the consequences of new technologies. While the formats of the techniques and contexts explored are diverse, the examples I discuss – questionable concepts, invisible design and experience design theatre – have in common the use of provocation to seed discussion, ideation and anticipation. In this chapter I explain the motivations behind these techniques, how we have used them in specific projects, and the ways they have enabled non-designers to engage in meaningful forms of design criticism and to shape the direction of technology design projects. I close the chapter with some reflections on the techniques, drawing out practical learning for how techniques like these might enable designers and participants to play with provocation in future projects.

1. FROM DESIGN-FOR TO DESIGN-WITH

In the fifteen years since the first edition of Funology, the notion that designers of digital products, services and applications should seriously consider aspects of user experience has become mainstream and part and parcel of the design of new systems. Alongside this mainstreaming of experience centric approaches, we've seen a related diversification in the types of methods and approaches researchers and practitioners draw from when engaging with users. Along with shifts from cognitive to social constructions of users, and from the context of work to all areas of peoples' lives, we've observed a shift from designing-for to designing-with, and indeed designed-by, those who live with and use digital technologies. Of course, participatory and collaborative approaches to design have a long history in the field of human-computer interaction (HCI), with the Scandinavian tradition of participatory IT development and its politics of user empowerment in design having a particularly strong influence. Although initially methods for supporting the exploration of and inspiration for ideas within design teams, the last decade has seen examples of personas (Cabrero et al., 2016), scenarios (Chin, Rosson and Carroll, 1997) and probes (Graham and Rouncefield, 2008) be appropriated as resources for dialogue and collaboration between designers and research participants. Generative tools (Sanders and Stappers, 2012) and low-fidelity techniques such as magic machines (Andersen, 2012) have emerged as valuable techniques that enable 'non-designers' to work as a core component of design teams and speculate on

alternate visions of future technologies. While diverse in their uses, a commonality across these techniques is an appreciation that people are experts in their own experiences, that those affected by a new design should be directly involved in design processes, and that design teams should need to take seriously the processes and mechanisms by which they (meaningfully) involve users in their design processes. Thus, a critical component of contemporary exploratory design work is not just the design of new products, services, interfaces or systems, but also designing the processes by which people are able to participate in and contribute to design work.

While this participatory turn is positive, from a methodological point of view this raises many new questions and challenges: how do we promote meaningful discussion with participants around design concepts in workshops?; how do we seed dialogue and discussion with participants without leading too heavily?; how do we create playful, engaging, yet serious opportunities for people to participate in design processes?; and how might we use workshops meaningfully to bridge engagements with different participants, in different stages of a design process? In this chapter I don't have full and detailed answers to these questions, but I will explore them somewhat through examples of techniques that collaborators and I have used across a range of participatory design projects over the last half a decade. While the methods we use are rather diverse, a common feature across them all is the use of provocation as a means for stimulating discussion around issues pertinent to design. Like participatory design, provocation has been used extensively as a technique in HCI. Provocation is a core element of critical and speculative approaches to design (Dunne and Raby, 2001; 2013), and artefacts created purposely to de-familiarise habitual settings often intend to provoke reflection and question taken for granted assumptions designers and users bring to particular issues (Bell et al., 2005). There are many examples of HCI projects that have used techniques of provocation to promote critical engagement and reactions from participants, including around subject matters that are hard to articulate or envision (such as imagining proximal futures (Tanenbaum et al., 2016)), around reflection on practices (such as around home energy usage (Raptis et al., 2017)) or indeed around topics that are seen as a little taboo (such as eliciting talk around sex toys (Bardzell and Bardzell, 2011)). Using provocation in design can help explore complex topics, to promote debate around design ideas, and help generate new ones. They can also be highly stimulating, engaging, and stimulate "complicated pleasure" (Dunne and Raby, 2001 p.63, building on Martin Amis). However, there is surprisingly little work out there that discusses how researchers and practitioners might use provocation in participatory and collaborative design activities. In this chapter I'll talk through three approaches to using provocation in participatory design projects, and then draw out four issues for design teams to consider when using aspects of provocation in participatory projects in the future.

