Bot Personas as Off-The-Shelf Users

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Abstract

This alt.chi paper proposes the concept of bot personas. These interactive personas act as off-the-shelf users, as they allow design teams to interact with rich user data throughout the design process. Bot personas, as always-on participants, hold several opportunities to address some practical and ethical challenges of involving real—human—users. Therefore, bot personas could be a refreshing technological approach to lower the barriers of involving users, and thus bridge labor intensive academic practices and the realities of a corporate context.

Author Keywords

Alt.chi; Bots; Chatbots; Conversational Interfaces; Data-Driven Personas; User-Centered Design.

ACM Classification Keywords

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

Introduction

As an academic researcher, I regularly attend presentations at UX meetup events targeted at commercial UX designers and agencies, have discussions with friends working in software design and development industry, and read industry cases in blog posts.

In a way it makes me feel connected, as I used to work on *the other side* before joining my current research group, and I will probably return one day. Time and time again, I am confronted with the things I take for granted in my research, but which are not evident in an industry setting—and the other way around. There seems to be a gap between our understanding of human-centered design, designing from an end-user's perspective, and the methods we apply to do so. The corporate understanding of user experience somehow seems to differ from what I see at academic conferences and read in papers.

At CHI 2016, I attended the highly interesting presentation of Marsden and Haag's *Stereotypes and Politics: Reflections on Personas* [17]. During this session, I started thinking about the thickness of personas. How far could we stretch this? Could we rely on technology and big data, and maybe go as far as proxy users? What would it mean to have technology infused research participants? And could this technological approach to our labor intensive methods serve the industry, and thus lower the barriers for our methods?

In this paper, I present the concept of *bot personas*. These interactive personas are inspired by the ongoing trend of chatbots and provide an interface for design teams to interact with rich user data. In its full utilization, bot personas could be considered as the thickest personas imaginable.

Related Work
Personas
Personas, as stated by Cooper in The Inmates Are Running the Asylum, are "*a precise description of our user and what he wishes to accomplish*". They are "*hypothetical archetypes of actual users*". Personas are not made up, but are the by-product of rigorous user research [8]. And although Cooper did not intend personas to be made up and thus replace any of this preceding research, using personas in practice proved to be challenging and this technique remains controversial up until today.

In 2007, Jason Fried of 37signals (now Basecamp) made an argument against using personas. To him, personas "*lead to a false sense of understanding*" as they are fictional. Personas don't talk, nor answer, nor have opinions. Instead of using personas, Fried suggests to *get real*, and involve real people when you are designing for them. [10]

Jared Spool responded that these useless personas are crap, as opposed to *robust personas*. Robust personas are well-designed, are grounded in research, and do result in better designs according to Spool. However, Spool also reported on a study on the use of personas, and according to his results less than 5% of the organizations who claimed to use personas conducted field research to inform their personas [26]. Years later, in 2014, Spool keeps stating that creating personas is a difficult thing to do, and requires *enough time*. [25].

Fried's idea of creating this false sense of understanding was confirmed by Blomquist and Arvola [3]. They performed a twelve-week field study to see how an interaction design team used personas in their design practice. While it seemed as if personas were really being used at first sight, their study revealed the difficulties for design teams to actually use personas in

their design activities. HCI literature contains several studies that report on these findings. Chang et al. looked at how personas are actually used [7], and found that only a small part of the personas is based on user studies. The remaining parts are made up by the designers. Data-driven persona development has been suggested, e.g. based on clickstreams [29] or statistical data [19].

Matthews et al. found that personas are mainly being used for communication purposes (so not for design), as designers find personas too artificial: they seem too abstract, impersonal, misleading, and even distracting. Nothing seems to beat real immersion in the user data. [18]. Although Nielsen and Hansen report on contradicting findings, they too question the commercial value of personas [21]. To conclude, Marsden and Haag discuss the politics of personas, and question whether personas actually help designers and developers [17].

Chatbots and Conversational Interfaces
Chatbots and conversational interfaces are hot topic in popular media. We now have a Chatbot Magazine [22] and a Chatbot Conference [23]. Design studios report their experiences with chatbots and several blogposts discuss design guidelines and principles for conversational interfaces (e.g. [12]). People can even create their own bot using DIY-platforms (e.g. [24])

Also serious chatbots emerged, e.g. Karim the therapeutic chatbot who is used to support refugees [1]. Bickmore et al. suggested a similar approach to empower low health literacy patients [2]. Their research shows that both patients and caregivers found this approach valuable.

Other uses of chatbots or conversational interfaces in HCI literature are ways to improve user input (e.g. answering machines [14]) or virtual receptionists [15]. The research of Lee et al. showed that if people do or do not greet a bot predicts their attitude towards bots [15]. Mone related the uncanny valley to chatbots: chatbots can't be too human to make them work [20]. Luger and Sellen did the same with the '*gulf of excecution*' and found that today, conversational agents seem to fail due to the poor mental models people have about these bots [16]. To conclude the uptake of chatbots in HCI literature, Blythe and Elizabeth Buie have written an imaginary abstract [4] about a chatbot as a *digital prophet* [5].

Bots are even being used as a tool within the design process. While UXChat aims to have a conversation with UX professionals [27], IDEO recently announced that they are experimenting with chatbots in their design process. They use bots as automated assistants to report on field studies [9] and as prototyping tool [6]. In their blog post, they even state that bots *are* personas as one of their learnings. They found that study participants will perceive the identity of a bot (e.g. its personality) whether or not this was intended by the designers.

