Creating Effective Personas for Product Design: Insights from a Case Study

Frank Y.Guo[1], Sanjay Shamdasani[2], Bruce Randall[2]

[1] 370 Goodwin Drive, San Bruno, CA 94066, USA
[2] 30 Liberty Ship Way, STE 3320, Sausalito, CA 94965, USA
frankyguo@gmail.com, sanjay.shamdasani@springstudio.com,
bruce.randall@springstudio.com

Abstract. Personas are a popular tool for product design professionals. However, controversy exists in the product design community in terms of its validity and applicability as a vehicle for client insights. Based on persona development work we have performed for a financial services company, we propose best practices that could help create more useful personas in support of product design.

Keywords: web design, product management, persona, client insights, user experience, user research.

1 Introduction

A popular design tool, personas are useful in helping product design professionals adopt a user-centered design approach. However, effective personas can be more difficult to develop and apply than other types of client research insights, such as UI design recommendations based on usability studies and wireframe evaluations. In this paper we will present analyses and recommendations for how to avoid common pitfalls and improve the way personas are developed and leveraged through the entire product design cycle – from developing business requirements, product concepts, functional specifications and web content to creating the interaction and visual design of the user interface. We will illustrate our points through a case-study approach, drawing upon our extensive experience with persona creation in software, eCommerce and financial services industries and, in particular, learnings from a persona project that we completed for a major financial services company.

1.1 Background and our Research Approach

A few years back, when one of the authors joined a financial services company to start the web market research function for its fund business, there had been little insight into how their clients interacted with the website fund family website. The site provides product information, education, and market insights to financial professionals and individual investors who are interested in the company's investment

products. The authors worked to establish user research as a foundation to inform the strategy and design of the website, conducting a number of usability studies and wireframe evaluations for various website design projects. However, it became clear that we still lacked a baseline understanding of the key target audience: financial advisors who use the company's products as part of their client portfolios. The usability studies we conducted shed light on key UI design improvements needed for specific web pages and web-based applications, but they did not provide a fundamental picture of how the advisors think, what role the site plays in their overall business process, and what motivates them to come to the site instead of competitor sites. Against that background, we started considering research that would fill this gap.

After discussing the organizational needs with internal business stakeholders, we decided to utilize personas, fictional characters representing user archetypes, as the research deliverable in which we would package the insights. Each persona was to include a summarized description of the character's personality, motivation, and behavior. Our decision was based on the notion that the personas would help designers and product managers to obtain a user-centered perspective [1]. In contrast to conventional client research reports that contain lengthy details, personas contain vivid descriptions of users that help product design professionals develop an intimate and internalized understanding of the target audience, making it easier to design specifically for that user.

Often, when developing personas, a team will begin by performing an ethnographic study with a reasonably large sample size in order to provide an in-depth understanding of users in a contextually meaningful manner [2]. Due to cost-benefit considerations and access to a large amount of pre-existing ethnographic research on the same user base, we decided to employ a two-step approach that combined leveraging existing client insights and conducting user interviews. First, we reviewed the existing web user research the firm had produced over the previous three years to develop hypotheses regarding our financial advisor users' core behaviors, motivations and attitudes in relation to the website. This research included a previously conducted ethnographic study for the business and a number of usability studies we had conducted for the web site. In addition, a number of personas had already been created as part of the previous ethnographic research for the financial advisor clients – these personas were not developed for the web, but could still serve as a good starting point for our work. After developing our hypotheses based on the existing research and identifying gaps in our understanding, we conducted one-on-one interviews with ten advisors in which we explored their daily activities, organizational composition of their firms, job-related pain points, tasks, a day in the life, and so on. Based on the findings from these interviews we developed two distinct personas.

1.2 Components of the Web Personas we Created

In developing the personas, we took into consideration the professional nature of the users we were representing. It was clear that our personas needed to emphasize business-related elements such as online and offline tasks, business processes, organizational structure, measures of success, and so on. At the same time, we wanted

to provide a window into the user's psychological world, exposing the motivations and personal beliefs that drive their overt behavior. Based on these considerations, we included the following components when constructing the personas:

Primary goal, background, key motivations. We started each persona by including a picture of a randomly selected professional. Then we included a *primary goal*, which states in one sentence the primary objective the persona wants to achieve relative to his/her job. Next we included a *background* paragraph, which highlights the professional background of the persona. We then included his/her *key motivations* for visiting the web site and why he/she visits other financial websites. These components create a picture of how this type of user thinks and behaves, and describe their primary motivation relative to their investment advising business.