2. THREE APPROACHES TO EXPLORING PROVOCATIONS WITH PARTICIPANTS

In the following sections I'll discuss three techniques collaborators and I have used across a range of projects: (i) Questionable Concepts, (ii) Invisible Design and (iii) Experience Design Theatre. These techniques share a number of commonalities. They were all grounded in the use of provocation as a starting point for stimulating discussion and debate, and, as we shall see, each used fun, in different ways, as a resource for designing with participants. Another common element was each has been used primarily (but not exclusively) in projects where we examined the implications of digital technology on experiences in later life. Although we collaborated with a diverse range of participants and stakeholders in each of these projects, the primary groups we worked with were older participants, many of whom had limited experience of digital technology (indeed, they were often deeply sceptical and critical of it) and were unfamiliar with what design processes might detail. Furthermore, each of the techniques were used to gather qualitative research data that would be valuable for the ongoing analytical and design activities.

Beyond these broad commonalities, the techniques are rather different from each other. Each represents design concepts in very different ways: for instance, in Questionable Concepts the provocations come in the form of illustrations that visually characterise an idea with short explanations of their functions; in Experience Design Theatre the design concepts are not seen, with the focus being on the relationships and interactions between characters whose lives are being affected by a speculated future service; Invisible Design also avoids showing the visual and material form of the design concepts, focusing instead on scripted dialogue between characters, though this dialogue is more fixated on interactions with a technology that is left unseen on screen. Each technique is also intended to have a different function when it comes to gathering input from participants in a design process; Experience Design Theatre is purposely designed for participants to "re-script" engagements between characters and in doing so influence the design of concepts that structure these engagements; the intention of Invisible Design films are to promote discussion among participants in workshops as they make sense of and unpick what's happening on screen, which can be captured and used for analysis later in the project; while Questionable Concepts are intended to both provoke conversations in documented workshop and also offer a space for the illustrations to be scribbled on, amended, or redacted by participants. The various techniques also had different roles in connecting different phases of design activities in projects; both Questionable Concepts and Invisible Design presented an opportunity to convey ideas that were grounded in earlier contextual research in projects, articulated as design concepts; Experience Design Theatre also did this, but also presented the opportunity for using the re-scripted interactions between characters as iterations of ideas to be used in workshops with other participants and audiences later in the project.

The following sections describe each of the techniques in more detail. Following this, I draw out a number of recommendations for researchers and designers who wish to make use of provocation in their own design processes.

2.1. Questionable concepts

Questionable concepts (Vines et al. 2012) are sketches, of differing levels of fidelity, and brief textual outlines of design concepts. We call them Questionable Concepts as they are purposely created to be provocative, aiming to promote critique and discussion with participants. A concept might be questionable because of its overtly simplistic response to a complex problem; or because it is "un-useless", like Chindogu designs, in that they solve one problem but cause another; or because they resonate with a problem that people might identify with but the design deals with in a particularly impractical or unnecessarily complicated way.

Figure 1. The Pin Thimble (left) and Cashier TV (right) Questionable Concepts.

We initially used the Questionable Concepts approach in a project exploring the design of future banking services for "eighty somethings" (people who are in their eighties or above). In the context of this first project, our intention was to use the concepts as both a way to bridge different activities in the design process (in this case, between initial interviews with participants, our analysis of this data, and a series of design workshops to be conducted with new groups of eighty somethings), and as a means for structuring design activities and promoting discussion with our new participants. The Questionable Concepts used in this first project were therefore intended to illustrate specific issues and problems that had been identified by our first set of interviewees. For example, the Pin Thimble concept (Figure 1, left) was a proposition where a person places a thimble on their finger and upon recognising the user's fingerprint the gadget displays their Personal Identification Number (PIN) for their bank account. This spoke back to issues that many initial participants expressed around struggling to recall their PINs or passwords when they needed to, and