Bot personas make deliberate use of the fact that people project identities to bots. But as opposed to the bots at IDEO, bot personas are not targeted at study participants but at the design team. Considering the difficulties to put personas to practice, and the potential of chatbots, bot personas seem promising for several reasons.

Bot Personas—A Thought-Experiment

Continuing on the idea of data-driven personas, bot personas would use that data to inform the behavior of chatbots. Many teams nowadays use communication tools that allow the integration chatbots, such as Slack[1], so bot personas could be deployed here as well. Bot personas would start talking and answering to the team. The personas could either react on what the team is discussing, or have sporadic outbursts of opinions.

Bot personas, as an interface on rich user data, give that data a face. These interactive personas can even act as off-the shelf users, like voodoo dolls echoing the figments of our envisioned end-users.

These off-the-shelf users provide a number of practical advantages. Instead of recruiting participants, all one has to do is to install the bot. Furthermore, these bots are always-on and available at all time. Using persona bots, you have a company-wide access to rich user data 24/7, regardless of your physical location.

Bot personas can be questioned at will, but can also be paused, ignored, muted, unsubscribed, and revisited at all times. You don't lose time explaining what you aim to do, and the bots will never not understand. They have the data, ready to be harvested, at low cost.

Bot personas don't require incentives, and they can't even be motivated to participate for the incentive, which would benefit the quality of HCI research and design.

From a research perspective, bot personas hold opportunities to scale the number of participants in our research, and allow mirroring, copying, mixing, and cloning. Using machine learning technology, bot personas could evolve over time, so we could breed an army of proxy users.

From an ethical perspective, bot personas are great as well. As they eliminate human–human interactions, while preserving the benefits of encountering different perspectives, ethical boards will love them. Real people complete questionnaires (can be both digital or on paper) or deliver input in an indirect way such as through clickstreams. That's all they do, so all they have to sign a consent form for. Before this data feeds the bot personas, the data can be anonymized. So researchers or designers don't talk to people, but to the data through the bots.

But do these persona bots work? Does this question matter? Because, similar to Lee's findings on attitudes towards bot receptionists [15], if researchers or designers start talking to them, doesn't that reveal these practitioners' awareness of the fact that they themselves are not the user? The continuous presence of the end-user through the bots will probably reinforce this awareness.

And regarding accuracy, the bar is set rather low. Real human users have surprising things they say and do all the time, so a glitch of the system should not be a problem. Furthermore, these real human users often don't seem to fully get what we're trying to do in our research—even if they say they do, they still have different expectations, or a mind of their own.

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[1] https://slackhq.com

Useless input might still emerge from persona bots, but socially desirable responses might become a thing from the past—as was proven by Microsoft's chatbot Tay who started making politically incorrect statements [11].

In summary, things probably won't get worse using bot personas. All things considered, the practical and ethical advantages outweigh the possible disadvantages.

Discussion & Conclusion
This proposal for bot personas was initially not intended to be a serious one. The (slight) humorous tone might have revealed that already. However, it does carry two messages: Why don't we just involve users/people, instead of doing so much effort to find proxies for end-users? And secondly, why don't we embrace technology (more) in our methods?

But first: a disclaimer. I do see the irony in submitting a humorous attempt at this year's alt.chi track, while making an argument against it at last year's [28]. I also see the irony in submitting a critique to personas, while my colleagues present a serious paper on behavioral-data-driven personas at this year's CHI [13]. We don't see both submissions contradicting each other. While my colleagues tried to ground personas even more, I took a different approach.

Regardless of how personas were intended to be, it is clear that they are perceived and used differently in practice. In a way, this paper wants to ask why don't we involve users/people more?

I have been working as HCI researcher in the domain of health for the past 3.5 years. During this period, I have encountered countless practical and ethical challenges in trying to involve both patients and caregivers in my research. In a way, this paper serves as an outlet for some personal experiences of trying to work with users/humans/people in this context. People managed to frustrate me in ways I did not expect (think of hopeless recruitment attempts, waiting for hours in hospitals for specialist who would never show up, …).

Still, I would not want to miss this for a bit. I would never want bots to take over the fun part of my work! I consider involving people and doing fieldwork as the far most interesting aspects of my work. I got fascinated by the different perspectives you encounter through user research. In a way, this paper aims to encourage people to do the same: talk with people! Even sporadic encounters broaden your mind and have a great impact, even beyond your work[2].

I agree, as an academic it is easy to say. On our cozy HCI island, disconnected from the real world, we have plenty of time and means to do so. To my peers I want to ask how can we adjust our methods to the realities of a corporate context? Could technology be an answer to this challenge? This concept of bot personas was intended as a thought-experiment to stretch the thickness of personas through technology, and by extension of our methods in general. Will technology allow us to go as far as proxy users? And what would that mean, both from a practical and ethical perspective?

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[2] Does being cheesy count as pushing boundaries?

As I thought about these bots for the past few months, I started to believe in the potential of using them as research and design tools. How could technology support me in my research, and address the practical and ethical challenges I encounter. How could my research benefit from technology?

Maybe bots will not work as replacement users, but the possibilities are endless. A bot researcher might even write my next year's alt.chi submission.

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