

HCI in the Press: Online Public Reactions to Mass Media Portrayals of HCI Research

John Vines¹, Anja Thieme¹, Rob Comber¹, Mark Blythe², Peter Wright¹, and Patrick Olivier¹

¹Culture Lab,
School of Computing Science,
Newcastle University, UK
{john.vines, anja.thieme, robert.comber,
p.c.wright, patrick.olivier}@ncl.ac.uk

²School of Design,
Northumbria University,
Newcastle upon Tyne, UK
mark.blythe@northumbria.ac.uk

ABSTRACT

HCI researchers working in publically funded institutions are increasingly encouraged to engage the public in their research. Mass media is often seen as an effective medium with which to communicate research to large parts of the population. We present an account of three HCI projects that have used engagements with mass media in order to communicate research to the public. We describe the motivations for working with mass media and the mechanics of writing press releases. A grounded theory analysis of online public responses to the projects in the mass media leads us to identify a number of concerns about how research is portrayed by news outlets and thus interpreted by the public. Tensions about technologies and wider societal issues were revealed that might normally be hidden when using traditional user-centred methods. We critically reflect on the efficacy of using the mass media in research and provide guidance for HCI researchers wishing to engage in dialogues with the public in the future.

Author Keywords

Mass media; public engagement; sustainability; digital banking; older people; navigation systems.

ACM Classification Keywords

H.5.m [Information interfaces and presentation (e.g., HCI)]: Miscellaneous;

INTRODUCTION

Mass media such as newspapers, online news sites, web blogs, social media, television and radio broadcasting offer researchers a means to communicate their research to large segments of local, national and international populations. The latest findings on how eating habits relate to chronic illnesses [1], or the origin of the human species [23] or on why people find others sexually attractive [9] are regularly reported in the media. In terms of technology, articles frequently speculate on the features of the next ‘must have’ gadget [17]. In view of the potential offered to reach a large

audience, HCI researchers are increasingly encouraged to engage with the mass media as a way of communicating the results of their work to the public. Furthermore, with many online news outlets (such as BBC News, Daily Mail, Fox News) readers have the opportunity to comment upon articles and the research as it is presented.

In recent years there has been pressure placed on public funders of research to justify the societal and economic impact of the research they fund [24]. In many countries (such as the UK) universities often include public engagement as a key performance indicator for research staff. Universities in the UK compete with one another for students and funding. Thus, their home pages frequently point towards news reports on their research as a way of reflecting the relevancy, impact and quality of its research to potential students, staff, funders and industrial collaborators. Consequently, most universities have dedicated press officers to support and motivate researchers to write press releases about their research.

The provision of opportunities for the public to comment and participate in research is of huge importance to HCI—as highlighted by the ever-increasing examples of ‘in the wild’ studies [8] and the wealth of approaches to participatory design (e.g. [25]). The mass media can be seen as a way of reaching potential end-users and generate insight into how people will react to future technologies if introduced on a wider level. Despite the impact the mass media can potentially have on HCI research, there is no existing literature on this growing expectation to engage with the public in this manner has on our field.

In this paper we reflect on some of the problems and benefits the mass media offers HCI research. We address three questions through discussing three HCI projects that engaged with the public via the mass media: 1) What are the mechanics of writing HCI press releases that catch the attention of journalists and editors in large news organisations? 2) What are the challenges facing HCI researchers when their research is portrayed by the mass media and commented on by their readership? 3) What can be learnt from such engagements, and what can HCI researchers learn about their research based on how it is situated and discussed by the mass media and, as a consequence, members of the public? Based upon the three

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cases we analyze, we argue that researchers should be sensitive to the potential pitfalls that occur when using the mass media as a route to engaging in a dialogue with the public. We highlight how the mass media can be useful at stimulating online public discussion of HCI research, leading to insights about the subjects and contexts under study. Misrepresentations of the research by news outlets can also lead to substantial criticisms of the relevance and quality of research. We contribute an understanding of how press and public reactions to research can provide insights for HCI and provide guidance for future researchers who undertake engagements with the mass media.

THE MASS MEDIA

The term ‘mass media’ combines all means of mass communication to reach a national and international audience. These include *broadcast media* such as television and radio, *print media* such as newspapers, magazines or books and *digital media* relating to online communications through websites, blogs or podcasts [22]. Digital media in particular has transformed both journalism and the news landscape in recent years, providing a platform for timely feedback and discussion in and around news content [21].

Here we are specifically dealing with how news is created in mass media. Media theorists have long argued over the qualities of what and how news is reported (e.g. [12,18]), but a frequently referred to notion is ‘gate-keeping’. This is a process whereby potential content is purposefully selected and transformed into the limited amount of news stories that reach us every day [26]. Contemporary media research suggests there are a variety of qualities that make a story *newsworthy* [10,12,13]. These include how *relevant* a story is to its audience or the people involved, aspects of *timeliness* and *novelty*, news that is either dramatically *positive* or *negative*, *follow-ups* on subjects that have been reported recently, stories about *celebrities* and *elite* people, organizations or institutions, news that *surprises* or *entertains* with references for instance to *sex* or *drama*, that are *humorous* or offer *witty headlines*. Added to this are qualities that make news stories easier to process—such as *predictability*, meaning that an event is more likely covered if it is already *prefabricated* (i.e., as a press release) [2] or offers a *good picture* that draws the reader in [12].