how many felt compelled to write them down even if they knew this was a dangerous practice. Another proposition, Cashier TV (Figure 1, right), proposed a direct video link to your local bank or shop so you could watch someone else completing a purchase or withdrawing money on your behalf. This related to how some of our participants were housebound and would often have to ask others to do shopping on their behalf or entrust them with their account credentials to withdraw money from automated teller machines.
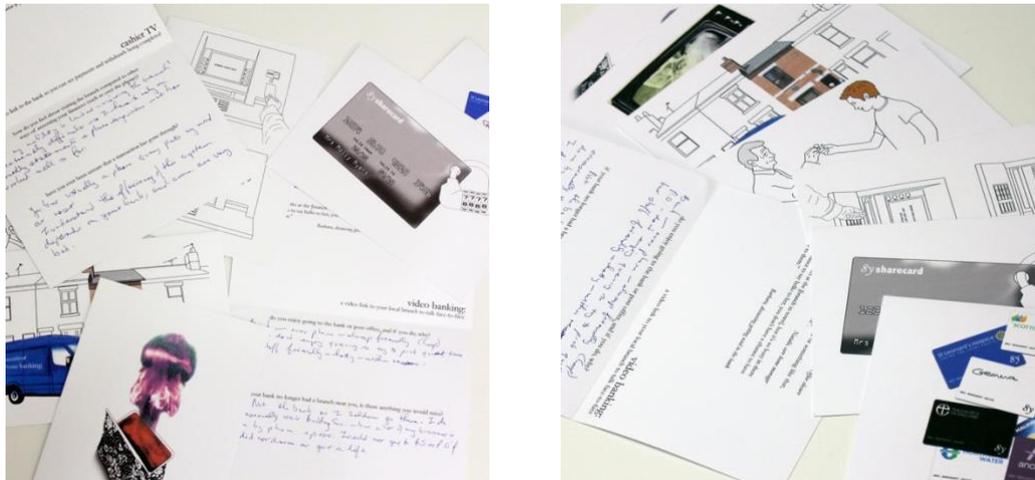

Figure 2. Questionable Concept cards.

For the banking for eighty somethings project we developed the concepts into A6 sized folded cards with four sides (Figure 2). On the cover of the card was an illustration of the design idea. On the inside of the cover was a brief description of the idea (e.g., "reminds you of your PIN when you need it") and some anonymous quotations from the interviews that relate to the idea. The rest of the space on the cards was dedicated to three prompts for participants to consider and respond to, either through a written response or a doodle, or when in person at one of the workshops. We created 11 concepts in total. The cards were handed out to participants at the end of an initial 'getting to know you' workshop. We asked the participants to take the pack of cards home with them and to look through the ideas in their own time. They were asked to complete as many of the cards as they wished, requesting they responded to at least 3 but not to feel compelled to do them all. These three cards they had chosen would then get discussed at the later workshop. Invariably, when it came to meeting again at the next workshop almost all of the eighty somethings had completed all of the cards in the pack, or at the very least had comments and, usually very strong, opinions on them. Through this process we generated a range of diverse data for analysis, including audio recordings of discussions participants had around the concepts and the prompts on the cards, the written responses on the cards, and the various doodles and sketches by participants.

Figure 3. Questionable Concepts as fictional service leaflets and brochures, with pastiche banking services for eighty somethings (left) and pastiche fresher student services (right) as examples.

We have also used the Questionable Concepts technique in different ways. In the banking for eighty somethings (where the Questionable Concept cards were used) we created more refined versions of the same concepts, developed into pastiche advertising material for the service providers that partnered us on the project (Figure 3, left). These were used partly as a means of iterating the design ideas within the project team, but also as a way of promoting discussion with our project partners around our concepts, how they might fit in with their current service provision and how they might speak more explicitly to particular groups of their customers. We did a similar activity for a more recent project that explores near-future services for students to help them socialise with other new students (Figure 3, right). Again, we used these pastiche brochures of future student services to invite critique and discussion between students in the early stages of the design process. In many respects, these adaptations of the Questionable Concepts technique relates closely to work conducted by the Near Future Laboratory who have created fictional catalogues of future products and services in projects with IKEA and Stockholm city[1].

