Eldre65

Creating a Website for Senior Adults Based Upon User Experience

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Final Signatures

Eldre65: Creating a Website for Senior Adults Based on User Experience, a Thesis submitted to Liberty University for Masters of Fine Arts, Department of Studio and Digital Arts: Graphic Design.

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The personal, religious, philosophical, or political positions found this project are solely that of the student, and do not necessarily refl ect the views or opinions of the committee or Liberty University.

Dedication

This thesis is dedicated to those with impairments and usability issues - to everyone who has a limitation that makes technology difficult to navigate. I want to dedicate all my research to those who feel scared, confused, or less than because the internet was not designed with them in mind.

A website designed on my research findings will help users over the age of 65, and those with impairments, maneuver through the internet. I want to dedicate this thesis to the elderly and those with usability issues, in hopes that one day the internet will be designed for all to enjoy.

Contents:

Abstract

Geoffrey Chaucer wrote, "Time and tide wait for no man." He was correct. Aging is universal. It affects all humans in positive and negative ways.

From children becoming teens to adults becoming senior adults, each stage of life brings changes and challenges. In one's forties, menus can become harder to read, hair can fall out, hearing in loud environments can become difficult.

Then, in one's mid-sixties, more difficult challenges can arrive. Health issues such as high blood pressure, diabetes, lung disease can become a regular part of one's life. Cognition slowness, vision and hearing loss can create difficulties not only in interacting in social settings, but also managing one's life online.

Technology develops and expands constantly. Professor Peter-Paul Verbeek, distinguished Professor of Philosophy of Technology at the Department of Philosophy of the University of Twente, examined how technology, in its purest form, should be a form of mediation for its users. Technology should not be the focus, it should be the median by which you relate to the world around you. "The central idea in mediation theory is that technologies do not simply create connections between users and their environment, but that they actively help to constitute them" (Verbeek). Technology influences the way the user sees the world around them.
When made usable, technology can present large positives in an

individual's life. Technology can allow a viewer who is quarantined at home the opportunity to explore a new country. Technology can also bring shopping and banking to your fingertips. It can give the immobile user the freedom to be self-reliant. Medicine, food, and cleaning needs can all be purchased using many different technologies. A user can refill medications using a finger on a smart phone, smart watch, tablet, or computer. Or they can simply use their voice on technologies like Alexa, Echo, and Siri. Technology makes these possibilities endless. But for technology to do all these wonderful things, it needs to be designed and developed in a way that does not leave certain users behind. There must be a standard that designers follow to keep technology, specifically websites, usable and accessible to all. User inclusivity is the most important component that technology needs to focus upon, and where it is falling the most behind. If the user cannot see the words on the screen, hear a video on a site, or understand how to navigate through pages, then technology and all the wonderful things it can do are useless.

Introduction

Why is the need for user based design so important? If websites were designed inclusively for those with elderly constraints, it would have greatly helped my mother.

My mother is a strong independent woman who enjoys life. She realized that the world was going digital and she needed a personal computer to continue enjoying life. She purchased a desktop computer and I helped her maneuver through the learning process. She is a very smart woman with a beautiful mind, learning the computer itself was not a problem.

My mother had the basic demands all users have for the internet. She wanted to easily be able to complete online banking, pay bills, shop, and read the news. There would be various other sites she would want to check out as well. I would sit down and help her set up online banking or look up an item to purchase. There were many times that figuring out where to go on a page would frustrate her. I would see it in her face, her feeling that in some way she was unfit to figure it out on her own. She felt that she was the problem. That was never the case.

I am a graphic designer. I would reassure her that it was the design that was the problem. She would hear me, but I know she still felt like the problem.

If websites were designed using the W3C guidelines for usability, my

mother would not have felt unfitted to use the internet. She would have had a few questions that any first time user would have, but she would have been able to navigate easily and without help. Just basic design accessibility would have given her freedom and assurance to be successful on the internet.
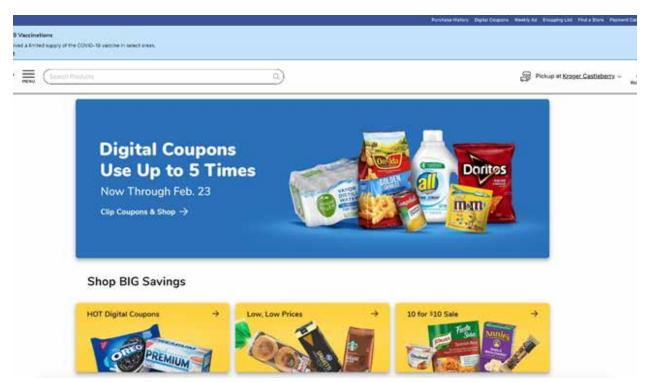
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OK Boomer! As with any inter-generational dealings, the younger get fed up with the older for not understanding newer technology. "You don't like change, you don't understand new things especially related to technology, you don't understand equality. Being a boomer is just having that attitude" (Lorenz). This way of thinking infers that a user not understanding technology is doing it by choice. Being able to use a product or technology due to impairment is not a choice. An older user wants to understand and use the technology, but due to many forms of impairment and a lack of design based on usability, they are just not able to.