Prior research in HCI has noted how social media sites provide abundant opportunities for researchers to engage with a mass-audience. Indeed it has been highlighted how such sites provide a data resource from user-generated content, such as comments, uploaded video and photography, that can be used to inform design [4,5]. Researchers wishing to use social media platforms are given a large amount of control in how their research can be communicated (within the limitations of the used media). In the context of mass media there is always an intermediary between the researchers and the public. News stories are not just selected by journalists and editors but also constructed by them [12]. They may add statements and create context

around pieces of information to make sense of them, and to fit into the overall *composition* of a media (e.g., a specific broadcast show) and the *political agenda* of the news agency [11]. Moreover, there is often a tendency to over-emphasize newsworthy characteristics, which commonly invites distortions of the actual news content [10,11,30].

Working with Media Relations Managers

In the UK context, university press offices exist primarily to help researchers write and distribute press releases about their work in ways that emphasize some of the qualities discussed above. Many larger institutions have Media Relations Managers (MRMs) working with specific faculties and schools for this purpose. In order to initiate the writing of a press release first the MRM must be made aware that the research is being conducted. This might occur by a researcher contacting their press office. Alternatively, many MRMs actively scout faculties and departments to stay informed on what newsworthy research is in progress. Following this, the MRM will interview the project team to learn more about the research and to identify what qualities of *newsworthiness* the research has (i.e., how timely, novel, surprising, entertaining, humorous the story might be). For example, a project exploring the relationship between weather and mobile phone use might hook the story around the poor summertime weather experienced in Northern Europe. As such, news-worthiness is in many senses topical (the bad weather) and cultural (British people enjoy talking about the weather).

Once the qualities of the press release are established, either the MRM or the research team might lead the writing. What normally ensues is a series of back-and-forth iterations between both until a final version is agreed. Very often this is a compromise between the MRM’s desire to make a powerful story with the research team’s desire for accurate representation. Press releases are typically between 600-800 words in length and combine prose and attributed quotations. Final releases will also include attribution to the funders of the research (if there was any) and other stakeholders and collaborators. As well as completing the written press release, the MRM might arrange for a photographer to visit the project team to capture a number of high quality images to accompany the press release. These images are provided for media outlets to use in articles but are also produced to be eye-catching to a busy editor who is quickly reading emails. Therefore, the relationship between the image and the research might be tenuous at best (as highlighted in Figure 1).

When released to the media, an *embargo* might be placed on the information, restricting the time when it can be reported upon. This might be because the release includes sensitive information. For example, researchers might not want the research to be reported before it is published academically or presented at a conference. Alternatively, an embargo might be in place because the MRM has agreed to do a feature article or recording with a specific broadcaster.

HCI PRESS RELEASES

Here we describe three HCI projects where engagement with the media was actively sought. The co-authors were involved in two of these projects, and provide direct experiences of the process of working with the mass media. Semi-structured interviews with 4 other researchers involved in the projects, an MRM from a University Press Office team and a journalist who has worked in both academia and for large media organisations also inform these descriptions. We used these discussions to reconstruct the process the project teams went through in planning and writing their press releases. We then discuss press reactions to the different projects and related online public reactions.

The Projects

These projects have been chosen for two reasons. First, each received attention from the mass media following a press release that impacted upon each of the projects in very different ways. Second, the projects might all be considered examples of designing technologies in response to third wave [6] challenges, namely environmental sustainability, financial inclusion, and independence in later life. All of the projects followed the above process with some small deviations as discussed below.

Social persuasion of sustainable behaviors

BinCam [29] is a two-part persuasive technology designed to facilitate engagement with and behaviour change in recycling and food waste among young adults in the UK. A camera in the lid of a household waste bin takes a picture every time the bin lid is closed, which is then uploaded to a BinCam Facebook application. The aim was to use these images to get younger households to think about, and hopefully change, their recycling and food waste behaviours. A study with 4 student households was the basis for the press release.

The press engagement for BinCam was lead by the MRM, who found out about the project through conversations with the researchers. BinCam was an exploratory research project with no external funding and as such there were no requirements from funders or the University to produce evidence of impact. Motivation for a press release came from an intrinsic interest in reaching the public, with added benefits of encouraging some interest in the research group and the University. The press release was written primarily by the MRM and was agreed by the research team. It was accompanied by a number of images of the researchers being photographed in a kitchen using the system.

