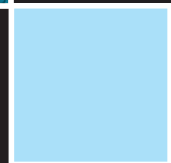
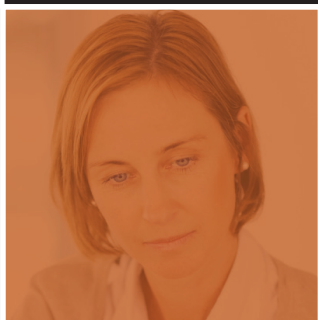
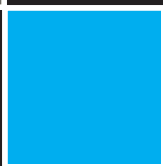


USER PERSONAS



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USER PERSONAS



Introduction

Personas are an archetype representing the needs, behaviors and goals of a particular group of users. They allow designers and writers to focus on traits that are *typical* of a broad range of users, while still allowing them to relate to users as individuals. When creating content, it is easy for writers to focus on one document or tool that a single user may need. But where there is one need there are thousands, and they are moving targets. By generalizing about user behaviors, personas can help designers and writers focus on content efforts and website improvements that benefit everyone.

The U.S. Environmental Protection Agency (EPA) began a persona research effort in September 2010. EPA reviewed ten years of prior user research conducted on the EPA website, identified what EPA already knew about its users, and determined what gaps needed to be filled with additional research (see report titled “Informing Persona Development: A Summary of User Research to Date”).

Historically, EPA approached thinking about its audience by their vocation or sector (e.g., librarian, educator, business, industry, etc.) and focused on understanding the task-specific needs of these user groups. However, a review of search terms and survey data finds that those tasks vary so greatly—even among specific audience groups—that defining a complete list would be impossible. Harder still is attempting to consider as many as 15 user groups while writing and organizing content.

EPA is now shifting its thinking to focus on common user behaviors instead of tasks. Typically, visitors to a website attempt the same five tasks:

- **Find** information.
- **Analyze** it.
- **Decide** if it is useful.
- **Act** on it.
- **Save/Archive** it.

EPA defines its personas by the differences in the way users approach these five activities. EPA’s goal is to create a set of site-wide, high-level personas that will assist the Web community in identifying site improvements that will benefit larger segments of the user population. EPA will also use the personas to identify where additional persona sub-types would be useful for content editors of the website. To that end, this report includes overall findings that can be included in a long-term website strategy, as well as guidance on how these high-level personas can be used in the daily work of website stakeholders until more targeted personas are defined.

Methodology and Participants

In October and November 2010, EPA recruited a diverse group of 20 representative site users (see Appendix A: Participant List) to participate in 45-minute phone interviews. Participants were told that the purpose of the interview was to help inform the creation of tools that EPA will use to write and organize content to better meet the needs of its website users. The interview format was a free-form dialog with the goal of eliciting users’ typical interactions with the website, as well as their information seeking and processing strategies (see “EPA Personas: User Interview Guide”). The findings and recommendations that came from these interviews are below.

Overall Findings and Recommendations

EPA's personas (see Appendix B) outline the differences in user behaviors and motivations across its user community, and there are some commonalities that point to opportunities for site improvement that could benefit all users. The following section outlines the overall findings and recommendations from the interviews.

Navigation and Search: All users interviewed report difficulty finding what they need and often blame their difficulties on search. No participants report using navigation areas to move around the site. Participants either use bookmarks for previously-identified information or search for new information; this is true whether they are using Google to search the EPA website or the EPA search engine. All have complaints about the EPA search engine, though they acknowledge that it has “gotten better in the last few years.” Many wish the results displayed “like Google” and complain that even when they know the title of a document and have found it on the site previously, they cannot seem to retrieve it in the search results. Finally, all ask for advanced search features, which EPA has though users may not be aware. A few participants mention providing abstracts and metadata (e.g., dates and keywords) for documents, much like in research collections.

- **Recommendation:** Improve the findability of pages and documents by using proper heading structures on HTML pages and by using templates that will improve the accessibility of PDF documents. Consider a new search utility and enhanced results that show dates and useful descriptions. Make advanced search features obvious, particularly once a search has been performed.

Content: No participants complained about the tone or writing style used on the website. In fact, many participants praise the site's content—its quality, volume and completeness. The only complaint users have is that related content is not presented consistently, so they have to conduct additional searches to create a complete picture. Members of the regulated community focus on the past, present and future of a regulation, with particular interest in finding precedence related to a regulation (i.e., how has EPA responded in the past when asked about this specific issue?) and learning from others (i.e., how have other companies like mine approached compliance?). An environmental engineer for a petroleum refinery suggests that a regulation be presented alongside items like letters between EPA and other companies, best practices and case studies, and compliance and permitting information.