Mindset, objectives/needs related to mindset, and behavior to meet objectives/needs. In this section we provided more detailed information about the personas, focusing on their psychology and behavior. In doing so, we included three components: *mindset*, *objectives/needs*, and *behavior to meet objectives/needs*. *Mindset* refers to high-level categories in which the users organize and think about their core activities. We uncovered four distinct mindsets through the research synthesis and user interviews for the financial advisors relative to their web behavior: *research*, *building investment strategy*, *servicing and prospecting clients*, and *maintaining expertise*. Mindset in itself describes at a very high level how users think and what activities they group together in their minds. In order to describe in more detail what the user tries to achieve within the mindsets, we included a number of *objectives and needs* associated with each. For instance, when an advisor is in the research mindset, he or she could have a number of specific needs such a need to track the overall stock market, a need to understand the performance of a client's portfolios, a need to compile useful information to pass to clients, and so on.

Mindset and objectives/needs describe the psychological aspects of the personas. In order for the persona to generate actionable product ideas that effectively support user tasks, there is a need to provide an account of *user behavior*. This is accomplished in the "behavior to meet objectives/needs" component. Here, we described the types of tasks and activities that advisors are engaged in to meet their objectives and needs. Some examples include going to Yahoo! Finance to obtain market news, using a financial tool to conduct finance-related analysis, going to a fund provider website to get detailed fund information for funds belonging to that fund provider, and so on.

Priority scale. Different personas have different sets of priorities. For example, a financial advisor who focuses on constructing winning portfolios for his clients will place high priority on research and low priority on communicating with clients; for a financial advisor who focuses on communicating with clients, the priority is the other way around. Listing out priorities for personas helps us prioritize web projects to be consistent with user needs, and helps us to understand which persona a given project is most likely to appeal to. In order to give readers a quick overview of such priorities, we included a priority scale for each persona we developed. Below is an example that illustrates how this is done for one of the personas that we created:

Fig. 1. An illustration of Priority Scale as shown in the Persona document. The priority scale helps product professionals have a quick view of the relative priorities of a persona.

1.3   Web Personas Uncovered

Through the research, which consisted of a synthesis of previous internal research and interviews with ten financial advisors, we uncovered two major web personas for the advisor web site users. One persona, called Thomas in this paper, focuses on creating winning portfolios for his client, and the other, called Lindsey in this paper, focuses on building a bigger client base to drive business success. Thomas, in support of his key goal of creating quality client portfolios, places emphasis on conducting research and building robust investment strategy. His typical web behavior includes conducting in-depth portfolio analysis, using specific analytic tools such as spreadsheets and financial software, following the commentary of a few trusted industry experts, and so on. Lindsey's key goal, on the other hand, is growing business by expanding her client base. She places a greater focus on building client relationship, and consequently her typical behavior supports a client-focused mentality. She stays on top of world events in order to answer clients' questions, gathers investment information to share with clients, updates her investment expertise to appear confident and capable when interacting with clients, and so on. While both personas perform similar web-related tasks at a first glance, the ways that they perform those tasks differ due to their different underlying motivations. Thomas seeks quality, depth and accuracy in information and analysis, whereas Lindsey seeks higher-level information and conducts investment analysis that can benefit her conversations with clients.

2   An In-depth Look at the Persona: It's not what you think it is

Personas are a commonly used, yet sometimes controversial design tool. Within the design community, one can find different opinions about what belongs in a persona, how personas should be created, how personas should be used and what value personas offer. While the authors had extensive experience creating and using personas prior to this project, we gained many additional insights regarding how to best leverage this tool. We will point out common pitfalls we have seen in using personas and suggest best practices based on our learnings.

2.1 Personas Describe a Mentality and Behavior, not an Actual Person

A common practice in using personas is to treat the persona as corresponding to a particular person. For instance, in an eCommerce context, hypothetically we might identify two personas, one called Impulsive Shopper and the other Cautious Shopper, and are tempted to classify actual web visitors to eCommerce sites as either Impulsive Shoppers or Cautious Shoppers. While this approach is a convenient way of applying personas, it can create serious issues. A given user may or may not assume one persona all the time – he or she might behave in a way consistent with one persona in some occasions and with another persona under other circumstances. For instance, a particular shopper might be an Impulsive Shopper when it comes to small purchases and Cautious Shopper when it comes to big-ticket purchases.