The MRM had liaised at length with a national broadcaster who wanted to do a live broadcast feature on the research for their weekday breakfast news programme. The press release was therefore embargoed until the date that the broadcaster could fit it into the shows schedule, which is often not known until the evening before.

Digital banking for the older old

The second example comes from a project that explored the design of new banking technologies for people over the age

of eighty. One of the issues the project investigated was the planned discontinuation of cheques as a payment method in the UK. This resulted in the development of the *Digital Cheques* [31] prototype that was designed in collaboration with the participants. The system utilised digital pen technology, integrated into the same form as a traditional cheque book. The prototype and the collaborative design process with the eighty year olds both featured in the press release. The project had reached its conclusion and the research team was very interested in communicating the findings of the project to those in the industry who might enact changes to commercial products or policy.

Thus, the primary motivation for press engagement here was to promote interest from key stakeholders within the British banking industry. Furthermore, the researchers had a commitment to the funders to publicise the results of the work. The lead researcher contacted the MRM directly which lead to a meeting to talk about the project. The project itself encompassed more than just the digital chequebook work, and following the meeting there was much debate between the MRM and the research team as to what parts of the project would be best suited to the press release. Following the first meeting the MRM wrote a draft release based on what she deemed to be the timeliest aspect of the research (a study of how people who are housebound can physically access their finances). The team, however, felt that this aspect of the research was not ‘mature’ enough for public distribution. This resulted in the project team taking over the writing duties, with researchers across three institutions writing parts of the text.

As with BinCam, the press release was packaged with a set of images related to the prototype. Finally, the presentation of the research at an international conference in the United States determined the *newsworthiness* of the story, with the press release being embargoed until the day of the talk.

Safety and navigation support for older drivers

The third example is from a research program into older adults’ driving behaviours. Unlike the previous two examples, this project did not—at the time of working with the press—involve the design of a new technology per se. Rather, it discussed a number of studies where cars and driving simulators with embedded sensors and navigation devices were being used to monitor the stress levels and behaviours of *Older Drivers*. The studies investigated the barriers to driving later in life and explored how it could be made safer and thus increase independence for older adults.

In this case, the research team had been discussing with the MRM the writing of a press release for some time. As with the BinCam project, this led to the MRM having a number of informal conversations with a national broadcaster about doing a feature piece on the research. While the BinCam project had a quick turnaround between these discussions and the eventual broadcast, the broadcaster continually delayed the Older Drivers piece in its scheduling. This eventually led to the decision to release the information to

news outlets as it was becoming less likely that a broadcast would happen. The mass media response to the project was to such a scale that the same national broadcaster decided to still do the feature piece following all of the other publicity.

The press release for Older Drivers was written by the MRM based upon initial pieces of text provided by the researchers. Unlike BinCam and Digital Cheques, the press release focused on the overall motivations of the research, only briefly referring to the individual studies being undertaken by the researchers. The newsworthiness of the story was hooked around promoting the new technologies being used as part of the study—notably a newly acquired driving simulator and instrumented car. There was no embargo in place for this press release.

Immediate press reactions

The level of media response in the hours immediately after the press releases differed drastically between the three projects. On the day of the press release, BinCam received large amounts of coverage, including 5 five-minute segments on the BBC Breakfast television show, short interviews on 21 local and national radio stations, and visits from television broadcasters to the research lab. In the first day, over 50 online media outlets, including the BBC, Daily Mail, The Guardian and Fox News, reported on the project. The researchers had one newspaper ask for more information on the project, including details on who it was funded by (in this case the project was not funded). Older Drivers was also immediately reported online by over 50 news organisations. Over the course of the day a number of news outlets contacted the researchers for sound bites and clarifications on the research; 2 national television broadcasters requested visits to the research facility to film the driving simulator and interview the team. Digital Cheques received substantially less attention than the other projects, being picked up by 30 online media outlets after the first day, 2 ‘print’ national newspapers and being requested for interviews on 2 local radio stations and 2 local television companies. A full overview of the amount of mass media coverage resulting from the press releases is presented in Table 1.

A concern across all three projects was how much time and energy the researchers had to spend communicating and liaising with media organisations following the press release. This was especially difficult for the younger researchers, who were intensively involved in interviews, email communications and responding to requests from the public for days and weeks afterwards. Although many universities offer media training for researchers and public engagement is often planned into project timescales, the researchers across each project had difficulty in managing all of the requests while continuing with their research. Furthermore, it meant the researchers had few opportunities to engage in active reflection on their engagements with the press due to the intensity of their requests. Indeed, all of the younger researchers noted that the discussions held to

Media Type	BinCam	Dig. Cheq.	Old. Drivers
TV	5	2	2
Radio	21	4	8
Newspaper	3	3	8
Web	62	27	61
Commentary	7 (395)	9 (73)	8 (174)

Table 1. Overview of news items, reports and articles resulting from the press releases for each project as of 25 June 2012. Commentary refers to online news sources that provided means for readers to post comments (number of comments in parenthesis).

inform this paper were the first opportunities they had to reflect in detail on their experiences.

