

Framing Personas: Enhancing Engagement and Perspective Taking

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Abstract

Personas are a tool in user-centered software design to make users' goals and needs tangible for the designers of the product. Engaging with personas is seen as a means for empathizing with users and avoiding product development from the developers' own perspective ("I-methodology"). In an empirical study with 59 participants, we investigated whether the instructions that framed the use of a persona had an impact on the engagement with the persona and the use of I-methodology. Using eye tracking, we showed that instructions mentioning a prospective brainstorming task lead to significantly longer visit durations of the persona description. Furthermore, the tendency to use I-methodology was significantly lower. The results of this study offer strategies using personas to enhance designers' abilities to adopt a different perspective for their further software development tasks.

1 Personas, Engagement, and I-Methodology

Personas are used in software design processes as a method to represent certain user groups and their special requirements, goals and attitudes (Cooper, 2004). The relatively short descriptions are meant to reduce complexity, make use of people's predisposition toward person perception, and induce empathy towards the users. Therefore, this method can help designers to adopt the users' perspective and design according to what their users might need or want (Pruitt & Adlin, 2006). One major concern regarding the effective use of personas is to make sure designers really engage with the persona and do not ignore it, e.g. because they find the persona to be implausible or its personal details irrelevant (Matthews, Judge, & Whittaker, 2012). Personas are an attempt to overcome developers' tendency to over-impute their own perspective onto others, which undermines the perspective taking performance. This egocentric anchoring, i.e. taking the self as a starting point and informing design through introspection – thus imputing the designer's perspective on the perception of the user and the design – has been referred to in many different ways (see Marsden & Haag, 2016). Research has addressed how to make persona descriptions appear like a plausible, authentic person to address this challenge (Grudin, 2006), how to make personas more engaging (Nielsen, 2013),

and how to avoid stereotyping when using personas (Hill et al., 2017). Previous research has focused on the persona itself, but little attention has been given to the way the persona use is framed and the persona use is instructed. In the present study, we examine how the instructions given to deal with a persona shape engagement with it and investigate whether this also enhances perspective taking.

2 Study: Impact of Instructions Framing Personas

Participants & Procedure – Fifty-nine graduates and undergraduates in the field of software development at a university in Germany, age 18-36 ($M=23.28$, $SD=3.87$; 39 male, 20 female) participated in the study in fulfillment of partial course credit. We randomly assigned them to one of two conditions. After receiving instructions about the usage of the devices and the procedure, they participated in the eye tracking study, filled out a questionnaire and were debriefed. We collected eye-tracking data by using a Tobii X60 EYE Tracker with preliminary data analysis in Tobii Studio.

Materials – We used one persona from a kit of personas that has been used in other research on personas and stereotypes (Burnett et al., 2016).



Figure 1: “Areas of interests” (AOI) and heat map of persona used in current study

The persona was presented on a computer screen and included a short instruction text, followed by a page featuring the persona description, which included some background information and a photograph and different text blocks describing certain aspects/characteristics of the persona, i.e. motivation and attitudes, information processing styles, computer self-efficacy, attitude towards risks, process-oriented learning vs. tinkering. Each of these units was defined as an “area of interest” (AOI) and we measured visit duration of these areas (see figure 1). As dependent variables, we measured the visit duration of the AOIs and the application of I-methodology. To operationalize I-methodology, we asked the participants how suitable they considered different types of software for themselves and for the persona, e.g. the suitability of “a complicated but helpful all-purpose application” or “a substitution app of Excel based operations”. Ratings were given on a five-point Likert scale. We

compared the score the participants gave for themselves to the score that they gave for the persona, to determine whether participants' ability to differentiate from their own point of view and the persona's, i.e. applying I-methodology, varied according to group membership.

Experimental Design – Our procedure featured two experimental conditions in a between-subjects design. Both instructions explained the procedure and mentioned potential studies in the future. For experimental condition A ("read only"), the participants were instructed to "imagine introducing a new feature of Microsoft Word for this kind of user. For the experimental condition B ("brainstorming preparation"), they were told that "later on", they would be "asked to do some brainstorming and come up with requirements for this kind of user". ANOVAs were preformed, all dependent variables were normally distributed according to Shapiro-Wilk tests.

Results – The participants who read the materials of the condition B ("brainstorming preparation") visited, in sum, the AOIs of the persona description significantly longer ($M=207.43$, $SD=58.37$) than the participants of the "read only" group ($M=170.94$, $SD=45.31$, $F=4.23$, $p=.047$). The analysis of the variable reflecting the differences between self- and persona ratings (values ranging from -5 to +5) revealed that condition B's participants differed more in their ratings ($\Delta M=-2.30$, $SD=1.75$) when evaluating the suitability of "a complicated but helpful all-purpose application" than the participants of the "read only" condition ($\Delta M=-.53$, $SD=2.31$, $F=10.57$, $p=.002$).

3 Discussion

The results of this study show that even small adjustments to the instruction materials influence the engagement with a persona. Participants who were instructed to be prepared to brainstorm requirements of the persona engaged with the materials longer and were less inclined to stick to their own perspective. Our interpretation would be to suggest that there is a causal relationship between the manipulation and the dependent variables: The anticipation of having to brainstorm requirements lead to a more extensive analysis of the persona. This then led the participants to adjust their egocentric default in reasoning about the persona. The other group's instruction, albeit featuring a concrete task, i.e. participants were supposed to think about a Microsoft Word application for this kind of user, was otherwise very vague ("try to imagine") and did not specify later references.

We suggest that the condition B's instructions were more effective because they mentioned a later task that participants were supposed to perform. The prospect being accountable for ideas and possibly losing face by not coming up with requirements let the participants be more alert and motivated. "Brainstorming" is a task that is very unspecified, so gathering a lot of information about the persona is essential. However, the phrase in condition A ("read only") about Microsoft Word, was either mostly ignored, as it was not clear if there would be a later reference and it was worded less imperative ("try to imagine" vs. "you will be asked to do") or bound some cognitive resources. The task itself is rather complicated because it requires not only gathering information about the persona but also transferring this

information into a special setting, which requires additional knowledge and creativity. This way, the task probably interfered with focusing on collecting information and (in combination with the reduced motivation) further let the participants refer to their own perspective when asked about (other) suitable software solutions for the persona.

4 Conclusion and Implications

Our results indicate that referring to an upcoming task that will be based on using the information presented can increase participants' engagement with a persona and help to reduce I-methodology. Therefore, design teams should not expect people to "automatically" engage with personas. Rather, if personas are presented to people who did not participate in developing them, they should be introduced at a point when a specific plan has already been developed regarding when and how the personas will be used. Future studies are suggested to examine whether different types of requirements affect persona engagement even further. Additionally, it should be investigated how the heightened engagement and the reduction of I-methodology affects the results of persona use.

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