2.3. Invisible design

Invisible designs are short film-based scenarios where two characters discuss technologies that are never shown on screen. Much like Questionable Concepts, the films are created to purposely promote critical discussion and creative dialogue with participants, and are used for generating insights and ideas in the early stages of concept development. Invisible design draws on a rich history in HCI of using characters and scenarios as part of design processes, and more specifically work that has used film to communicate user needs (e.g.,

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[1] See https://shop.nearfuturelaboratory.com/collections/frontpage/products/ikea-catalog-from-the-near-future as an example.

Raijmakers et al. 2006; Newell et al. 2011) or to promote discussion among users around the implications of future technology (e.g., Mancini et al. 2010).

Figure 4. Shots from the Invisible Design films 'Smart Money' (left) and 'Panini' (right).

The Invisible Design films have been used in a range of different projects, such as exploring future identity management and authentication technologies (see Briggs and Olivier, 2009), urban mobility for older people (Lindsay et al. 2012), future smart payment technologies (Briggs et al. 2012) and recommender systems for people with health conditions (Vines et al. 2015). In each case, professional scriptwriters and directors were hired to create a compelling story. In a similar vein to Questionable Concepts, the starting point for the scripts were research materials from prior studies, initial interviews and focus groups that summarised known problems, and initial sketches of ideas and example technologies that related to these. What would follow is an iterative process whereby the scriptwriter developed initial drafts of the script, shared these with the research team for feedback, and eventually turn to producing and editing the film (a process described in detail in Briggs et al. 2012). While the specific content of the final films differed from one project to the next, there were a number of common qualities across them. First, in each film the focus is on the dialogue between two characters who discuss an object or technology that always remains unseen. Rather like the invisible monsters of classic horror films and the never revealed technologies in many a science fiction book, the viewer is left to imagine and speculate what these designs might look and feel like, and what is occurring with them off-screen. Purposely avoiding showing what the objects might look like was, in part, a reaction to previous experiences colleagues and I had of participants in workshops quickly focusing on the material and aesthetic qualities of prototypes rather than the potential experiences and issues they might promote and address. Second, the dialogue between the characters in the films would try to convey aspects of the relationship between the characters, portraying one as slightly more informed than the other, and would attempt to bring in humour often based on some political or social commentary. In other words, the script would purposely avoid fixating on talk around the "invisible design".

Figure 5. Shots from the 'Cucumber' Invisible Design film, with Stan and Billy discussing his DIY woes and how Stan gets advice and recommendations from others through a new online service.

As an example, let's describe the narrative of the film 'Cucumber' which was created for the project exploring recommender services for older people with health conditions. The film opens with an older gentleman—Billy—sat in his armchair watching TV. A "knock knock" is heard followed by a voice: "it's only me!". Another older gentlemen—Stan—enters the room holding a bag of shopping. He slams the door and a picture falls off the wall behind Billy. What ensues is a back and forth between the two about how long this has been a problem and whether Billy knows how to fix it. Stan starts talking about a new service he uses to get advice and tips from people to fix all manner of problems. But Billy refuses to accept Stan's advice. He questions whether those giving tips would be "cowboys". When Stan explains "he bought a knife sharpener, based on a recommendation", Billy replies with "Aye, from a guy who makes knife sharpeners". After some more discussion, Billy starts to come round to the idea, but Stan says: "You've got to sign up. I can ask for you, but if you want one you've got to sign up. You should. You'd be good man!" Billy sits back in his chair: "Ah well. Mebbes" he sighs. As with other Invisible Design films, humour plays an important role, emphasized here by the film's ending of Stan giving Billy a cucumber, the reason for him popping by in the first place.

The Invisible Design films have been used in design workshops with participants to provoke discussion around the issues and topics they infer. In these workshops, after a brief introduction to the broad topic of the project, the film would be shown and a loosely structured discussion would follow, facilitated by one of the research team. Here, participants would be asked to comment on the film and then to address the Invisible Design associated with it. Typically, discussion transitions from initial sense-making of the

film (who the characters appear to be, what they were talking about, what the purpose of the film is) to unpicking the relationship between the characters and addressing the object that is not seen on screen. The discussions participants have around the film are audio recorded and then later transcribed for analysis.