The personal computer was first available in 1974, and became common during the 1980s (The Editors of Encyclopaedia Britannica *Personal Computer*). Anyone born into Generation X and younger, were born with a computer in their home at a very young age. Being raised with technology allows individuals to grow with technology. From floppy disks to hard disks to flash drives and now the Cloud, each invention morphed into everyday use. There was a time when people could decide if they wanted a computer in their life, but that time has passed. Not understanding webpage navigation can

separate large groups of older adults from other groups. Technology companies and web developers focus on younger consumers. Deloitte performed a study on consumer growth, especially focused on technology. They found that many companies spent time and money understanding how millennials and Gen Z thought, their purchasing habits, and the like. But given the numbers when it comes to actual purchasing in this country, focusing all attention to younger consumers is not a smart business model. "In particular, it would be wise to note the equally formidable size and greater buying power of baby boomers (23.5% of the US population in 2016) and Generation X (20.3%) compared to millennials (24.7%) and Generation Z (21.5%)" (Fedder et al. *Millennials and beyond - deloitte us*).

Many older adults get left behind and need an accessible opportunity to the online world. Computers have been a wonderful, time-saving, invention for those people who can use it efficiently. A mother in her mid-twenties has no problem using her smartwatch to place a to-go dinner order at a local restaurant and feed her family. But for people with disabilities, technology can mean exclusion. Vision loss, cognitive decline, motor skill diminishment, and lack of control can put technology out of reach.. The grandmother who needs to reorder her medication from the Kroger website is going to have a problem navigating to the pharmacy. This is the homepage for placing an order at Kroger.

(Kroger). In order for the grandmother to navigate to the pharmacy, she would need to be able to read that the very tiny words in the top blue bar on the right does not have pharmacy as an option. She would also need to know that the hamburger symbol represents a menu drop down. Once she clicks on that menu drop down, she would need to scroll all the way to the bottom of a very long list to find the pharmacy. None of the layout or design of this page is intuitive. If the grandmother does not become frustrated and give up, it will have taken her a significant amount of time to achieve her goals.
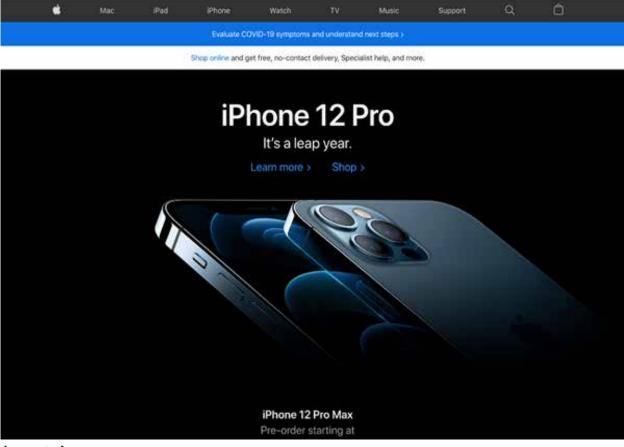
This thesis will be a road map directing the reader through the issues of poor website design and how poor design affects the older adult community. It will examine the polarizing effects technological exclusion can have on an individual. It will show the reader the typical

health issues older adults face, and how those developments affect their ability to easily use a webpage. It will also give clues on how to solve problems for the older adult user. This thesis will show how minor changes in design can give the older adult user freedom, self-assuredness, and self-reliance when using the internet.

