



Who Is the “Older Adult” in Your Audience?

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If you are an American who has reached 50 years of age, you’ve experienced a major rite of passage—receiving an invitation to join AARP. You are among the millions of adults entering the “Third Age.” Not only is a worldwide generation of Baby Boomers becoming “older adults,” but those in the earlier generations are living longer, healthier lives than their parents did. Whether or not you have reached the Third Age, you may be writing information or designing Web sites for the 36 million who have (according to “Doing the Math: Older Adults Online,” a report of a Harris Interactive survey from 2003)—and this article is for you.

In 1996, only 2 percent of American adults 65 and older were online. By March 2004, 22 percent of Americans 65 and older—8 million people—were online, according to the Pew Internet and American Life Project, as were 58 percent of people ages 50 to 64.

As this Web-using population grows, many people in your audience may be older than you realize. Most have special needs, whether they admit it or not. And this audience is highly diverse in terms of

ability, Web expertise, life experience, and attitude—much more so than younger audiences.

Who Is an “Older Adult”?

At AARP, people 50 years old and older are considered “older adults,” but definitions vary, and the diversity of an audience that ranges in age from 50 into the 90s is huge. The differences in terms of ability are extremely difficult to categorize, since there are many ways in which vision, cognition, and motor skills diminish with age. And we know that while many older adults and those described as old are just now coming online, many who are 50+ have been using computers for years for both personal and professional purposes.

Older Adults Are Different

By viewing older adults as one homogeneous group, we are missing important elements of diversity that probably would influence information design and content development quite heavily. Oversimplifying or stereotyping older adults and writing or designing to the least able does not always benefit all users and could alienate some.

Age Is More—and Less—than a Number

Older adults are different from younger adults. Boomers (born 1946–1964) are different from Generation Xers (born 1965 or later), but Boomers are also different from the GI generation (born in 1934 or before) and the Silent Generation (born 1935–1946). Some researchers argue that older adults are more diverse than younger people are. Within the group of older adults are people with different experiences and different needs, habits, thoughts, and beliefs. Because of this diversity, it is extremely difficult to generalize about performance, behaviors, and preferences for all older adults.

Older Adults Have a Wide Range of Physical and Cognitive Abilities

Typically with age, eyesight degrades, hearing may get worse, and short-term memory becomes less reliable. But not for everyone—and not at the same age. Eyesight may be worse for some older

adults who also have other health conditions. Motor skills and fine coordination may degrade earlier or further for people with arthritis or other age-related issues. Short-term memory can be affected by medications taken for other conditions associated with aging, such as high cholesterol or high blood pressure.

Life Experience Contributes Different Lessons

Because older adults have been through many important life and world events and changes, they come to the Web (and everything else) with their own preconceptions and motivations, attitudes, approaches, and myths.

Some older adults take technology for granted, but for others, using the Web is new territory. People in their 50s and 60s are now likely to have used computers at work. But many older adults—even those who are middle-aged—are learning to use computers and the Web on their own.

Those of us who have been using computers for a long time or who have perhaps even grown up with computers as a part of everyday life have experience to draw on to make inferences about new computing experiences. Many older adults do not have these experiences. Younger designers developing Web sites for older adults need to learn more about older adults’ life experiences and be sensitive to their needs. Remember that you are not your audience.

How—and Whether—People Are Trained to Use Computers and the Web Is Important

Studies show that many older adults learn new technology best in situations that are task- and goal-oriented—and collaborative in nature. Perhaps we all learn best that way, but many older adults did not have the benefit of that type of interaction with computers and the Web because those technologies were not part of their work environments. Some researchers insist that providing training is the only way to make Web sites truly accessible and useful to older adults who have little Web expertise. Volunteer organizations like SeniorNet (www.seniornet.org) and Cyber Seniors (www.cyberseniors.org) use collaborative training to bring older adults into the Web world.