Content of press portrayals and public responses

In order to understand public impressions of each project as portrayed by the mass media a grounded theory analysis [7] was performed on online public comments responding to news articles that resulted from the press releases. A Google search was performed for each press release on the 25th June 2012. We collected, counted and analysed articles from news outlets, blogs and user comments. Webpages not referring to the press releases were excluded. From this we collected 62 articles and 395 comments for BinCam, 27 articles and 73 comments for Digital Cheques, and 61 articles and 174 comments for Older Drivers.

Grounded theory is an established method for studying qualitative data where codes are generated from the data rather than pre-existing categories. Open coding was performed by author 1 and occurred on the word and sentence level. 125 unique codes were created at which point no new codes were being generated. These codes were grouped to form 6 axial codes [27] that describe the central themes emerging from the data. Authors 2, 3 and 4 checked this coding and raised disagreements that were discussed and codes altered to suit. Finally, selective coding was performed where illustrative quotes are selected to form a narrative linking the 6 axials to develop a descriptive theory. These are presented below.

Targeting and elaboration

A recurring theme across the three projects was the tendency for articles and subsequent public responses to reframe and reinterpret the story or small details within the press releases. These would then be elaborated upon and made the focal point of the report on the research. In the top result, BinCam was framed as a “snooping” device that would eventually be installed in household bins so that local Government could monitor the recycling behaviours of citizens. While the press release included references to “naming and shaming” on Facebook, this was elaborated to mean being placed on “wanted lists” and receiving fines for not recycling appropriately. These concerns were then echoed in user comments where concerns about privacy were frequently articulated: “What about an Individuals right to privacy under the EU Human rights legislation”,

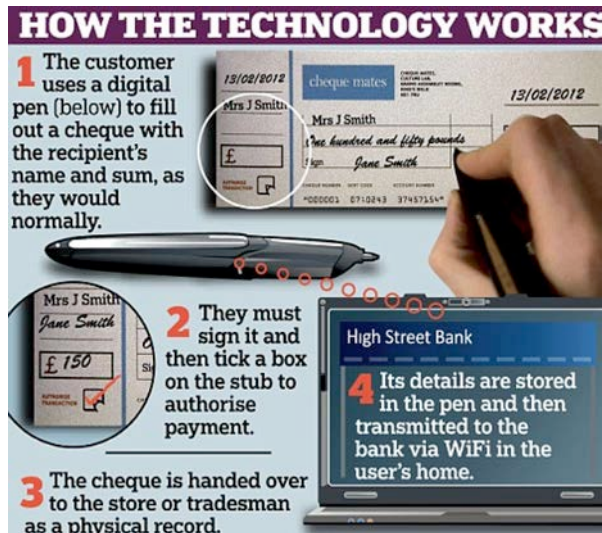


Figure 1. "The Electric Cheque" diagram provided by the Mail Online. *Daily Mail*, 2012.

and "It's simply big brother gone absolutely bonkers!". Articles on the Older Drivers press release focused on small details as well. In the press release one line described how the team are exploring potential applications of their research: "Another solution is a tailored SatNav which uses pictures as turning cues, such as a post box or public house." This single line became the focus of 92% of the articles in our data. Very often these articles referred to "granny-nav" (as it was coined by a number of tabloid newspapers) as an already existing device that the researchers had developed. Subsequent user comments often discussed the merits and concerns of such a device: "What makes anyone think that [they] will want to use this device?"; "Excellent idea to be able to plan avoiding making right-hand turns into oncoming traffic." The use of the term "granny-nav" was particularly controversial, and many responses suggested offense at its use: "the idea is very good but the way you are explaining it as "Granny nav" is a ageist, and sexist." Of course, the research team had never used this term, nor did the technology exist.

Targeting small details of the press releases was not always performed in a negative manner. For example, the Daily Mail wrote a positive report on "the electric cheque" that focused on how the technology worked. In their explanation of the system they referred to how "the pen sends the details via a wireless link to their bank". Supplementing the text, the paper presented a diagram of how the system worked, including an image of a laptop and text suggesting the use of WiFi in the home (Figure 1). A number of public responses noted how very few of the target demographic would likely use a computer or WiFi:

"... there is a massive flaw in the design! Most of people who rely on cheques do so because they don't use the internet and internet banking and therefore no have WiFi. Oh dear back to the drawing board!" (Mark, Mail Online, *Digital Cheques*).

Again, the targeting of an explanation of how the technology worked—albeit well-intended—portrayed the design in a manner that was removed from the reality. Indeed, the suggested requirement of having a computer makes the design useless for the intended older users.