Design choices on major company's web pages are often not intuitive. Apple is thought to be a leading design influencer from their sleek hardware and store layout, to their online brand. In 1997, Apple's homepage looked much like a page from a magazine, which was the design trend of the time. The page is detailed, giving the user instructions on how to move about the page. The page is not visually appealing but creates a strong usability-driven page (Fox *The first Apple Homepage • Kevin Fox*).
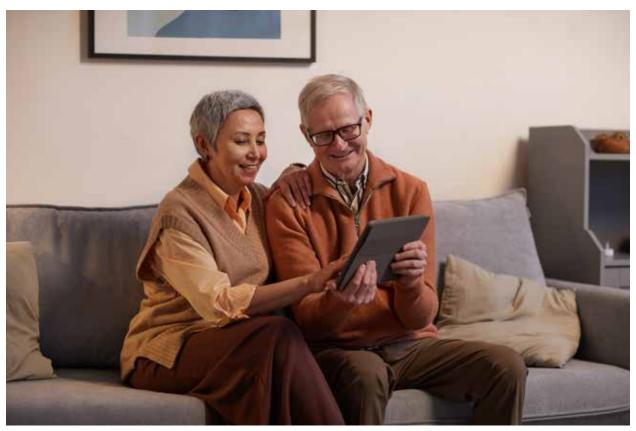
The current Apple homepage is much different. The design choice is very minimalist and visually appealing. The Apple site design is fine for the user without disabilities. For the user with disabilities, such as poor vision, Apple's site is not easily accessible. The text is small and the descriptive words throughout the homepage are single word descriptions. Navigation such as Mac, iPhone, and TV are not user intuitive. These words can create user error for the unskilled user. The TV button could mean anything from allowing a user to purchase a TV or allowing a user to watch Apple TV. The Mac and iPhone buttons could be for technical support, sales, or user information. User error can lead to stress, depression, anxiety, and eventual disregard of use.

(Apple).

This current Apple.com site breaks many usability heuristics. The design does not match the system to the real world. The navigation does not explain to the user where they will be taken. The shopping bag symbol does not look like a shopping bag. There is also a lack of user control. If the user clicks on the incorrect word in the navigation, there is not an arrow directing them back. There is no undo or redo for the user to move around easily. While the design is minimalist, it creates user confusion. One word navigation does not clearly indicate where the user should click. The type is very small and would be difficult for visually impaired users to understand.

(Pexels).

Older adults need a place online, where they can log on with one password, have access to all of their frequented sites for banking, medical, news, social, and events, that is accessible to them and their needs. A site that links all their frequented sites to itself, lessening the number of clicks needed to access their information. A site that has increased security against spam, internet threats, and targeting schemes. A site that allows them to find information on obtaining any help they need. A site that they will not need help with navigation, giving them a sense of freedom and security knowing they can have internet mobility on their own. That site is Eldre65, giving older adults freedom, peace of mind, security, and quality of life.

Problem:

There is not a website for older adults that is designed based on their accessibility needs. There needs to be a site for adults aged sixty-five years and older that is designed based on their possible accessibility issues. This site will store all their needed information so they can have access to it all in one place, negating the need to remember multiple passwords.

Our site will remain safe for older users, because the site will have several security features in place. Eldre65 will be coded with a Secure Sockets Layer. "Secure Sockets Layer (SSL) is a networking protocol designed for securing connections between web clients and web servers over an insecure network, such as the internet" (TechTarget *What is secure sockets layer?*) Eldre65 will continuously be scanned to prevent malicious attacks. Our website will be kept up to date, ensuring that our security is uncrackable. And Eldre65 will regularly be running backups, so that there is no loss of content, should an attack occur.

Research

Information Design for the Elderly

Saul Carliner, professor of Industrial Design at Concordia University stresses the importance of information design. He states that, "Although graphic design and document design are important aspects of it, information design has a much broader focus than the appearance of information. Its ultimate focus is on the effectiveness of that information. That's why human factors and usability, as well as human performance technology, are fundamental issues in this discipline." Information designed for elderly adults allows them to easily access, use, and understand the information on websites they access.

Older Adults and Limitations

The World Wide Web Consortium, or the W3C, founded in 1994, is the main international standards forum for the World Wide Web. The W3C creates strategies, standards, and resources to make the Web accessible to all users, and they set precedent on how to design for users with limitations. Older adult users and the design standards best followed for them, encompasses a large section of the W3C accessibility standards and practices section. To determine what age group "older adult users" are considered, a document from the World Health Organization (WHO) will be used. The WHO document,