2.2. Experience Design Theatre

Experience Design Theatre (Vines et al. 2014) is a technique where we work with professional actors and theatre directors to engage participants in responding to and 're-scripting' scenes and scenarios related to near-future service designs. This process is conducted multiple times with different groups of participants, after which the input from these different workshops is integrated into a longer story that is performed to new audiences. As with the other two approaches described above, this technique builds on a wealth of work in HCI and user-centred design where theatre has been used as a resource for design work. Brenda Laurel's (1993) classic work examined how interactions with computers could be described in performative terms, while role-play has for a long time been used as a means for design teams, and participants to a lesser degree, to work through possible design concepts. Work directly related to ours is that of Alan Newell and colleagues who have appropriated Boal's forum theatre into the context of design. In Theatre of the Oppressed (Boal, 1979), Augusto Boal coined Forum Theatre as a means for involving citizens in discussion and action in support of social change. Forum Theatre would involve the improvisation of a situation by actors, which could be halted by an audience member who could suggest different actions for the actors to lead to less oppressive outcomes for characters. Newell et al. (2006; 2011; Rice et al. 2007) have used a similar approach to promote discussion in design processes, where scripted scenarios would be performed live by actors (or via pre-recorded short films) and participants would be invited to discuss the scene, focusing on the characters' motivations, the role of technology and how the scene could be changed.

Figure 6. Documentation from Experience Design Theatre workshops.

Our approach deviated from Newell's and others work in several ways. First, as well as the opportunities live theatre and improvisation offer to engage participants in discussion and debate, we wished to explore the live re-scripting and re-drafting of speculated scenarios with them. The actors would begin workshops by performing very loosely scripted situations between characters that related to the service designs that we were exploring. In having these loose starting points, we wanted to provide the space for participants to express their own stories in relation to these initial scenes and have these stories and opinions fed back into new improvisations by the actors. Second, as with Invisible Design, we wanted to explore the experiences that might arise as a result of proposed services and technologies, rather than fixating on functions, aesthetics and the probability of the technology itself. Therefore, the focus of the starting scenes and resulting improvisations was primarily on the interactions and relationships between characters, rather than direct interactions with interfaces and services. Third, through iterating the scenes with participants in workshops, the actors explicitly incorporated participants' voices, stories and experiences in the re-drafted scenes. This was done, in part, to acknowledge to participants that their input had been heard and taken on board. But it also allowed us to carry these stories forward to later workshops with different audiences, so that the experiences contributed by participants could be communicated to those participating in later stages of the project.

Figure 7. Documentation from the final stages of the Experience Design Theatre process, where participants representing various care organisations responded to theatrical performance of a new care services that was created with potential service users.

We explored component parts of the Experience Design Theatre technique in a number of projects, although it was explored in most depth as part of a project where we were exploring the future of later life social care provision. The project involved working with a broad range of stakeholders – care organisations, public funders of care, technology companies developing ICT for care services, and most importantly older people, people in receipt of social care and carers themselves. Collectively we were exploring alternative models for delivering care in communities in the future, particularly models where (younger) volunteers would give up their time to provide informal care. Our project was exploring some of the socio-technical infrastructure and interfaces required to sustain such a service, as well as exploring its general appropriacy and the nature of "rewards" (material or otherwise) that volunteers might receive for doing care work of this kind. Here, the technologies themselves were not particularly provocative—they were primarily envisioned to be tools to help timetable care visits, to share information and data between parties, and to support reward card infrastructures. The provocative elements in this project related to the implications of these new care services themselves, the social and political values they implied, and how they fundamentally change the nature of care work and the relationships between carers and carees.

To explore this project context, we divided the Experience Design Theatre process into multiple stages of activity. We conducted a first set of workshops with small groups of different participants—informal carers, young people seeking volunteering activities, healthy older people and people receiving community care services—where we explored the loosely scripted scenes and re-drafted these with participants. After these workshops

were conducted, we developed a set of scenes where participant input across multiple workshops was sewn together into one longer performance. We then invited our initial participants back to a follow-up workshops where this was performed back to them for further discussion and iteration. The various scenes were then refined further based on participant input and then presented to a large audience of representatives of various organisations implicated in new services like these (Figure 7).