- **Recommendation:** Starting with the critical content areas such as regulations, leverage a Content Management System (CMS) to create meaningful content relationships that expose related content. Consider ways to facilitate knowledge-sharing among business/industry users. Create collections of similar information with effective search capabilities.

Sharing and Saving: The information EPA users find on the website takes on many forms once it is in their hands. Users regularly save documents and content to their local computers, copy and paste HTML content into reports and emails, import data to perform analysis, create bookmarks, and share documents via e-mail. Because they have difficulty finding information on the site, many create their own in-house repositories so they can properly catalog frequently-referenced documents.

- **Recommendations:** Present content in a variety of formats to facilitate sharing, saving and analysis. Effective search will eliminate some of these copying behaviors because users will feel confident they can find information again and do not need to save or store it.

Keeping Current: Every participant reports receiving one or more emails from EPA notifying them of changes to content of interest. They are all pleased with the frequency and content of the emails they receive; however, most could not recall how they signed up, or where they could go to sign up for additional notifications. All express some level of anxiety about whether they have the latest information on the subject matter for which they are responsible.

- **Recommendations:** Ensure all content is dated. Offer many opportunities for users to sign up for e-mail alerts. Consider really simple syndication (RSS) feeds for specific topics. Consider a single location for signup so users can see all available feeds. If similar content is maintained in a single location (i.e., collections/repositories), users may be confident that they are accessing the latest information.

Motivations: All users interviewed report visiting the website to perform tasks related to their job. This finding is obvious considering the group that was recruited, but the same results can be seen when reviewing self-reported “role” statistics from the American Customer Satisfaction Index (ACSI) survey polling thousands of users. Nearly 85 percent of EPA site users visit because their job requires it (ACSI survey, January-October 2010). After looking at the EPA home page, one user said: “It looks like a lot of time and money is spent making this site speak to the public, but it is industry that is making changes that have the largest impact on the environment.”

- **Recommendation:** Prioritize content to serve professional user groups.

Future Research

Future phases of the persona research effort will focus on the nuances among user groups that fall within the three personas defined in this report. Members of the business community must be interviewed with attention to recruiting participants from various industries and business sizes as well as members of state and local government. Additional personas that represent these user groups will be developed in the future.

APPENDIX A:

Participant List

EPA interviewed the following participants in October, November and December 2010 to inform the development of the personas. The interview format was a free-form dialog with the goal of eliciting users' typical interactions with the website, as well as their information seeking and processing strategies (see "EPA Personas: User Interview Guide").

Job Description/Role	Location
SVP/Knowledge Manager (Consultant)	NY
Environmental Lawyer	TX
Environmental Planner, Tribal Grantee of EPA's IGAP Program	AK
Acting Bureau Chief, Environmental Protection Bureau, New York State Department of Law	NY
Librarian, Environmental Consulting Firm	MA
Engineering Geologist-Team Leader, Illinois State Geological Survey-Northern Field Office	IL
Environmental, Health, and Safety Consultant, Solid Waste Subcommittee Chair for the South Carolina Chamber of Commerce	SC
Assistant Director, Scientific Activities, American Veterinary Medical Association	IL
Director, North American Center for Transborder Studies (NACTS), Arizona State University, the New North American University, former director of the Southwest Consortium for Environmental Research and Policy (SCERP)	AZ
OSRR Records & Information Management Co-op Student, Office of Site Remediation and Restoration (OSRR)	MA
NJDEP Case Manager	NJ
Librarian/Information Specialist, University of Illinois at Urbana-Champaign, Institute of Natural Resource Sustainability	IL
2 Urban Sustainability Librarians, University of Nevada, Las Vegas	NV
Scientist at BERGESON & CAMPBELL, P.C.	DC
Engineer, Consultant, Power Generation Services, Shaw Power Group	NJ
Facility Owner/Operator	Puerto Rico
ADM-ANI (Food manufacturer) Environmental Support Manager and Team	IL

APPENDIX B:

EPA User Personas



EPA USER PERSONAS

What are personas?

Personas are writing and design tools that represent the needs, behaviors and goals of a particular group of users. Personas can help content writers, designers and developers focus on traits that are *typical* of a broad range of users, while still relating to users as individuals.