Let us take eBay shopping for another example. Considering eBay's business model, one might assume, in a highly simplified manner, that eBay has two primary personas, conveniently called Auction Shopper and Fixed-Price Shopper. Auction Shopper likes to participate in auctions because of the great deals available there and the excitement associated with the bidding process. Fixed-Price Shopper on the other hand enjoys the convenience of buying items with a fixed price. Any given user who shops on eBay.com could assume both personas under different circumstances. For instance, when shopping for collectibles, where great deals can be had through auctions, the user tends to assume the Auction Shopper persona and behave accordingly, employing auction tactics to get better pricing, checking price updates once every 20 minutes, and so on. Yet when shopping for new-in-season items, where auctions do not provide great deals, the user might assume the Fixed-Price Shopper persona and behave more like a typical online consumer, looking up merchandise, adding it to a shopping cart, and making payment immediately.

Based on the above observations, we can define web persona as an "archetype" comprised of the characteristics, goals, motivations, and activities of real web users. Defined as such, a web persona reflects a contextually valid representation of a user in a particular part of their online activity, rather than a real person, who may assume one web persona in one situation and a different persona in another situation.

2.2 Persona does not Equate to Market Segmentation

The above discussion points to a rather important distinction between personas and market segments. Whereas both attempt to describe the different types of clients for a particular business and they might look rather similar at a first glance, they are quite different as vehicles of client insights. Market segmentation tries to classify clients into a few categories based on similar attributes and also identify the distribution of these segments within the entire client population. For instance, a retail business might have a number of segments such as 10% top shoppers, 70% regular shoppers, 10% occasional shoppers, and 10% rare shoppers, based on the dollar amount spent. These market segments are different from personas in that they try to identify quantifiable traits of shoppers rather than capture hard-to-observe psychological dimensions. Therefore each client can be classified as belonging to a particular segment, and the size of these segments can be readily determined. Market

segmentation helps business decision makers identify business opportunities of the different sectors of the client base. On the other hand, personas are used to help design professionals in generating ideas and solutions based on in-depth knowledge of user attitudes and behaviors. Instead of emphasizing quantifiable qualities such as age, educational level, and purchase behavior, personas typically focus on creating a summary of the different types of attitudes and associated behavior in an easy to digest format. Therefore personas may or may not have one-to-one correspondence with market segments. As such, we advise practitioners to use personas as a tool to absorb client insights and generate product ideas rather than a way to determine the sizes of client segments.

2.3 Avoid Being too "Fluffy" and Stay Relevant and Accurate

As mentioned above, personas are not without limitations as a design tool. Central to the controversies surrounding personas is the perception that personas are too "fluffy" because they often include details about users' personal life that are irrelevant to product design. For instance, a typical persona might contain descriptions such as "Nancy came from a small town and moved to San Francisco 10 years ago. She is a mother of three boys, one in high school and two still in kindergarten. She likes movies, hiking, golfing, and is a good cook, and she is also a member of a book club." This demonstrates a common practice of persona development – adding a lot of personal detail to make the persona appear more like a real person. This practice does let people resonate with the personas at a personal level. However, in most cases such details offer no recognizable value to the design team and are generally not supported by research. For instance, unless we are designing a product related to sporting goods, knowing that the persona likes hiking and golfing probably does not help generate actionable product or interaction ideas. Furthermore, by including too many personal-life details, the persona might begin to misrepresent actual users. For instance, most of the users probably do not come from a small town, have multiple kids, like golfing, or attend book clubs. Making design decisions based on these non-representative details could result in products or interactions that are irrelevant to user needs.