Criticism and scepticism

A large proportion of the public responses were criticisms of either the designs or the research they were based on. Many of these criticisms were based on the practicalities of the ideas. A number of responses questioned the long-term value of the Older Drivers navigation device:

"I can't see it working ... landmarks such as those mentioned in the article are changing so rapidly. Pubs are closing, then being demolished ... postboxes are vanishing, telephone kiosks are a rarity and bus stops seem to move with the seasons." (Elsie, Mail Online, *Older Drivers*)

Many of the criticisms highlighted tensions in public opinion in the contexts the different projects sat within. A lot of responses did not see the utility of keeping cheques in circulation when "only old people use them". Other responses referred to the impact the Older Drivers study would have on other road users in the future: "Old people should be able to get out as much as they can, but if they are a danger on the road then ... they should not drive, with or without these glasses." Related concerns included likely increases in insurance premiums due to an extended amount of time older people spent driving, and: "elderly drivers doing 25mph" on highways (Farquhar, BBC News, *Older Drivers*). Even if the system would work, there were frequent questions asked about whether the intended users would be able to use it: "Has anyone tried teaching their older parents how to use a smartphone?" (ravenmorepheus2k, BBC News, *Older Drivers*). These comments exposed the diversity and harshness of public opinion not just to the designs but also to older people and societal concerns such as population ageing.

BinCam in particular received a large amount of criticism across articles and public comments. Some comments referred to how its integration with Facebook excluded those who did not use or have access to the service: "Not everyone uses Facebook. Not everyone uses the Internet. Stop creating a greater chasm between those who have the Internet and those who don't." (Storm, The Guardian, *BinCam*). Others commented on how they did not believe in the underlying principles of the concept. This occasionally led to discussion between website users about the principles of social persuasion to motivate behavior change. An article on an environment blog remarked: "Surely, basic human psychology tells us that any punitive system intending to correct "bad" behaviour must also include rewards for "good behavior". Or, in an ideal world, you would only have rewards." The vast majority of responses argued against the use of social pressure as a way of motivating more sustainable behaviours. One user commented: "Social

pressure clearly works. That's why several posters in this thread are expressing alarm at the possibility of having their waste disposal habits coming under scrutiny." (Teratornis, The Guardian, BinCam).

Research value

The value of the research performed across the three projects was questioned in a number of ways. First, articles and comments criticised the subjects being investigated. For example, some comments doubted the worthiness of studying ways to keep older people driving: *"if you can't drive your car comfortably and safely then you shouldn't drive it at all"* and *"You are either safe to drive or you are not - social isolation does not come into it, as other road users' right not to be killed/maimed by un fit drivers outweighs people rights to get out & about."* (Little_Old_Me, BBC News, Older Drivers). A number of responses from older users emphasised a deep sense of offense about being targeted by the researchers as a 'needy' group: *"I feel deeply offended by the idea that as an older person (67) I need an aid to drive my car."* The same user continues to imply that there are more significant dangers on the roads than older drivers: *"I'm not the one driving at 90+ and switching lanes without signalling on motorways. The worst drivers, like the mobile phone users are mostly at the younger end of the age range."* Suggestions that the research should be focused on other issues within the same domain appeared in comments on Digital Cheques as well: *"We now have the technological capacity to replace the monetary system altogether. Why don't we use it?"* (Pacificus, Mail Online, Digital Cheques).

In the case of BinCam, a number of comments alluded to where the inspiration for the research came from. It was implied that the research was being undertaken for reasons other than societal gain: *"... this university must have been put up to this invention by either government or council stazi..."* (finbar saunders, Mail Online, BinCam). Others questioned the value of the research in terms of its economic cost to taxpayers. Clearly some comments deemed the research to be a waste of money: *"All this money wasted on rubbish ideas, surveys etc, no wonder we are in a mess"* (cynic57, The Sun, Older Drivers). Other respondents felt taxes should not be funding such research at a time when public funding is under such instability: *"It should not be forced and my Tax dollars should not be spent on research like this. Neither should tax payers in broke England ..."* (rmartin1, Fox News, BinCam)

Not all comments related to the value of the research were negative. As we note later there was enthusiasm from many, and there were instances where the costs associated with the research were deemed worthy: *"I consider this money well-spent, as one approaching senior status, I say thanks."* (BluesBerry, BBC News, Older Drivers).

Practices and concerns

The comments also provided insight into the practices people have within the broad domains of each project. For

example, reports on BinCam frequently elicited comments describing existing domestic concerns about recycling:

"At the moment, our council has some complicated matrix about which of the four coloured bins to leave out on which day of the week. We don't have room on our small terrace property for one bin, let alone four. And when you do leave some recycling out, the collectors don't turn up for some random reason. [...] The result? We don't bother recycling any more." (polhotpot, Mail Online, BinCam)

It was clear from the majority of BinCam data that domestic sustainability was understood to be more complex and systemic than persuading households to be environmentally responsible. There was a palpable anger that local Government provided poor information on what could and could not be recycled, when it is collected, and how reliable these collections are. Infrastructure concerns were also present in responses to the Digital Cheques articles:

"Where we live they closed the bank, with the cashpoint. Those businesses nearby haven't moved over to card based payments because of the cost. They each used to take cheques until the banks started to write on them that they were not guaranteed ... This means that you have to pay by cash. To get the cash you have to travel to the next town to get to a cash machine. To get the bus, train, taxi, etc., you have to have cash. This is a no-win situation ..." (Helen, Mail Online, Digital Cheques)

Those who still used cheques made cases in favour of their continued existence. As with the concerns of sustainability, many comments highlighted how the contexts in which the projects were situated required more than technical innovations. Any new payment method needs everyone to accept it in all locations otherwise, as articulated above, it would be useless for some.