When creating content, it is easy to focus on one document or tool that a single user may need. But where there is one need there are thousands, and they are moving targets. By generalizing about user behaviors, personas can help writers, designers and developers focus on content efforts and website improvements that benefit everyone.

How are personas useful?

- They can be a touchstone for making decisions about what to include on your site and how best to present it.
- They allow you to empathize with your users.
- They are a reminder of who you are writing and designing for.

What are the three EPA Personas?

- Information Consumer.
- Information Intermediary.
- Information Interpreter.

These personas seem very broad. Can they be more specific?

True, these personas are broad; however, keep in mind that these personas represent the first phase of defining who the users are for the entire EPA website. This necessitated keeping them at a high level. In subsequent phases, EPA will develop additional personas that focus on more narrowly-defined user groups.

While creating these personas EPA focused on five activities users typically conduct on websites:

- **Find** information.
- **Analyze** it.
- **Decide** if it is useful.
- **Act** on it.
- **Save/Archive** it.

These high-level EPA personas focus on the differences in the way users approach these activities rather than on specific tasks. The goals for the first phase of this project include:

1. Identifying top-down improvements that serve most users and can be incorporated into a long-term website strategy.
2. Better defining sub-types of these personas (perhaps by vocation or industry) that will reveal the specific tasks and goals of smaller groups of users. These persona sub-types will have more specific applications to daily writing and editing tasks.

Can I use these high-level personas to help me write and organize better content now?

Yes, you can. Understanding the way your users think about and process content will lead to better, more findable content. Sub-personas, to be developed in later phases of this project, will contain specific tasks and tips for writing to your audiences.

How are these personas not useful?

Keep in mind these personas are approximations of your audience and should not be viewed as a definitive checklist of things to do. Not everything included will apply to your Web pages, and some things will almost certainly be left out. You will have to identify the specific needs of your audiences and use your judgment about what content to include and omit. These personas are only a starting point designed to provide you a framework for making editorial and design decisions.

Where do personas belong in the content creation/design process?

They can be revisited throughout the content development process, but are of particular use during the planning and prioritization phase of your effort.

How do I decide which personas to use?

Most content editors have access to information about who their users are, so that is a good place to start. From there, though, it is critical to define primary users. For instance, Information Consumers may sometimes visit your pages, but Information Interpreters may be your true audience, and that is where you should focus your efforts.



Information Consumer

(e.g., concerned citizen, k-12 educator, k-12 student)

These are everyday people who are interested and aware of environmental issues, but rarely have deep subject knowledge. They may have some specific tasks to perform, like finding local information on a specific topic. Because they are not necessarily pressed for time, they are more willing to browse and be guided. They are concerned primarily with the safety of their families and communities. They want to learn how they can help protect the environment.

“What’s EPA doing to ensure my drinking water is safe?”



Cindy Sherman
Office Manager

Subject Matter Knowledge

Technical Detail Required

Professional Accountability

STORY

Cindy Sherman is a part-time office manager for a medical practice in Bloomfield, Illinois. She has lived in Bloomfield all of her life and comes from a working-class family. She has two children in high school. Her daughter, Annie, is president of the Environmental Science Club at school. Annie often alerts her mom to current issues that may affect their family and encourages her to make lifestyle changes that can have positive impacts on the environment. Cindy is open to these ideas; her son and husband are a bit more reluctant.

SCENARIO

Cindy was watching her local news when she saw part of a report questioning the safety of her local drinking water. She knows the reporter mentioned a guide she could find online and she wants to see if she can locate it. She thinks EPA might be the right place to start her search.

MOTIVATIONS

- Primarily motivated by big news events and/or local issues
- Secondarily motivated by curiosity and desire to learn
- Sometimes motivated by professional interests, motivated by job

NEEDS

- Overviews, summaries and explanations
- “Take-aways” like guides and tip sheets
- Plain English
- Location-specific information
- Things she can do to make change, get involved
- Interpretations and context
- Learning and teaching materials (things that can be used “as-is” in the classroom)
- Demonstrated responsiveness to current issues (what is EPA doing about X?)

