

“Creating Personas for e-learning Systems”



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ABSTRACT:-

This paper discusses the persona as a typical representative model of real user, which is created based on variety of collected data from users. Once it is created, personas may be used during various phases of system (or product) design life cycle, giving designers an insight of users' requirements and expectations without consulting the target users all the time. The common approaches of creating persona has been discussed and the process has been demonstrated using an example of e-learning system.

Keywords: User Persona, Persona Design, e-learning Systems.

1. INTRODUCTION

User personas are the primary tool for the user-centered design approach, which allow designers to prioritize the design considerations by providing a context of what the user needs and what functions

are simply nice to include in the product. User personas help in describing the users' characteristics, in terms of their needs and challenges, in a meaningful and more actionable manner, thereby helping development teams with the rationale to take their decisions on, related to product's design, features and functionality [1]. Personas also helps the team in validating the product's features. Persona is fictitious character synthesized to describe the typical user based on the user profile. Using persona, the voice of users may be heard even when they are not physically present. Personas summarize the user research findings and helps in designing products and creating documentation matching the user requirements.

Multiple personas may be developed for each user type to reflect the range of characteristics. This helps the designer in building a product work for all types of users. The main purpose of using persona is to represent a group of end user during discussion of the team or in design development process and keep everyone focused on the same objective. Personas help team members to feel connected to the users, though fictitious. Persona is key to identify our real users profile, wants, expectations and end up with user-oriented product and/or service. Also, provides in-depth understanding of user segments, goals, and motivations. The goal of persona is to help the product teams better understand the users and thus improve their products [2].

2. APPROCHES TO PERSONA DESIGN

Creating persona usually involves interactions with users with an objective to understand their goal tasks and attitudes. These give us insights into their objectives, challenges and expectations from each stakeholder [3]. Personas may be created within weeks time even by conducting interviews with internal users or with 10-20 target users, which requires relatively very low cost, time and effort. On the data gathered, the qualitative and quantitative analysis and research is performed to reveal the general characteristics of the users. Based of common traits of users, various segments are generated, each of which may represent a persona.

A. Qualitative personas

Most of the organizations create personas by using following steps:

1. Organizations generally conducts interviews, including 10-20 users, or field studies where they observe users in their native environment (their workplace or their home), and can thus observe

their behavior while also asking about goals and attitudes. Other methods like usability testing to observe behavior, may also be used for generating personas but are less common.

2. The users having commonalities are segmented into various groups based on the results of qualitative research. The goal is to discover patterns that helps to group similar users together, thereby generating a type of user. This segmentation is typically based on their goals, attitudes, and/or behaviours.
3. Each segment of user represents a persona and to identify each one is assigned a name, a photo, demographic information, scenarios, and more.

B. Qualitative personas with quantitative validation

These are the basic steps:

1. The qualitative research is conducted to find out the user goals, behaviours, and attitudes.
2. The segmentation is done based on particular user goals, behaviours, and/or attitudes, which results into various groups of users, each eventually representing a persona.
3. The resulting groupings are further tested using a larger sample size to be more confident that each group accurately reflects the reality. This quantitative research results in a greater confidence in the segmentation done in the previous stage.
4. As a result of quantitative research relatively more realistic personas can be generated for each segment, which are supported by statistical significance.

C. Quantitative personas

A third approach which is more common for creating personas is explained below.

1. The qualitative research is conducted to reveal the user goals, behaviours, and attitudes.
2. The qualitative research is used to come up with various potential ways that may be used to segment the users. The aim is a list of a variety of candidates to analyze.
3. For each potential grouping option, there are set of particular questions which may constitute a survey. The quantitative research in this approach provides a sound basis to assemble more data for the next step.

4. Statistical algorithms and cluster analysis techniques may be used for revealing the patterns of users or segmentation.
5. The resulting clusters or segments represent various personas, which may assigned names, photos, and scenarios to treat these as real users.

Once the persona is generated, it is tagged with an identification, which contains type of users and demographic information [4]. Users may be Primary users (direct users of the product), Secondary users (infrequent users or who uses the product through intermediary), Tertiary users (affects purchasing decisions) and Anti users (not a user of the product). User demographic and behavior data obtained from real user observation provide valuable information for designers. In general, a persona includes:

- Identity: gives the user first and last name and other demographic information, also includes a picture as well.
- Status: is the type of user like primary, secondary, tertiary, or anti-user of your system?
- Needs, Desires, Goals: what are the user goals? what does the user need?
- Expertise: tells background and expertise of the users (including training, education, etc.)
- Tasks: what is the critical tasks the user conduct? What is frequency, importance, duration?
- Relationships: provides information related to the user associations.
- Expectations: how does the user think the product works?
- Motivations: How does user express and organize the information in his/her domain?
- Photograph: include a photo in your persona to put a human face to the end user.

3. PERSONAS IN E-LEARNING SYSTEM

Personas are realistic and imaginary creations resulting from a large amount of real user data and thus effectively represents the target user's profiles. Second, persona is natural and easily remembered; thus it is very convenient to be used in a product team. Personas are allowed to tell their stories (thereby, generating scenarios). Careful analysis of the scenarios leads to a better understanding of the product design. Personas further help in performing the usability and acceptance tests which ensure the product meets the User expectations and offers the desired functionalities [5].

Let us take an example of design and development of e-learning system.

- A student is enrolled in a reputed university, which provides e-learning support to their students. Students can view and download course materials, take online tests, submit assignments online, track their performances, communicate with Instructors and peers, etc. The persona he presents is of a User of the e-learning system who wish to perform the tasks of viewing and downloading the course material, taking online tests, submitting assignments online, tracking performance, and communicating with Instructors and peers [6].
- An Instructors of the e-learning system wants a facility to create presentations, upload it to the system, create tests, schedule it and conduct the test online, communication facilities to interact with students. The persona he presents is of a kind of User of the e-learning system who wish the system should provide facilities like creating presentations, uploading it, creating tests, scheduling tests and conducting the tests online, communicating with students.
- An administrator of the e-learning system expects the system to provide facilities like record management, time-table management, monitoring students overall performances, etc. The persona in this case is that of a User who expects the system to allow him to perform the tasks like record management, time-table management, monitoring of students overall performances, etc.

In the above example, we encounter three different categories of Users resulting into three different personas representing students, Instructors, and administrators. Here, we have three different scenarios for the personas belonging to user groups of students, instructors and administrators. These help the designers in better understanding of the user expectations and the desired functionalities of the product. Once the system (product) is designed, personas may further be used to perform usability and acceptance testing [7].

4. CONCLUSION

A persona is a fictitious but realistic representative of a typical user as it is a resultant of widely collected user data. Therefore, deploying personas to real projects helps us in understanding the users' requirements. Moreover, the process of creating a persona is nothing more than a thorough investigation of target users. During this process, potential markets and user groups are found, which

may be deployed in the various phases of system design. Personas also help to put the users truly at the center of the system design, thereby helping to produce user-centric products.

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