Many older adults simply have not had the opportunity to work with what more experienced computer users consider standard interaction devices, such as buttons and links. They might not have learned how to react to information and error messages. The inability of some older adults to understand the underlying concepts of how computers or Web sites work could stem from:

- anticipation that something will be difficult to use
- lack of experience from the outside world to bring to the task of using the Web
- lack of a match between how the designer conceptualized the product and how the user views the task
- limitations of short-term memory

It seems likely that users of all ages mentally model their tasks and how to accomplish them within the system they’re given rather than thinking much about how each system works. Based on research we have reviewed, it seems probable that rather than creating a fragmentary idea of how a Web site works, many older adults simply avoid burdening their memory by not conceptualizing sites at all.

What Factors besides Age Must We Consider?

When it comes to understanding the older adults in our audiences, clearly, age is much more than a chronological indicator. As the birthday card says, “70 (or 40 or 50 or 60) isn’t old if you’re a tree.” Many people in their 50s, 60s, and even 70s don’t consider themselves old. They say that their parents were old at that age, but they themselves are not. For one thing, they expect to live longer than their parents expected to.

What should we be thinking about besides age to meet the needs of this diverse audience? Here are three additional factors:

Ability

We know that there are many ways in which vision, cognition, and motor skills diminish with age. These issues are measurable and predictable and should be a lens through which other elements



Research has shown that experience by itself does not correlate well with performance—but expertise does.

- *Age*—both chronological and experiential, along with maturity level; life events and experiences (e.g., various jobs, not just the most recent; military service; marriage, divorce, children; places lived); education level (including when it was achieved)
- *Ability*—degrees of physical and cognitive limitations or restrictions, ranging from requiring little remediation up to needing assisted living
- *Aptitude*—expertise with computers and the Web (more relevant than straight measures of experience)
- *Attitude*—positive and forward looking, risk-taking and experimental, or negative, fearful, or diffident; confidence levels and emotional need for support from another human being

are viewed. Yet even within abilities, there is great diversity.

Aptitude

Research has shown that experience by itself (length of time an older adult has been using the Web, frequency of use, etc.) does not correlate well with performance—but expertise (knowledge of browser and Web features) does.

Attitude

People in their 60s and 70s who don't perceive themselves as old are less risk-averse than people in the same age range who do consider themselves old. While they may joke about having had a lot of life experience, their attitude about what that life experience means can affect whether they take on new challenges—such as learning to use a computer or diving into the Web. On the one hand, they may not want to be left behind; on the other, they may be afraid of appearing stupid in front of friends, family, and co-workers.

Four Factors for Audience Segmentation

A key problem for communication professionals of any kind is to figure out how to envision their audience so that they can make informed editorial and design decisions. With our project sponsors at AARP, we are proposing a new way of defining segments within the older audience and a new model for measuring aspects of the diversity within the older adult

population. In our new model, you must consider all four factors to understand your audiences:

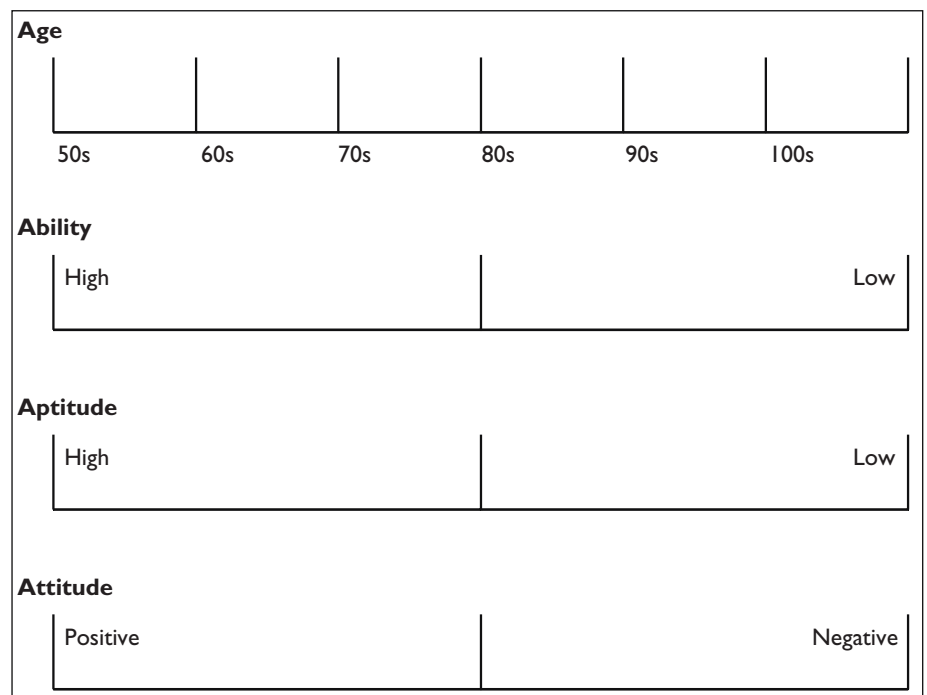
- Age: including chronological age, but taking into account life experiences
- Ability: physical and cognitive
- Aptitude: technological expertise
- Attitude: confidence levels and emotional state of mind