THEMES

- Community
- Safety
- Learning
- Teaching

Please use this space for your notes:

Information Intermediary

(media, NGOs, librarians, local/state/federal government, business/industry)

These well-educated people are more familiar with EPA, usually because they are engaged regularly with the Agency via work-related tasks. They are not necessarily experts in environmental topics, but through their work duties have developed an increased level of knowledge about environmental issues and EPA policies/processes. Their needs are more targeted and so they are less likely to browse. Some members of this group spend their time gathering information for others, often across different topics, to pass along “as-is.” They may need some assistance but are generally well-informed about issues and terminology. Quick, direct access to information is important since they are often pressed for time.



Deborah Van Wilder
Librarian

Subject Matter Knowledge

Technical Detail Required

Professional Accountability

My goal is to provide students and faculty access to environmental information from trusted sources.

STORY

Deborah is a librarian, specializing in urban sustainability at a research university in southern California. She spends her time providing students, faculty and the public with access to documents from trusted sources that focus on sustainability issues. She also provides research support to students and faculty that may fall outside of her primary domain knowledge.

She researches a wide range of questions, from very specific to more general. During the course of her work she downloads and archives multiple documents once she has reviewed them for authenticity, relevance and timeliness. She also must be aware of any copyright issues that may prevent her from sharing the files. She needs to be able to cite the research, data and regulations she passes along.

SCENARIO

Deborah is developing an institutional repository for her university, which will store vetted government documents about environmental topics, as well as scholarship and grant opportunities. She regularly searches the EPA website for this kind of information with the hope that she can keep her repository as up-to-date and accurate as possible.

MOTIVATIONS

- Professional
- Educate and inform others
- Disseminate EPA resources/information
- Advocacy
- Understand and comply with regulations
- Report data

NEEDS

- Highly searchable collections of official EPA documents, advanced search options
- Assurance that the content is the most current. If the information is not current, she at least needs the source information.
- EPA precedence (i.e., how has EPA responded before related to this issue, topic or industry)
- Content that is related to the document or content she is viewing
- A format she can take with her and easily pass to others
- Plain English descriptions of the regulations—she needs to know if it applies to her and if so, how to comply

THEMES

- Advocate
- Educate
- Inform
- Collect
- Organize
- Report
- Comply
- Plan

Please use this space for your notes:

Information Interpreter

(scientist, lawyer, college/grad educator, consultant)

These users are experts in a particular discipline, versed in a specific technical language and engaged with EPA on a professional level through the lens of their discipline. They are adept at understanding the minutiae and complexities of technical information and are often relied upon to translate that information to others in lay terms. They or their clients often use the information they find to make decisions with legal, political or environmental impact, and the level of accountability is high. Since they are experts they do not need much hand-holding on the issues, but they do need to find information on a wide variety of topics very quickly.

I spend a lot of time trying to interpret EPA regulations.



Harold Johnston
Environmental Lawyer

Subject Matter Knowledge

Technical Detail Required

Professional Accountability

STORY

Harold is a lawyer whose clients are regulated by EPA. He spends his time negotiating Superfund cleanups and helping his clients understand and comply with environmental regulations. He also defends them when compliance violations occur.

Typically, he knows what he is looking for, usually a specific regulation and its accompanying guidance; however, sometimes he needs to do more extensive research on a topic. He is used to doing complex searches on Westlaw and LexisNexis, and tries to employ the same strategies on the EPA website with mixed results.

SCENARIO

Harold has been providing legal advice about environmental compliance to his client, a medium-sized petroleum refinery, for five years now. Their environmental engineer typically incorporates Harold's counsel into their environmental compliance strategies. Recently, these clients underwent an EPA compliance audit and were cited for two instances of improper disposal of waste materials.

Harold remembers documentation that he found on EPA's website several years ago when he advised his customer on how to comply. He recalls that it was a letter between EPA and another refinery and some guidance materials that informed his counsel. Now he just needs to find these documents again and begin to piece together his client's defense.

MOTIVATIONS

- Professional
- Request from client, organization
- Scientific
- Legal/Policy

NEEDS

- Finding things fast, since time is money
- Easily searchable repositories and catalogs of regulations, laws, guidance, historical and background information
- Ability to cite sources
- Thorough metadata
- To feel confident he has the most recent information
- Ability to perform more complex searches
- Easily searchable repositories and catalogs of scientific research and data
- Plain English summaries of scientific information since he is often researching outside of his main area of expertise
- Raw data
- Data in transferable format (e.g., Excel)

THEMES

- Defend
- Litigate
- Consult
- Advise
- Inform
- Analyze
- Compile
- Research

Please use this space for your notes:
