

# The Personas' New Clothes: Methodological and Practical Arguments against a Popular Method

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## Abstract

We examine the popular Personas method and consider claims that personas can reflect empirical data and serve as an information source for development teams. We argue that there are significant methodological and practical difficulties for personas. It is difficult to determine how many, if any, users are represented by a persona, and thus is difficult to know whether a persona is relevant for intended users. Personas cannot be adequately verified or falsified and therefore have no demonstrable validity. We believe personas are likely to lead to political conflicts and to undermine the ability for researchers to resolve questions with data. We suggest potential research to evaluate the Personas method more thoroughly. Until the methodological issues are resolved, it is best not to consider personas to be a means to communicate data.

## Introduction

Proposed by Cooper in the late 1990s, the Personas method has gained increasing attention among software designers (cf. Cooper, 1999). In many software companies, it is now a standard component of user experience work. For example, from 2002 to date (June 2006), many hallways at Microsoft's headquarters campus have displayed posters describing personas used by various projects

(see examples in Pruitt and Grudin, 2003, and Grudin and Pruitt, 2002). The first author has counted over 200 personas in use by development teams across Microsoft (Chapman, 2005).

The Personas method advocates a psychologically compelling approach to communicate information about users to development teams (Grudin and Pruitt, 2002). The approach gathers information about users' needs, behaviors, and preferences, and uses that data to construct vivid descriptions about explicitly fictional individuals. It claims three advantages compared to more traditional user research techniques: (1) the ability easily to engage teams to think about users, thanks to memorable constructions; (2) the possibility for designers to extrapolate from the personas to make design decisions; and (3) freedom from problems that arise when a full spectrum of user data is presented, such as paralysis or inappropriate generalization (cf. Cooper, 1999; Pruitt and Grudin, 2003; Pruitt and Adlin, 2006).

As it has evolved, the Personas method has differed significantly across advocates. Cooper (1999), for instance, advocates a method that is based on limited information about users and is constructed to fit the goals of a design team. Pruitt and Grudin (2003) describe a method to create descriptions based on a significant mass of user data, which claims greater accuracy and utility. Although their approach notes that "Persona use ... isn't a science" (Pruitt and Grudin, 2003, p. 14), it claims empirical grounding and greater validity than previous approaches. Accordingly, we will evaluate this kind of empirically-grounded Personas method as a tool for communicating user information.

There is little peer-reviewed discussion of the personas method. The most comprehensive work to date (Pruitt and Adlin, 2006) is a compiled book

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advocating the method. There is no literature that systematically evaluates personas' methodology or utility in a comprehensive fashion (cf. Chapman, Milham, and ElRif, forthcoming). In our experience, user researchers and designers have varying opinions about the personas method, ranging from strong advocacy to skepticism. It is unclear whether the method's limitations are widely known among researchers, but in any case it is important for the advancement of the field that there are rigorous published evaluations of such popular methods. We hope that the issues we identify here will contribute to such public discussion.

Due to space limitations, we do not address other uses for personas apart from the communication of user information, such as serving for design inspiration with no claim to validity. Also, we do not describe alternative ways to share data without using personas (cf. Chapman, Burgess, and Ball, 2005; Chapman, Milham, and ElRif, forthcoming).

### **Methodological Weaknesses**

The most serious limitation of the Personas method is that it is difficult or impossible to verify that personas are accurate. This involves several aspects: a problematic relationship between personas and user populations; burdens on inference related to personas' high specificity; and the possibility that personas are non-falsifiable.

The first limitation is that any persona represents only a small portion of the potential user space. Given several personas, there is no good way to assess whether the group of personas appropriately represents the population of interest. How many users does a given persona describe? How important are those users for the project? If several personas represent several slices of the population, how many people fall between those slices?

This relates closely to the second problem: the curse of dimensionality. As the specificity of a persona increases (i.e., its number of features, or dimensionality), the proportion of the population that it represents decreases (hence the "curse"). Advocates of personas sometimes claim that

personas are based on empirical data. To demonstrate that, they refer to compilations of information about various characteristics and behaviors. Pruitt and Grudin explain that "links between Persona characteristics and the supporting data are made explicit and salient in the foundation documents. These documents contain copious footnotes, comments on specific data, and links to research reports that support and explain the Personas' characteristics" (Pruitt and Grudin, 2003, p. 5).

Unfortunately, one cannot use scattered data points to assemble a composite description with any known relationship to a population. Each additional datum – if it has any informational content – has a probability less than 1.0. As features are added, the overall probability of a composite decreases. However, that overall probability (i.e., population coverage) depends on the multivariate correlation of all of the data points combines. Multivariate correlation data is extremely difficult and costly to obtain, and has to our knowledge never been demonstrated for any persona. Without that data, one cannot know whether a persona represents a million people or zero. Thus, it is impossible to assess the persona's accuracy or relevance.

An example from the "Patrick" small business owner persona cited by Grudin and Pruitt (2002) demonstrates this. The list of characteristics includes "what Patrick does with technology", "the concerns Patrick has about his life, career, and business", and "what Patrick does when he is not at work." (p. 5). It is unclear what data underlies these or how many specific data points there are. Suppose we take these as attributes of users. In the Patrick list, there are at least 21 attributes, or variables (counting items that appear to refer to data). Imagine each of those represents a variable with uniform random distribution, independence, dichotomous values, and 0.50 base rate. Under those assumptions, the composite data for "Patrick" would represent  $(0.5)^{21} * 100\% = 0.000048\%$  of the population, or approximately 134 people in the United States.