Here is one way in which we can improve the Nancy persona. If the intention here is to convey that our users move from elsewhere to a large city in seeking better opportunities, instead of saying "Nancy came from a small town and moved to San Francisco 10 years ago", we can rephrase by saying "In seeking better job opportunities, Nancy came to San Francisco after graduate school and took a number of professional jobs." This way we remove fluffy and irrelevant information and replace them with content relevant to a key point that we want to convey: *Nancy is a career-driven professional with a good education.*

2.4 Attitude vs. Behavior

A persona should consist of both attitudinal (e.g., motivations, beliefs, desires) and behavioral (e.g., tasks performed, information sought, websites visited, web tools used) traits of users in order to drive product decisions. However, we've found that

many personas are created in a way that puts more emphasis on attitude than behavior. This probably has something to do with how personas have traditionally been used in the web design field: helping designers develop a user-centered perspective through empathy created by vivid and believable description of users. Many personas do include information about user behavior, but they treat such information in a cursory manner and do not incorporate enough detail or accuracy. Such emphasis on describing personality rather than behavior can create problems when people are trying to apply the personas: while we might be very familiar with a persona's personality and background and feel comfortable referring to her when designing the product, we still lack details about exactly what such a person would do and what kinds of information they look for. Including a balanced mix of attitudinal and behavioral information about users in the personas not only helps professionals empathize with users, but also lets them develop product features that provide robust support for user tasks.

2.5 Personas should be Developed for a Particular Purpose

A commonly accepted best practice states that effective personas are developed as part of a well-defined objective, which specifies the context in which the personas will be used and the user population they represent [1, 2, 3]. Our experience with this persona project supports this thinking. The work we performed was aimed at creating a better experience for online financial advisor users; therefore our personas were developed based on financial advisors' online behavior, and contained details specific to their online behavior and contextually relevant behavior. We identified two distinct sets of motivations and behavior, which form the two personas that we produced. It is possible that in relation to the offline world, these two personas no longer apply or there might be additional personas emerging. By defining the domain in which the intended persona work applies, we can create personas that directly impact product decisions related to that space. And in order to support additional projects that are related to a different space, new persona work needs to be performed. For example, if we want to develop a mobile experience, we should not assume that the web personas apply as is. It is likely that different types of personas with different priorities and tasks would emerge from a mobile usage angle. Interviewing users relative to their mobile usage to come up with mobile-specific personas is recommended for this particular purpose.

3   Application

We have discussed the process of creating financial advisor personas for a fund family website and best practice insights gained through the process. In this section, we will turn to the application of personas. We think the most valuable way of leveraging personas is to get product design professionals and business decision makers to adopt a *user-centered* approach towards planning and design. Because they provide a clear view into the end user's needs and perspective in an easy to digest format, personas can help to inform any decision that we make about the products

used by the personas' representative users. Below we will explain how a client-centered product design approach can be driven by personas in relation to developing product requirements and designing user interface.

3.1 Inform Product Requirements Using Personas

Before starting to design a product, we need to have a product vision and associated product requirements in place. This is the phase in which product managers and business analysts work on the overall concept and functional specifications of the product, before the actual interaction and visual design takes off. In this phase we need to understand who will be using the product, for what purposes and under what circumstances – and how that would increase the bottom line for the business. Below are some key areas where personas can help with creating product requirements.

Exploring and evaluating product opportunities. Before we even determine which product we should develop, it is a good practice to explore and evaluate product opportunities based on business and user needs, and then narrow down to a particular product that the business would like to move forward with. At this stage, personas can be a handy tool for guiding exploration and evaluation based on what users want. For instance, by comparing the behavior and needs of the personas to what the website is currently offering, we can easily identify places where users could use more help and then come up with a product solution that fills the gap. In the hypothetical eBay persona examples mentioned above, the Auction Shopper likes to be constantly updated about the bidding process in order to win the auction. Based on such information, great opportunities exist for eBay to come up with a mobile app that sets auction-progress alerts on mobile devices. Please note that whereas coming up with product ideas based on user needs is nothing new, leveraging personas for this purpose can make this exercise much easier because there is no need to dig up information about users – the personas already contain all of that in a summary form.

Prioritizing product for the right target users. When designing a product, personas can help to prioritize the product for the right audience. Consider the personas that we created. If we plan to launch a new web-based advisor tool for helping advisors conduct various investment analyses, product managers can think about the target audience by having a conversation about which persona the product should support: Thomas, Lindsey, or both? It we are thinking about a tool intended to provide cutting-edge investment analysis, then it should be optimized for Thomas, who focuses on constructing winning portfolios for his clients. If we are thinking about a tool intended to provide comparisons across different mutual funds and exchange traded funds, then it should support the needs of both Thomas and Lindsey. It would support Thomas because fund comparison is an integral part of constructing winning portfolios, and it would also support Lindsey because effectively comparing various funds adds great value to client communication, which is one of Lindsey's primary motivations. By having a conversation around priorities, leveraging the insights provided by the personas, we can help bring clarity about the types of users the product should be optimized for.