Responses to articles on the Older Drivers study often included insights into problems related to poorly designed traffic infrastructure: *"The T-junction at the end of my road has such limited visibility on the right that I will always elect to go the long way road [sic.] to avoid oncoming traffic"* (allanpeter, Confused.com, Older Drivers). Others appeared to agree with the sentiment of the research, articulating concerns anxieties about driving on long journeys: *"Not because we are bad drivers, its for me confidence."* (JanB, Confused.com, Older Drivers).

Enthusiasm and iteration

While many of the comments express a negative opinion of the research—or at best ambivalence—there were still many cases where respondents were enthused by the ideas. A number of commenters thought the Digital Cheques would be a good idea if it meant the chequebook would continue to exist in the future. The fictional 'granny nav' was referred to as a "good idea" on multiple occasions, and many older respondents appeared excited at the prospect of these technologies supporting independent driving: *"Anything that can help the elderly maintain independence*

is good” (bogroll, BBC News, Older Drivers). Others critiqued the idea but suggested alternative uses for the data gathered from the navigation devices: “*I would gladly subscribe to a sat nav system that told me which roads these nervous oldies are using so I can plan my journey to avoid them.*” (FreeSpeech, BBC News, Older Drivers)

BinCam is interesting in this case as it was in many ways the most ‘successful’ of the projects in terms of the amount of attention it gained. Following the media response the research team were also invited to demonstrations at recycling expos, and have been asked to show the technology to school children to support education on sustainable behaviours. Despite this, there is very little enthusiasm for the technology across the articles and comments in our data. There are occasional defences of the research where articles have clearly misrepresented it (Mail Online’s description of BinCam). One article from a recycling expert referred to “*liking*” the idea because of the “*immediate and consistent nature of its reinforcement*”. What was particularly apparent with the BinCam articles was the tendency for user comments to include suggestions for new ideas. Some suggestions included ideas for better rubbish bins and the provision of clearer information from refuse companies so it is consistent across the country. One suggestion included the sharing of information to motivate behaviour change:

“Local authorities should publish the cost of their waste collection and disposal service, and offer an estimate for how much would be saved if, say, we all achieved 70% recycling. I suspect after that people will begin policing each other.” (porgythecat, The Guardian, BinCam)

Personal attacks

Finally, it is worth noting that some comments were just formed of offensive remarks. All three projects received rude comments, although BinCam’s were by far the most extreme. The BinCam researchers were personally insulted a number of times, with one comment referring to one of the authors as “*a person who is intrinsically not very bright, so has spent their lives hiding in academia rather than having to operate in the real world like the majority of us have to.*” (The von Horn, Mail Online, BinCam). Other insults were used to communicate extreme political positions: “*self-righteous tree hugging libs. I bet they’re A-OK with unborn babies being murdered*” (184ts, Fox News, BinCam). Racist and extreme views were also voiced. Research into the behaviours of Internet Trolls has frequently highlighted the extreme nature of certain online personalities and it is well-documented that people remove many of their social inhibitions when interacting with strangers online [28]. While the researchers were generally aware of this, they still expressed surprise at how hateful some comments were.

DISCUSSION

Working with the mass media clearly provides a number of issues for HCI researchers. By placing research into the

public domain it can be skewed, interpreted and construed in ways that would not be acceptable or expected within an academic community. These concerns are emphasised further when this information is given to large news outlets that, with their large audience, are in a position to sway public opinion against or in favour of research. As we saw in our analysis of the responses to the three projects, parts of the project can be reframed and reinterpreted to *become the research*. The ways in which research is reported can make it *open to criticism* and general scepticism, with the public actively questioning the *value* of the research. Furthermore, individual researchers can become targets for *personal attacks*.

However, misinterpretation could be considered useful as it provides a gauge for the political and emotional context of the work beyond the often-homogenous, self-selected and motivated individuals that may participate in the research. The responses from users of news websites articulated how the rhetoric of sustainability and recycling were quickly associated with concerns about being monitored by the authorities and the enactment of hierarchical governance. We observed how ensuring independence in later life is as much a concern for younger drivers as it is for older drivers—although these issues might be more about providing information and transcending ageist assumptions than radical technological interventions. We also read how cheques are a useless ‘ancient’ technology and at the same time a life-support for those who are unable to access modern payment services. Indeed, the responses from both media outlets and the public provided us with a diverse picture of the existing concerns and practices of people within each research domain. On occasion, these concerns matched those articulated in the research and the researchers were *praised* and *new ideas* suggested. We will now discuss further the problems and opportunities raised by engaging with the mass media in our three projects.