Definition of an Older or Elderly Person, suggests that "Most developed world countries have accepted the chronological age of 65 years as a definition of 'elderly' or older person. The UN has not adopted a standard criterion, but generally use 60+ years to refer to the older population" (World Health Organization *Men Aging and Health - World Health Organization*).Therefore, this thesis will consider elderly adults to be anyone aged sixty-five or older.
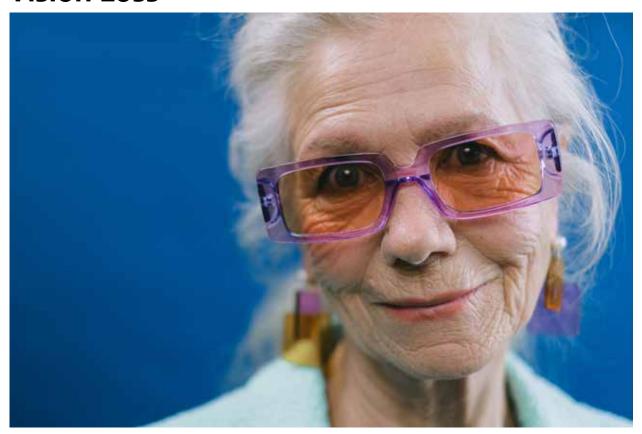
Usability should be the first consideration when designing a website for older adults. Usability assesses just that; how easy it is to use said product. It also is the scale designers use to improve the ease of use of a user interface during the design process. Usability is determined by the designer asking a few simple questions:

- How easy is the site to navigate the first time a user lands on it?
- How efficiently can users use the site?
- Will the user remember how to use the site upon return?
- How easy is it to make an error on the page, and will the user be able to recover?
- How enjoyable is it for the user to use the design? (World Leaders in Research-Based User Experience)

In Designing Web Usability, Jakob Nielsen claims, "if the customer cannot find a product, then he or she will not buy it. Websites should make the main things users want to do very simple." Websites need to be usability focused for all potential users.

Impairments

Vision Loss

Vision loss at any age is debilitating. The sense of site gives an individual great freedom in their day-to-day life. Helen Keller wrote, "But of all the senses, I am sure that sight must be the most delightful."

The W3C page on disabilities and older adults examines the impact of vision decline on the technology user. The main impact on individuals with vision loss is the decreasing ability to focus on things nearby, including a computer screen. Vision impairment takes away the ability to focus. It causes eyestrain, headaches, and frustration. An

older adult user with vision problems may walk away from pages that are not designed for user accessibility. Many designers do not take into consideration the best font size, contrast, and consistency for users with impairments.

A page designed for users with vision impairments will have the following traits:

- A font size twelve to fourteen points, with the possibility of enlarging the font to seventeen points
- A high contrast color palette pertaining to the foreground and background. A white background with black typography is the easiest.
- The font chosen will be a readable sanserif such as Ariel, Helvetica, or Gotham
- The text will be left justified, without an underline, in both upper and lower cases being used.

These elements create a page that the mind can easily assimilate between items.

Hearing Loss

Hearing loss is a common impairment in older adults. 47% of people sixty-one to eighty years of age experience hearing loss, while 93% of people eighty-one and older experience hearing loss. In most adults, hearing starts to decline around the age of fifty. (World Health Organization Who global estimates on prevalence of hearing loss) (Pexels)

Hearing loss takes away personal freedom, and causes the individual to feel trapped, and isolated. Hearing loss affects older adults in other extremely negative ways such as depression, withdrawal from social life, loneliness, anger, decreased personal safety, cognitive decline, all which all lead to poor health (Healthyhearing).

Hearing loss affects the ability of the individual to use technology. Discerning background sounds can be difficult to filter out and higher pitch sounds are often missed. A website that uses video without closed captioning is difficult for a hearing-impaired user.
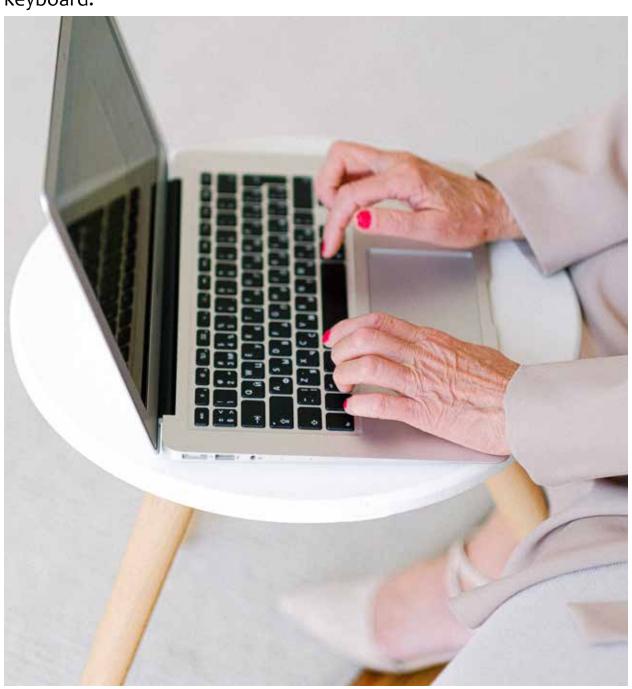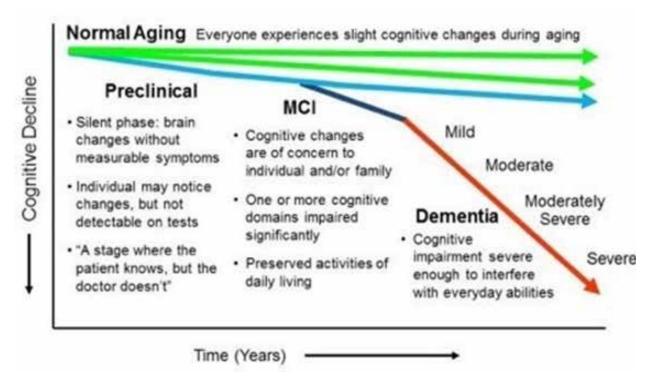
Motor Skill Diminishment