Figure 1 shows the four factors. What goes into these four attributes?

What Are the Implications of These Four Attributes?

We can use these four attributes to judge the need for support and training and the level of complexity of features and functions that different users can be expected to handle. Users toward the right on each of these dimensions are likely to need more support and training and less complexity in Web sites. Users far on the left of each of

Figure 1. Four attributes for segmenting “older users” into more realistic groups for Web design.



these dimensions are likely to need less support and training and be able to handle more complexity.

Of course, the interesting and important issues are the trade-offs that are likely to be necessary for people who are in different places on the different scales. For example, increased age is likely to require less complexity, but high aptitude allows for more complexity. Higher ability (that is, physical and mental fitness) allows for more complexity, and higher ability is likely to also correlate with lower age.

Further research is needed to assess the relative importance of the different factors in designing Web sites. From the research we reviewed, we know that age is less important than the other three dimensions. We do not, however, know the relative importance of, for example, attitude compared to aptitude, nor how closely they correlate with each other.

How Might Designers Use These Four Dimensions?

As Web design teams develop personas of their users, the descriptions should include all four dimensions. For example, the two personas we are using in a research project are Matthew and Edith. Figure 2 shows our two personas and their descriptions.

We can place each of our personas on the four dimensions to give us a sense of the differences in how they approach Web sites and what parts of the older adult audience they probably do and do not represent. Figure 3 shows two personas aligned on the four factors. (M is Matthew and E is Edith.)

Ideally, perhaps in another project, we would create specific assessments for each of the factors to add rigor to the model. For now, we have placed our personas intuitively, based on the information in the personas.

Conclusions: A Few Cautions and Implications

- Don't assume that all older adults are novice computer or Web users, but consider that many are.
- Many older adults have not had the advantage of learning to use technology in a collaborative school or work

Figure 2. Two personas for our persona-oriented, task-based review of Web sites.

Matthew	Edith
<p>Matthew is a 54-year-old attorney from New York City. He's married, and he and his wife work full time. Their income averages six figures, and it ought to for the hours they each work.</p> <p>They own a one-bedroom condo in Park Slope in Brooklyn and a small cottage in Niantic, Connecticut where they go for weekends in the summer. Matthew commutes to work from Brooklyn on the subway. He and his wife don't have kids, but their nieces and nephews come to visit for a week or two at school breaks.</p> <p>Matthew doesn't have much time for the Web. He uses e-mail at work, and sometimes makes vacation plans or reads the newspaper online. Mostly, it's a tool to get things done. Fast. When something doesn't work right away, Matthew moves on. He doesn't have the time or patience to figure it out.</p> <p>Matthew doesn't use the AARP Web site, but he expects that when it's time to renew his membership, he'll try to do it online this year and save himself the paperwork.</p> <p>Matthew is still feeling fine although his doctor says he needs to exercise more. He wears contacts; his eyes aren't what they were when he was younger.</p>	<p>Edith is 73 years old. She lives in Miami, Florida, with her husband of 49 years, Doug. They worked hard in the restaurant business, and she's glad that they have retired. Their income is about \$40,000 a year, from Social Security and what they got when they sold the restaurant.</p> <p>They used much of the money from selling the restaurant and their house up north to buy a small retirement house in Florida. They put down a lot of cash for the Florida house to keep their house payments low.</p> <p>Edith and Doug like to joke that they can't count how many grandkids they have anymore. It's been too long since they've seen each other. Sometimes they get pictures through e-mail (how do their kids do that?), and that's nice. They can print them out.</p> <p>Edith really doesn't use the internet much—and neither does Doug. She's never been to the AARP Web site before. It had not occurred to her that there was such a thing until she saw something about it in the AARP magazine last month. The magazine did a special on Boulder, Colorado, as a good place to visit. Edith thinks she'd like to go there with Doug for their anniversary. She wants to find out what AARP has to say about Boulder.</p> <p>Edith's hearing isn't what it used to be. She likes that her hair style covers her hearing aids. She took off her glasses for the picture, but she needs them to read or look at the computer. She has slight arthritis in her hands so sometimes using the mouse is a problem.</p>