As with the other techniques, the data collected through this process was complex and diverse. As with Questionable Concepts and Invisible Design, sessions were audio recorded for transcription and analysis. The performances were also video recorded however, to capture the interactions between the actors as they were being guided and re-drafted by participants. In the later workshops with larger groups, we also provided a myriad of means for participants and audience members to comment on and discuss the performances, including opportunities to question the actors (both in character and out, Figure 7, left), to write brief notes as the performances were happening (e.g. on table cloths as in Figure 7, right) and in short break-out activities (Figure 7, centre).

3. REFLECTIONS ON USING PROVOCATIONS IN PARTICIPATORY DESIGN

In the following sections, I conclude the chapter with some brief reflections on how these various techniques have worked in workshops with participants, and draw out some recommendations and guidance for using these and similar techniques.

3.1. Balancing technological and social imaginaries

In Design Noir, Dunne and Raby note that central to critical design is "the suspension of disbelief [...] if the artefacts are too strange they are dismissed, they have to be grounded in how people really do behave" (p.63). The authors note that provocativeness here means to design for a "slight-strangeness". Bardzell and colleagues have since noted, however, that defining what is "strange" and designing for a slight-strangeness is actually rather hard (Bardzell et al. 2012). Indeed they highlight a number of attempts in HCI research to develop provocative systems that, when given to participants for evaluation, were found to be neither provocative or interesting enough to promote engagement over any extended period of time. In our cases, it was perhaps through accident rather than intention that some of our ideas appeared to be provocative (in that they received strong reactions from participants, at least); we certainly did not set out knowing precisely how to design for provocativeness, and even looking at the ideas and discussions they stimulated retrospectively it is hard to define why certain ideas worked well. What was clearer though was what didn't work well. Some ideas, across all of the techniques, participants found highly agreeable and perhaps because of this the ideas struggled to promote discussion in the groups. Like Dunne and Raby note, those concepts and ideas that were slightly too

believable—the online review system discussed in the *Cucumber* Invisible Design film, and Questionable Concepts like video banking and top-up debit cards—were too close to existing platforms and services that people had already heard of and did not explore in any great detail how the social settings of banking or care might be radically altered by these. Those ideas that did produce strong reactions were those that clearly played with combinations of altered technological and social futures, leading to questions and discussions among participants around "how might that work", "how does that change how we do things now" and "what are the values entwined in these ideas". This was particularly evidenced in the work we did on future voluntary care with Experience Design Theatre; the setting of care seemed very familiar to our participants, but the way these were played with to infer reward mechanisms for the 'volunteers' and the interchangeability of carers led to debates from participants about the values implied by such a service, and indeed the politics of the technologies that might underpin them. Similarly, the smart money Invisible Design film worked well in as much as it portrayed dialogue around the everyday experiencing of paying another person, altered via this new proposed intelligent bank note.

A further point to note here is that the mediums by which we engaged participants in discussion had a bearing on the potential to stimulate discussion. The loose illustrations on the cards, the hidden designs in the films, and the improvised scenes of the performances, all presented situations where it was rather clear we were working with things that did not yet exist, and provided space for participants to fill the gaps we had left in the materials. Bardzell et al. (2012) note that it is hard to find examples of provocative technologies that have been successful in engaging participants over extended periods of time. They reflect that more experienced (critical) designers might be better at designing for provocativeness. However, our experiences suggest that creating snap shots of ideas and designs is a productive way to defamiliarise settings and promote discussion on technological and social imaginaries; for us this was through the various sketches of ideas, whereas for much critical design work this is through highly developed proposals of future designs. Perhaps as soon as you try to embody these ideas in working prototypes, to be given to participants for evaluation, you lose the potential to find these productive middle grounds.