(Pexels).

Many older adults suffer from motor skill diminishment. "With advanced age comes a decline in sensorimotor control and functioning. These declines in fine motor control, gait, and balance affect the ability of older adults to perform activities of daily living and maintaining their independence" (Seidler p.1). There are common ailments in older adults that can bring about these changes to motor skills, such as arthritis, essential tremor, or Parkinson's disease. Arthritis, which is common in older adults, causes inflammation and pain, making it difficult to use hands, fingers, and joints. Essential tremor or Parkinson's disease cause hand trembling, shaking, speech impairment, and loss of control of the body. Motor skill impairment greatly affects the use of technology. Arthritic

or shaky hands will not be able to have complete control over the mouse. For a page with poor usability design, older adults with these conditions would face problems with clickable links, selecting radio buttons, and using pull down menus. A well-designed page based on older adult accessibility would have easy navigation by use of keyboard.

Cognition Effects

At the Lewis Katz School of Medicine at Temple University, they show cognitive decline in elderly adults with the following graph:

With age, the brain can deteriorate into eventual dementia. Many websites and programs offer exercises to keep the brain from failing and becoming unusable. But questions remain. Do older adults know these websites exist? How would older adults find the site address? Is the sign-up process intuitive?

Cognition decline is one reason an older adult has difficulty finding solutions to their problems. Cognition decline causes short-term memory loss, difficulty with concentration, short attention spans, and difficulty dealing with information overload. The W3C states 20%

of older adults are estimated to experience MCI or mild cognitive impairment. MCI causes confusion, anger, frustration from others, self-loathing, stress, anxiety, and depression. MCI can be caused by medication side effects, illness, depression, and dementia, with Alzheimer's dementia being most common. In many cases, older adults who are developing dementia are unaware it is happening. (Mild cognitive impairment (MCI)). According to the National Institute on Aging, more than half of patients with dementia had not received a clinical cognitive evaluation by a physician.

Lack of Control

(Pexels)

Cognitive decline and motor skill impairment lead to lack of control. Older adults need the tools to help them continue a strong quality of life. The government addressed this lack of control of elderly people and how technology can play a key part in helping. They gave an outline as to how technology can contribute to continued independence.

- Key activities of independent living, including technologies to support good nutrition, hygiene, and medication management.
- Cognitive skills, including technologies to help older adults monitor changes in their cognition and technology-based systems to help older adults maintain financial security.

- Communication and social connectivity, including video calling and other technologies that connect older adults and far-away friends and relatives.
- Personal mobility, including technologies to help people move safely and easily throughout their homes and communities.
- Access to transportation, including vehicle modification and supports to help older adults more easily and safely access public transportation.
- Access to healthcare, including technologies to align and coordinate care.

(New report on emerging technologies to help older Americans maintain independence).

Other Sites for Elderly Adults and How they Score on the Heuristics/Usability Heuristics and Accessibility for User Interface Design in Elderly Focused Websites

AARP

As the user lands on the AARP page, they are met with upsetting headlines for the future of senior citizens.

All About Mixing, Matching Vaccines
Getting a different booster could raise protection

Mental Illness, COVID Effects May Be Linked
How one could affect the other

Latest Coronavirus News and Information
What you need to know now

(AARP)

The content had a large use of text, small font size, and was erratically positioned. There did not seem to be any grouping methods followed. Just pictures with small wording and links to information. But if a user was to look for a specific piece of information, there would not be a clear direction for them to search.