environment, so they missed out on things that many of the rest of us learned over the cube wall. Their expertise is developed without formal training, so common terms or interface standards might not be obvious to them. An older adult may know how to perform a task but not how to describe (or understand instructions describing) the task.

- Older adults may have vision and coordination problems; they may have some hearing impairments that make understanding computer-generated speech difficult. Or, they may not have any of these issues at all.
- Many older adults experience what

they jokingly call "senior moments."

Their information uptake may be taxed by demands on short-term memory and a lessening ability to draw conclusions and make inferences from complex text.


- Some older adults who are computer novices have difficulty imagining how a system or a Web site is organized and how it works, even after using it for some time.

The implication is that there are trade-offs to be made in the levels of complexity and functionality offered on Web sites when the audience is highly diverse.

What Else Must We Keep in Mind?

All Web design should involve users. Involving users is especially critical when designing for older adults because the designers are usually younger people with very different expertise and experience than the users. Our research and our own experiences indicate that segmenting the older adult population simply by age is not enough. A more nuanced approach—one that considers factors beyond chronological age—is needed in order to:

- understand the research
- plan new research
- plan and design Web sites

This article is drawn from one part of our recent report for AARP, *Designing Web Sites for Older Adults: A review of recent, relevant research*. The 70-page report with an annotated bibliography of 50+ sources and synopses of the results for interaction design, information architecture, visual design, information design, and conducting usability studies is available at www.aarp.org/olderwisewired. 

SUGGESTED READINGS

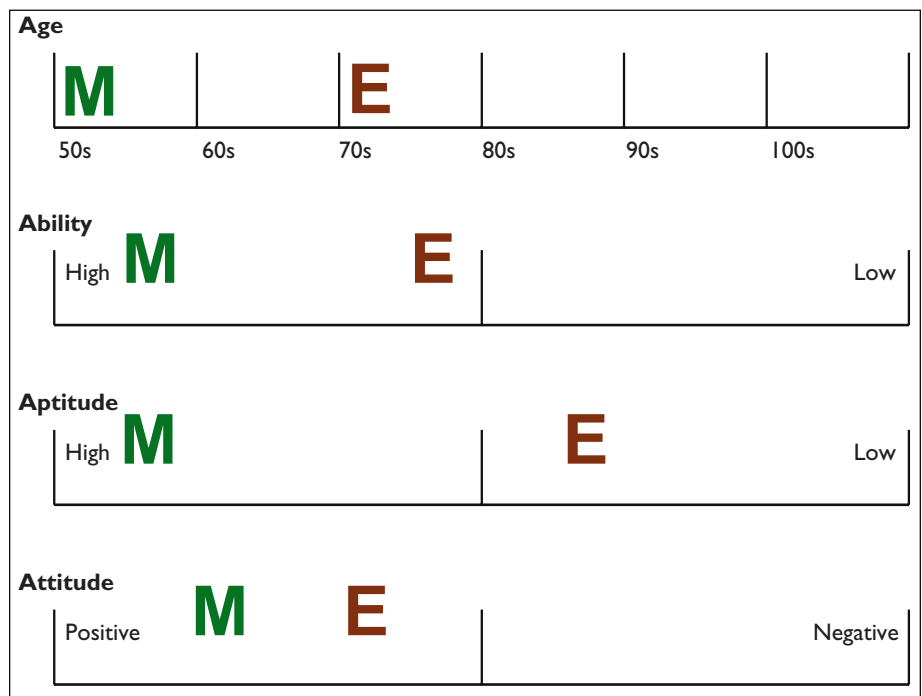
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Figure 3. Two personas along each of the four dimensions.



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