Defining functions and content. After determining the primary personas the product should support, product managers can use the tasks and activities details

contained in the personas to help define the functions and content that should go with the product. For instance, in the above advisor web tool design context, they can look up the data points that the target persona looks for and include those in the tool, and also include functions that support the various tasks that the target persona performs. They could also leverage the priority scale mentioned above as a guide to prioritize functions and content based on what is important to the personas.

3.2   Inform Design Using Personas

Once the product vision and requirements are in place, we are in the phase of creating the design. Using personas has had great popularity among designers because personas provide an easy-to-digest portrayal of users that facilitates user-centered design. While personas do not provide designers with answers to all their design questions, they do assist designers in focusing on the core user goals and supply them with relevant information and insights to help them produce a solution that supports those goals.

There are many ways of leveraging personas in improving design. We will focus on illustrating a few specific areas that we think could greatly benefit from the use of personas.

Designing information architecture and navigation. Coming up with sensible information architecture and navigation is typically the first step of the design phase. Information architecture speaks to how a website or web application is structured, and navigation is about how users travel from one place to another on the site or application. An effective information architecture structures content in a way that maps to the way users think about and interact with that content. Similarly, an effective navigation scheme supports the user in easily finding a path through the site or application that allows them to accomplish their goals. This can be relatively easy for a simple site or application, or very challenging for a site or application that supports a large number of goals for many different user groups. In either case, personas are a valuable tool in designing and cognitively testing proposed solutions.

The authors will often begin the process by describing in scenario form each of the core use cases for each persona, and sketching architectural and navigation solutions that meet the needs of each scenario effectively. This is an iterative process in which each scenario contributes more information, possibly driving changes to the proposed architecture and navigation. By the end of the process, the design team will have performed a cognitive walkthrough of each core use case for each persona, and created a solution that appears to effectively support them.

Organizing content and functionality. When laying out content and features on a webpage that supports multiple audiences, we can leverage personas in informing how these elements should be grouped. The idea is that each persona is focused on a unique set of tasks and information, and therefore locating content for each persona in close proximity should help users easily find content related to their primary objectives and thus help them accomplish their specific tasks. For example, if a webpage supports both Thomas and Lindsey, the two personas that we developed, then content that supports Lindsey's goal of better advisor communication with clients can be placed in one content container (e.g., a table) whereas content that

supports Thomas's need for advanced analytics can be placed in another content container on the same page.

Designing task flows. Well-developed personas should contain information about the flows or sequences of how users engage in various activities, and such information can be used to improve the design to make it easier for users to accomplish their tasks. For example, in the Thomas persona mentioned above, we outlined the sequence of how Thomas conducts investment research. He starts by viewing generic financial sites and forming investment ideas based on the information reviewed, then he views a specific fund provider site to do more in-depth research, and finally he uses the proprietary software application provided by his own firm to synthesize all the information to develop his investment analysis. This understanding can help designers think about how pages on the website should be sequenced and what kinds of actions should be available on each page to better support users' tasks.

Optimizing marketing messaging. Another important way of leveraging personas is to determine the right messages for the target users. First, consideration should be given to what persona a message is intended for. Then the message can be refined by leveraging information about the persona's motivations and background. For instance, if a message is created to promote a financial analysis tool intended for the Thomas persona, we need to highlight the fact that the tool has robust functions and can support in-depth investment analysis. On the other hand, if the tool is intended for Lindsey, then the associated message should emphasize that the tool can be used to create presentations to facilitate an advisor's conversation with her clients.

3.3   Where Personas End and Additional Client Research Begins

When we look at the entire product design and research cycle, persona development is typically done at a very early stage to provide baseline and highly summarized insights about users and their behavior. This helps to inform the overall product direction and design approach. As the design process evolves and we require more specific insights, such as how to improve usability and visual design, the information contained in personas is no longer sufficient to inform design decisions, and additional user research such as wireframe evaluations and usability studies should be conducted. That said, personas can be valuable in keeping a user focus and encourage us to align all design efforts with user goals throughout the entire design process.

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