Today: Holiday Shopping Discounts
Also: Warm up an outdoor space

How Email Fraudsters Hijack Big Brands
Sam's Club one of many to be targeted

World War II Through a Soldier's Eyes
Photos donated to Library of Congress

How to Spot Elder Fraud by a Fiduciary
Protect loved ones from exploitation

What to Know About the Coronavirus
Latest developments and information

How to Replace, Repair a Car Key Fob
Lost or damaged devices can be costly

These Words Are New. You Can Look 'Em Up
Merriam-Webster adds 455 entries

Eligible for Medicare?
Explore AARP® Medicare Supplement Insurance Plans, from

(AARP)

Further down the page, the content was grouped differently from the top of the page and changed a third time closer to the bottom of the page. There was not a good sense of consistency throughout the design. Video clips are not grouped together, therefore, easily overlooked and lost in the other written content.

HEALTH & WELLNESS

Conditions & Treatments
Healthy Living
Health Insurance
Staying Sharp

SOCIAL SECURITY & MEDICARE

Medicare Resource Center
Medicare Q&A
Social Security Benefits Calculator
Social Security Resource Center
Social Security Q&A

FAMILY CAREGIVING

Local Resources and Solutions
Long-Term Care Calculator
Caregiving Q&A

TAKE ACTION

Be an E-Advocate
Create the Good
Donate
Experience Corps
AARP Events
Tools
Volunteer
Chapter Locator
Wish of a Lifetime
OATS
Senior Planet

HAVE FUN

Entertainment
Games
Quizzes
Sweepstakes
Travel

(AARP)

Navigation is small and easily lost in the page content.

Caregiver Life Balance

Basics · Care at Home · Nursing Homes · Medical · Financial & Legal · Life Balance · Community · Local Resources & Solutions · Stories

(AARP)

Many articles seem to contain the same type of information, but with a slightly different worded byline. The benefits page has large groups of words in small font, that are links, but the user will only know this if the mouse is placed over the words.

🛡 Insurance

HEALTHCARE

AARP Long-Term Care Options from New York Life

AARP® Dental Insurance Plan administered by Delta Dental Insurance Company

AARP® MyVision Care provided through EyeMed

AARP® Short-Term Care Insurance from Medico®

(AARP)

The AARP website fails accessibility repeatedly. The contrast of the foreground and background colors tested very low (Wave).

Orange text on top a maroon background would be very difficult to see for someone with vision problems. The text was also very small in many sections, also causing further problems for the vision impaired.

- Visibility of system status: The AARP website does give the user information as to what is happening on their site. There are many places the user can find more information, or contact AARP directly for feedback.
- Match between system and the real world: The AARP website achieves this in part. The website does speak the users' language, with words, phrases and concepts familiar to the user. The site is designed informationally for the elderly user. There are many articles, ads, and videos directed at Medicare, retirement, life insurance policies, to name a few. The language used in the articles is also geared to the average older user with terms that are easy to understand.
The site fails in the layout of the information. Pages on the AARP website are not presented in a way as to make information appear in a natural and logical order. There is a large amount of information, but it is not presented consistently throughout the site. There is not an intuitive sense of direction for the user when looking for information.
- User Control and Freedom: I do not feel that the site achieves this goal. The design is so poorly laid out, that it would

be difficult for the user to know an ad from an article in several sections. If the user clicks on an article, assuming they know where the back arrow on a page normally is located, they can easily direct themselves back to the starting page. If the user mistakenly clicks an ad, they are taken to that site, with no back arrow to direct them out of their mistake. Therefore, the user would have to realize they had left the site, and x out of the page in order to return to the previous page they had been on. Ads are interlaced throughout the design, making it difficult for the user to know what they are clicking on.

• Consistency and standards: The site achieves consistency in the heading. That stays the same throughout the site. But the site does not achieve consistency in the navigation outside of the heading. Some pages have horizontal navigation under the heading, and some do not. When there is navigation on a page, it is not visually different than other wording, therefore making it difficult to see that it is a clickable link.

• Error prevention: As previously stated, articles and ads look very similar on the page, therefore making it easy to click on an ad that takes the user out of the site. Navigation is difficult to discern, therefore making it easy to click on text that is navigation by mistake. Therefore, the page fails largely at error prevention.

• Recognition rather than recall: The site fails this point. There is little direction for the user to navigate the site easily. If the user had questions as to how to use the site, there is not an easy way to have their question answered.

• Flexibility and efficiency of use: The AARP site failed on this point as well. There were no accelerators for the more advanced user to navigate the site.

• Aesthetic and minimalist design: Parts of the AARP site are extremely word heavy, causing the design to look cluttered and poorly executed. There is very little white space within the borders of the page. The text is small and the hierarchy is not

consistent throughout the pages.

- Help users recognize, diagnose, and recover from errors: No error messages appeared while exploring the AARP website.

- Help and documentation: The user must have some experience to find places on the site for direction and help. The elderly user must know standard icons and what they mean to find the search option as well as the menu. Items are not typed out for the user to easily find what they are looking for on the AARP site.