Gadgets, people and politics

Because the HCI community typically deals with issues where people are placed at the centre of technical concerns, research can be quickly contextualised and related to existing scenarios. This was done in many ways by the researchers and the MRM in the creation of the initial press releases. The Digital Cheque design was described with the example of someone paying for their shopping and returning home. In a similar vein, the BinCam press release included imagery of researchers cooking and disposing of waste. The technologies were located within quickly articulated and recognised scenarios and contexts. The problem here is that the brevity of a press release requires that these scenarios are reduced to a low level of detail and, typically, only one scenario can be provided, reducing the rich contextual detail that surrounds each project. This leads to two specific concerns we have for future HCI presentations in the media—focusing on details of the technology, and the politicisation of the research.

First, there was a tendency to focus on the technologies in the described scenarios. The easily articulated scenario in which the technology is described in the press release becomes the easily imaginable scenario in which the audience positions themselves and how the technology would, or would not, be used. This is to say that there was little attention paid to the intentions of the research surrounding the study and instead the discussions were centred on the technologies themselves. Importantly, this relocates the public understanding of design research from that about the phenomena surrounding an artefact to the artefact itself. For example, dialogues on the Digital Cheques focused firmly on how the design functioned. Comments frequently questioned how the technology would work, what use it would be and pointed out flaws in the designs. Many of the responses interpreted the research technologies as commercial products that would be marketed to customers, hence comments suggesting they “*would buy it*” and others questioning “*who would actually want this?*”. These types of reactions in themselves would be useful if we were trying to gauge the potential success of a new product with a target demographic. However, the commercialisation of the ideas was never the aim of any of the projects—rather they were ‘technology probes’ [15] and ‘provotypes’ [19] to provoke new behaviours, reactions and discussion. Yet the manner in which they were portrayed led to their interpretation as future commercial products.

Second, the focus on the relationships between technology and those who use it was deeply political. In BinCam, what was initially phrased as “*social nudging*” in the press release, making waste behaviours more transparent to only those households taking part, was reconfigured to mean being “*beaten with a stick*” and became deeply entrenched in political concerns about monitoring and financial penalties for not adhering to the demands of an authority. As noted earlier, while acting as gatekeepers to what is and is not reported on, what ends up being reported is often reconstructed in lieu of the political agenda of the news organisation. Hermann and Chomsky [14] take this further in arguing that Western mass media operates on a model of propaganda. In their analysis they ask questions such as who owns the media organisation, who funds it, where is the news sourced from, and what are their collective interests? The Daily Mail and MailOnline are good examples of UK mass media operating under a propaganda model. They are tabloid news outlets with a very clear conservative political agenda. The misrepresentation and condemnation of BinCam fits very well with the paper’s agenda—freedom from government control, free markets, and skepticism of climate change and environmental problems. While the propaganda model has been heavily criticized [20], it illustrates the inherent dangers of research being reported upon and reconstructed by the media.

HCI as a stimulus for public debate

There is very little dialogue with the media regarding how the research is situated in their articles. Occasionally a

journalist will contact researchers to ask for clarifications. On some occasions, clarifications provide further material for critique. It is rare that a journalist will allow researchers to view an article in advance of its publication. Once the press release is made publically available then control as to how it will be represented is beyond the research team. In the case of BinCam, one of the researchers responded to some of the negative feedback in user comment discussions. This was ignored. Those researchers who were interviewed on television and radio broadcasts were provided brief opportunities to articulate the research in their own words or to answer critique and scepticism. Yet again, it is the interviewer who has the final word.

While the researchers themselves are isolated from the discussions, opportunities were provided for members of the public to debate the pros and cons of the research. While the researchers across the projects did not always agree with the concerns raised, the scale of public responses to issues of privacy, ageing and road safety merited consideration for future studies. Clearly, however, the data available in both the journalists’ reports of the research and the readers’ responses must also be treated with caution. No survey would be taken seriously if it asked questions such as: would you like to be spied on by big brother, lose all freedom and have your spirit crushed? It should be no surprise then that the responses to the Daily Mail’s article on BinCam were overwhelmingly negative.

However, the comments do highlight tensions in the research domain and point to some limitations of user-centred design as it is often presented. User-centred design focuses primarily on the individual or the organisation. Third generation HCI is faced with much larger questions [6]. Increasingly research funding is directed towards addressing problems that are perceived societal challenges such as climate change and ageing. Here the focus is not simply on what is best for individual users, as there is a larger unit of analysis in play. With environmental sustainability what is best for the user is very unlikely to be sustainable. While the notion of passing ‘questions of use’ to the end-users [16] might work in studies where motivated, self-selecting participants are recruited to evaluate new ideas, it becomes problematic in a wider market where answers might be at odds with the challenges being addressed. The responses to BinCam and to a lesser extent the imagined ‘granny nav’ highlight these tensions.

Engagement beyond the mass media

Although many problems emerged from the media work it did provide opportunities for further engagements with interested parties and stakeholders. For instance, the Digital Cheques team’s main ambition was that the coverage would reach people working in the UK’s banking industry and make new contacts. While the Digital Cheques press release was the least successful in generating mass media and public responses it was very successful in facilitating access to an industry which, until then, had not responded. This

has subsequently led to the researchers being involved in consumer research with policy organisations in the British payments industry.

The BinCam team were open-minded in terms of the outcomes of their media work. The public exposure has led to a number of follow-on engagements with local schools, national and international exhibitions and with reality TV shows about technologies in the home. The sustained media interest has led to additional interest in the project within academia, with additional studies being carried out by international collaborators. The media interest, even when misinterpreting the project, validated the necessity to closely consider the issues in the research—an important result for what was an unfunded research project.

The Older Drivers team had mixed feelings regarding the outcomes of their work with the media. Like the BinCam team they had no specific expectations for the outcomes of this process. They were certainly disappointed with the coinage of the term ‘granny nav’, as subsequent media and public commentary focused on this in regards to the idea’s worth and the appropriateness of this terminology. But the team also gained from the process by forming new industry contacts and collaborators. Furthermore, the team were inspired by a large amount of personal communications from older drivers living within the local area describing their own problems and the significant value they saw in the research. This was to such an extent that recruitment of older participants significantly increased after the publicity, which helped continue future research on the subject.

Mass media engagements also have personal impacts on researchers. Coping with significant media and public critique of your research can be emotionally and physically exhausting. It rarely provides an opportunity to reflect and frequently individual researchers are as scrutinised as the research itself. At the same time, there are clear personal gains to be made from those who chose to work with the media. Despite some of the harsh criticisms of the research, the Older Drivers researchers felt vindicated by the personal communications they received from older people requesting whether their technology would be available for them to trial in their own cars. While many people (the authors included) are critical of the notion of academics ‘selling themselves’ to the media, it did in some instances open up opportunities for the researchers to receive positive recognitions of their work from members of the public.

CONCLUSION

We have provided a descriptive account of three research projects that have engaged with the mass media at different stages in the research and design process. We have illustrated how the research was often elaborated and constructed in new and often unhelpful ways by journalists and editors. The technologies described in the press releases were often taken to be novel gadgets and gizmos rather than research artefacts. Furthermore, the research often became politicised in ways that were far removed from the research

aims. While we have only discussed three examples here, there are grounds for considering that other technology oriented HCI projects addressing significant third wave challenges might encounter similar obstacles when reported in the mass media. We conclude by emphasising two key contributions of this work.

First, our three examples have highlighted a number of points about how to structure content in future press releases to give more or less pre-editorial control. Scenarios and images can be made more or less ambiguous to inspire speculation and critique. Relatively detailed explanations of designs (as with Digital Cheques) might lead to less debate and a focus on the functionality of the idea. Discussing wider societal challenges (sustainability/ageing) and leaving designs less well-defined could lead to debate about concerns in these contexts, or imaginings about how the technology might be used.

Second, we have revealed how tensions emerge when employers and their funders implicate HCI research as a vehicle for publicity. One result of revealing these tensions is that we could ask whether the mass media should be used at all. We have provided a balanced view on our experiences of the mechanisms of developing a press release and the ways this is interpreted by the mass media and, subsequently, those who comment online. All of the researchers in one way or another believe that the public must be informed about and provided the opportunity to become involved in research. Public dissemination is clearly important to universities as well. If it were not then they would not have Press Offices and relations managers to support academics and “*put out fires*” (-MRM) when it goes wrong. Yet we find ourselves having to question the efficacy of using the mass media as a route to the public dissemination of HCI research. Press Office support, no matter how well intentioned, is primarily serving the interests of institutional publicity rather than research interests—and so very often any publicity is considered better than no publicity.

We addressed mass media due to the overwhelming push in UK universities to use it as a mechanism for public engagement. Social media such as Twitter, YouTube and Vimeo comes with its own set of concerns that are very different to mass media but might provide greater control as to how research is represented to the public. Alternatively, mass public engagement could be taken to the streets—such as the introduction of agonistic public spaces where researchers and members of the public with overlapping and opposing agendas come together to challenge and be challenged by one another [3]. It occurs to us that both of these examples might offer more genuine dialogue between academia and the public than afforded by mass media.

Finally, we are not arguing that engaging with the public via mass media has no value. It alerts us to how designing for individual user needs and values might be in conflict with broader systemic challenges that both HCI and society

currently face. As noted, these engagements also brought follow-on benefits for the research teams, such as attending public events, new participants and new stakeholders for future projects. What we call for, however, is caution and critique in how these engagements are performed.

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