3.2. Harness critique as creativity

Central to all the participant related activities in these methods was promoting critical discussion around the proposed ideas. Many of the concepts and ideas were purposely created to be whacky, strange and impractical. We felt that from the start participants would critique the designs, but we had not expected the degrees to which they would do so. In the Questionable Concept workshops the participants took great joy in pointing out the flaws in ideas. Sometimes the flaws would be a result of a lack of clarity in the illustrations of the concepts. The Pin Thimble was a particular example where the simple sketch did not communicate well the intended idea of biometrics and an appearing and

disappearing display of one's PIN. At other times critique came from unpicking the feasibility of the technology, but not necessarily from the perspective of "how would this work?" but instead "what other problems might an idea like this cause?". Smart money was critiqued not because the technology was unfathomable to eighty somethings, but because it was seen to be making value relationships between people more technologically determined and reduced opportunities for informality and spontaneous acts of trust between friends and family when it came to giving away and sharing money. Or the social realties being represented would be deeply questioned. Across all the activities using our techniques, participants appeared to take great pleasure and pride in being able to identify flaws in the ideas as presented. Indeed, the researchers were also the target of critique – the flaws in ideas being blamed on our naivety in knowing how care relationships worked, or our poor personal banking and savings practices, or our perceived unwavering fascination with technology as a replacement for human agency and responsibility.
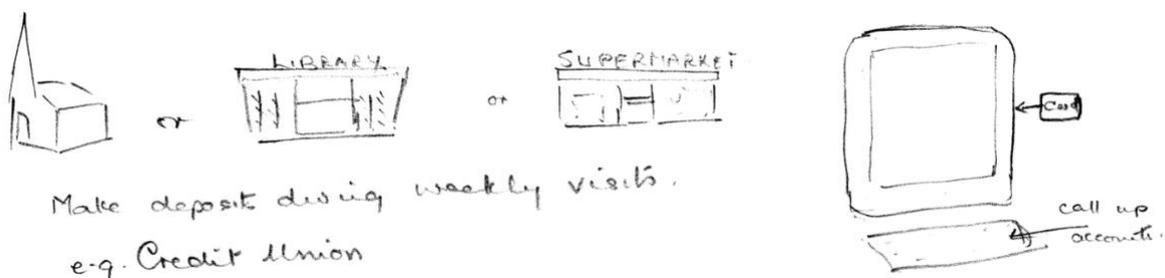

Figure 8. Examples of sketches of new design propositions from Questionable Concept workshops.

Engaging in critique was therefore a fundamental way for participants to find ways in to exploring the ideas as presented. However, the criticisms levelled at the ideas were not statements that would end discussions and debates; they were often the starting points for continued discussions around the imaginaries presented in the various provocations, the values and politics they implied, and how they related to matters of concern in the present. In the banking for eighty somethings project, the workshops where we used Questionable Concepts and Invisible Design presented opportunities for the eighty somethings to clearly say "no" to not just our propositions, but to a whole raft of changes they saw happening to banking and finance in the UK. They used the workshops to challenge how the banking sector were, at the time of the research, proposing to withdraw cheques from circulation; they also used our project to challenge the ethics and morals of modern banking, its spendthrift ways, and how this was seen to influence younger generations. As with the origins of co-operative design, where researchers worked closely with workers to challenge the introduction of technologies that would lead to deskilling and impoverished working conditions, critique and saying "no" was a way of challenging the values of new technologies. Saying no though was also an opportunity to critique an existing state of

affairs and request a very different type of change. We saw this in the Questionable Concept workshops where new ideas were generated by participants on the back of our provocations that articulated how current services and systems might be better aligned with the participants' values. We also saw this in the theatre workshops where re-drafted scenes would better account for the value of people who give up their time to care for others in the community, and where care was more experience-oriented than task and role driven.