Usability Heuristics and Accessibility for User Interface Design in Elderly Focused Websites Retirement Life Matters http://www.retirewow.com/

Retirement Life Matters

Retirement Life Matters is a website were retired older adults can read articles on everything from spirituality, to health and relationships. Retirement Life Matters essentially brings age of life articles to the older adult, hoping to provide a better time during their retirement years.

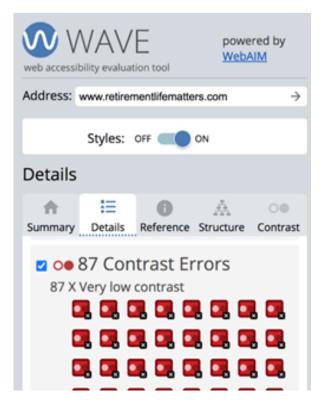As the user opens the homepage of Retirement Life Matters, a popup opens.

(retirewow)

The next image the viewer will see is a deceased woman in a hospital bed.

(retirewow)
Use of imagery such as this in the homepage, would create a retreat response from the user. It conveys that the user is headed for death, instills a sense of dread, and creates depression.

The colors chosen for foreground are orange and lighter green. These fail the usability contrast test on the Wave Report (Wave).

The size of the second line of horizontal navigation is too small to be seen by someone with visibility issues.

(retirewow)
The font choice is also extremely condensed, which makes it difficult to read. The lighter gray background with darker gray font color is also difficult to read. There are two sets of top navigation, which the user might miss all together.

(retirewow)

The right-side navigation is very small and not easily visible to the impaired eye. It is also written in the light green non bold text on a white background which makes it very difficult for the viewer to decipher the words.
(retirewow)

- Visibility of system status: The Retirement Life Matters website does give the user information as to what is happening on their site. There are many places the user can find more information, or search for articles they are looking for.
- Match between system and the real world: The Retirement Life Matters website does speak the users' language, with words, phrases and concepts familiar to the user. The site is designed as a large information pool, where the user should be able to find articles pertaining to their current situation. The language used in the articles is also geared to the average older user with terms that are easy to understand. Many of the pages explain why the articles should be important to the reader.

The site layout is clear and easy to understand. If the user is able to read the navigation, due to its size and color, the user should have no problem navigating the site or searching for information.
- User Control and Freedom: The site achieves this goal. As stated previously, this site is easy to understand and navigate, if the user does not have visual impairment. There is visual hierarchy used in the design, making it easy for the user to understand links from paragraphs.
- Consistency and standards: The Retirement Life Matters site does seem to follow consistency standards throughout the site. While foreground colors are poorly chosen, the color and hierarchy used are consistent throughout the site.
- Error prevention: Yes, this site is designed well enough that error prevention should not occur, unless the user has vision impairment.
- Recognition rather than recall: The site passes this point of usability. The user should be able to decipher the consistency of the design and know where to click to progress forward in the site.

- Flexibility and efficiency of use: This site is an information article heavy site, well designed as to user interaction. Therefore, cues for the more advanced user are not needed.
- Aesthetic and minimalist design: While there is white space used in the design, the article boxes are very wordy, which is in small black text.
- Help users recognize, diagnose, and recover from errors: No error messages appeared while exploring the Retirement Life Matters website.
- Help and documentation: This should be an easy to maneuver site for all levels of users. The buttons are clearly marked. The navigation makes sense as to where the user will be taken once clicked. Each article gives a clear paragraph as to what the article is about and its importance to the user.

Usability Heuristics and Accessibility for User Interface Design in Elderly Focused Websites

Senior's Guide To Computers

https://www.seniorsguidetocomputers.com/

Senior's Guide to Computers
Senior's Guide to Computers is a site listed on many elderly lists of important websites for seniors. It is included in Seniorliving.com's 2020 list of websites dedicated to seniors. Though it is dedicated to seniors, Seniors Guide to Computers is not designed for seniors, and it is most certainly not designed for senior accessibility.
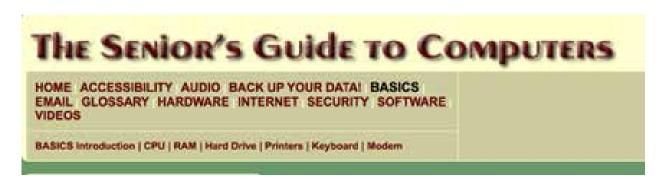Senior's Guide to Computers is a text heavy page.