In fact, none of those statistical parameters is known, so one cannot determine what portion of the population "Patrick" represents. The key point is

this: there is essentially no way to generalize from a well-specified persona to a population of interest, and thus no way to say anything about the users of interest. There is no way to distinguish which characteristics of a given persona are indicative of users and which are irrelevant. Personas are said to be “a conduit for information” (Pruitt and Grudin, 2003, p. 10). However, that cannot be asserted unless the information content is determinable.

The final problem is one of validation and theory testing. How could a persona be validated? More specifically, what possible real-world data could *falsify* a persona? (cf. Popper, 1963). Because personas are admittedly fictional, it would seem that there is no way to falsify them; no data can disprove a fictional construction. Therefore, they are outside the scientific method and cannot be verified. Suppose one cited data and asserted that “Patrick”’s attitudes and behaviors were unrepresentative of small business owners. A persona creator could simply claim that contradictory data didn’t matter, and there would be no way to disprove that.

The persona literature asserts that personas can be “validated” and appeals to other methods such as interviews and ethnographic research to do so. However, there are no examples of specific data and how it proves accuracy. Instead, there are procedural and evidential claims such as these:

- “after our Personas were created, we set up ‘sanity check’ site visits with users who match the Personas on high-level characteristics to see how well they match on low-level characteristics” (Pruitt and Grudin, 2003, p. 6).
- “information architects were able to successfully create personas” (Sinha, 2003, p. 2)
- “[The design team] experienced that they sometimes designed for [persona] Richard and that he played an important part of their design work.” (Blomquist and Arvola, 2002, p. 199)
- “Obviously we would have preferred to speak with customers, but because of time, budget, and privacy concerns, we weren’t able to”, yet “[Nevertheless] we found the [persona] storyboards to be a more powerful tool for communicating customers’ needs to the

stakeholders.” (McQuaid, Goel, and McManus, 2003, pp. 125, 124)

In none of those cases are we told precisely how success was defined. To our knowledge, no critical tests have been proposed in the persona literature, nor is there an example where a persona was refuted by data.

Unfortunately, both personas themselves and the raw data used to develop them are generally protected by non-disclosure agreements. Without verifiable data, we have nothing more than assertion of validity by persona creators and advocates themselves.

### **Practical Limitations**

Even if the methodological problems were overcome, the Personas method suffers practical limitations. Two significant issues involve how personas are reconciled with other information, and who is responsible for interpreting them.

It is not surprising that fictional personas would frequently conflict with other sources of data. Development teams receive information about users from many sources: self-observation, friends, technology media, marketing organizations, analyst reports, conferences, support cases, and so forth. They form impressions about customers and those naturally show variance from the precise data presented by personas. An example might be a senior manager who has a sister who is a small business owner, where the sister’s needs differ from those of, say, the “Patrick” persona.

What happens in that case? There are two likely responses: the manager will either accept the persona – believing that it is based on superior data – or will reject it, preferring to trust his or her own observations and insight. In the latter case, there is a situation where the dynamic is less about understanding customers and more about asserting power. For instance, Grudin and Pruitt describe an example where a senior manager tore down posters of a persona that he wanted team members to ignore (2002, p. 6). A common resolution appears to be that teams create or use personas at the request or demand of various power brokers. In extreme cases, we have seen development teams using 50 or more

personas (Chapman, 2005). At that point, they are nearly impossible to remember, much less to use for design guidance.

This leads to the second problem: who is responsible to ensure that personas are understood and used appropriately? One goal of a persona is to communicate enough information that development teams are able to understand customers in depth and draw inferences about them. What happens when different team members draw different inferences? Or they misremember the persona? Or they create another persona alongside the creators' sanctioned ones? We believe user research teams should not have to police those activities.

This is an elaboration of the political problem. In general, there are three potential outcomes: assertion of authority by the persona creators; relegation of personas to a minor role; or individually idiosyncratic usage, in which the personas mean little as inferences and alternatives proliferate. Each outcome argues against using personas. The first is undesirable because researchers' political capital could be better and more effectively used when data is demonstrable and rationally defensible. The second and third would mean that a personas effort failed at its own goal to have influence.

Concern about political usage of personas is supported by two published studies. Examining three projects, Rönkkö (2005) found that personas had limited value to inform design, but served primarily to justify decisions that were actually made on other grounds. Another study suggested that political dominance caused the application of personas to fail (Rönkkö, Hellman, Kilander, and Dittrich, 2004).

## Future Research

Despite our skepticism about the Personas method, its efficacy is open to debate. There have been no adequate studies addressing the reliability, validity, or utility of the method. To rectify this, we suggest the following as potential idea sketches for future research.

- Create a set of customer data. Give it to independent teams and ask them to create personas. Do they arrive at similar results?
- Develop sets of real and fictional customer data, and personas based on each set. Can researchers identify which personas are based on real data and which are not?
- Educate a team with personas, and ask them inferential questions about user behavior. Do they arrive at the same inferences? Are the inferences correct?
- Assign multiple teams to design the same product, where some teams use personas and some don't. Which teams create products that are more usable?

## Conclusion

We have reviewed the claim that personas can be created on the basis of customer information and used to communicate information about users. Methodological issues suggest that personas likely have no determinable relation to real data, and therefore their validity is impossible to ascertain. Practical considerations suggest that persona use may involve teams in political conflicts about who better understands and represents customers. Those disputes will not be amenable to resolution on the basis of personas' claimed empirical support. Until more is known about the relationship of personas to verifiable user data and behavior, the method should not claim to be a source of data for development teams.

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