3.3. Fun as a resource for design

Some readers might at this point be wondering when this chapter would talk about fun, especially given the nature of the book it lives within! It's worth noting that while the research conducted in these various projects was not focused on understanding and designing for 'fun' per se—indeed, the topics examined in most of the projects were considered rather serious matters, potentially dealing with personal vulnerabilities and sensitive information—fun, humour, silliness were critically important dimensions of the techniques when they were put into practice. Blythe et al. (2016) has recently highlighted the value that "plain silly ideas" that are partial and ill-formed can bring to exploring, advancing and better defining problem spaces, and this was an explicit feature of the techniques I've described in this chapter. We used humour and silliness in multiple ways across our various provocations. As noted some of the Questionable Concepts were just plain ridiculous ideas intended to provoke strong reactions. It was intended that the Invisible Design films were to have comedic elements to them in order to make the various situations more light-hearted, to develop the characters being portrayed, and to purposely not fixate entirely on the Invisible Design. That the performances in the Experience Design Theatre workshops were either partially scripted or entirely improvised meant there would often be breakdowns of communication between the actors as they responded to each other's actions. Introducing comedic elements, either on purpose or by accident, gave people a way in to talking about the ideas. The qualitative and participatory design literature is full of examples of the problems researchers face in having participants simply agree with what researchers produce or say out of politeness, so the absurdity of some of the ideas were an easy way in for our participants to start critique and unpicking ideas. The breakdowns in the performances were typically followed by outpours of laughter and hilarity from participants, and brought down the theatrical walls between the actors and audience. The comedic elements of the films often aided making very serious topics rather more playful, even if what was seen to be "funny" was a matter of taste and some participants failed to get the jokes embedded in the short dialogues. However, without doubt, fun and humour was both a resource for settling nerves and initiating conversations and, over time, became a resource for design.

There is, of course, many dangers of using fun and silliness so explicitly in participatory design processes like these. Researchers can be viewed as trivialising issues, especially when it comes to topics such as identity and security, personal finance, and social care. While for the most part this was not an issue, there were points in workshops where participants became clearly frustrated with what was occasionally noted to be "simplistic" characterisations of people's experiences. I'll conclude by talking about such situations, and other times we have got it wrong, in the following section.

3.4. Getting it wrong

Building on the last point above, it is of course entirely possible to get provocation wrong. I noted in section 3.1 that sometimes things we assume might be provocative simply are felt to be quite normal and do not adequately play with norms, values and practices to promote debate and discussion. In some workshops we also saw situations where participants were simply unable to make sense of ideas, became disengaged as they did not "get" the provocation, or we felt it necessary to verbally elaborate on the presented ideas. Other times, provocations might be viewed to simply be too absurd or silly, or the use of humour in the concepts themselves (e.g., an Exploding Handbag Questionable Concept, which was intended to deter thieves) or in the dialogues between characters or actors (e.g., comedic elements of the dialogue between the two characters in the Invisible Design films) would fall flat, be misunderstood, or overtly distract participants from exploring the ideas and relationships we were presenting to them. These situations highlight how important it is to not just create carefully produced materials but also to sensitively facilitate discussions, reading the dynamics of the room, and to carefully negotiate a degree of clarity around the purpose of the workshops and the ideas being presented without feeling compelled to apologise for ambiguities or light-hearted elements at the first sign of confusion or frustration. As we noted in section 3.2, critique can be a valuable resource for generating new ideas and be inspiration for new forms of change, and often misunderstandings, misreadings and ambiguities can be a great promoter of such critical conversations with participants. Furthermore, it's important to give people space and time to make sense of the ideas being presented to them; Questionable Concepts allowed people to carefully view ideas in their own time at home, while the other techniques have been used as part of projects where we had reoccurring meetings with participants which meant the content of the films or the performances from earlier workshops would continue to resonate and be built upon much further into the projects.

Finally, it's important to note that there is no right or wrong way of creating a provocation; it comes from experience, and very much what makes an idea provocative is dependent on the context being explored and the participants it is being interrogated with. What I have described here are just three examples of using provocation in design processes that I and collaborators have used at different points in time. This is in no way an attempt to claim

that these methods are particularly better or more robust than others. There are many other methods and techniques that could be drawn upon, such as extreme characters, pastiches, magic machines, and many more. These various techniques illustrate multiple 'ways in' to using provocation in engagements with participants, and also highlight the great breadth of approaches and techniques designers and researchers can draw upon and make provocation work for them.

5. ACKNOWLEDGEMENTS

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