(Mayer)

The text is small and the foreground and background do not have good contrast. The page fails the Wave Report.
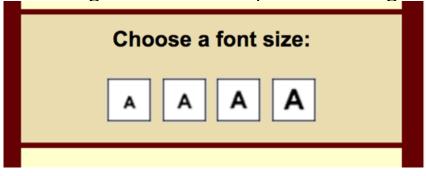(Wave).

The page's navigation is small, and very condensed. There is also not a clear difference between the top larger horizontal navigation, and the smaller horizontal navigation.

THE SENIOR'S GUIDE TO COMPUTERS

HOME ACCESSIBILITY AUDIO BACK UP YOUR DATA! **BASICS**
EMAIL GLOSSARY HARDWARE INTERNET SECURITY SOFTWARE
VIDEOS

BASICS Introduction | CPU | RAM | Hard Drive | Printers | Keyboard | Modem

(Mayer)
There is literally information scattered throughout the page in no sense of organization pattern. The only redeeming factor about the page is that it does give the user the option of making the text larger.

Choose a font size:

A A A **A**

(Mayer)

- Visibility of system status: The Senior's Guide to Computers does explain the purpose of the page and gives the user a clear
reason as to the use of the page.
- Match between system and the real world: I would say the site works on using the users terminology at times, but the user will be confused depending on their skill level. While the words that can help the user are on the page, the user may not understand the meaning of the words, or how the words pertain to them.

If a user is unskilled and unaware of what they are looking for on this page, they may not find any help as to how to be a better computer/internet user. Also, if they have vision impairments, they will not be able to clearly comprehend all of the text.

- User Control and Freedom: The design, while basic, is not designed to an older adult's impairments. The amount of text is frustrating. The size and color of the text is also difficult to comprehend. Advertisements for other websites selling products are placed in between two paragraphs, which would confuse the unskilled user. The user is able to increase the font size, but that navigation is halfway down the page, and is not intuitive for the unskilled user.

- Consistency and standards: The site is consistent with placement of navigation.

- Error prevention: This site fails drastically on error prevention. Advertisements are placed between paragraphs. There is a navigation that states links, which takes the user to a page that states, virtual funerals and online memorials. If the user clicks on this link, they will be taken away from the Senior's Guide to Computers page, and could have a problem returning.

- Recognition rather than recall: The site has many links and explanations. The two column design, with small text and one word descriptions makes it difficult for the user to understand how to proceed.

- Flexibility and efficiency of use: Most items on the page are links, therefore, special navigation for the advanced user would be unnecessary.

- Aesthetic and minimalist design: This site fails at the minimalist design. There is little white space, and the design is text heavy.

- Help users recognize, diagnose, and recover from errors: No error messages appeared while exploring the Senior's Guide to

Computers website.
- Help and documentation: The user will need some advanced computer understanding to understand this page, as well as know what they are looking for on the site. The navigation, while consistent, is confusing.

Conclusion

All of these sites fail the WCAG (web content accessibility guidelines). While all of the WCAG guidelines are important, there are several that are essential to building a usable senior driven website.
Those are:
- text alternative for all non-text content
- media - choice for audio only, video only, captions, audio controls
- contrast - between text and background
- resize the text - start out at least 12 - 14pt. with the options for resizing keyboard navigation possible
- controls for pause, stop, hide for all moving, blinking, or scrolling

The sites listed above failed to include these very important key components. The only way for the senior society to flourish on technology, is for the designers to understand their target audience and design as such.
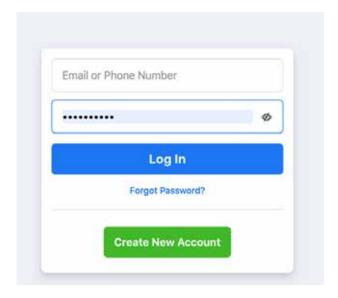
Safety Concerns While Using the Internet

(Pexels)

Though a user can accomplish amazing things using the internet, the internet comes with risk to the user. It can be especially dangerous to the inexperienced user. Elderly users can be easily preyed upon online. This thesis will show how the elderly user can continue to use the internet safely. Older adults use the internet for a variety of reasons such as to stay social with friends and family, finding dates, banking, shopping, exploring travel possibilities, medical information, and news. Nevertheless, there are many safety concerns while using the internet.

Passwords

The user must create a strong password that hackers cannot easily ascertain. It is difficult for the average user to remember multiple passwords, and even more difficult for the elderly user. Eldre65 will eliminate the elderly user from having to remember a large amount of information in order to reach their destination online. Once the user has set up the Eldre65 account, the user will only be required to remember their Eldre65 password. All other information will be linked to the Eldre65 site, drastically cutting down the amount of clicks a user needs to make to get to a regularly traveled site.
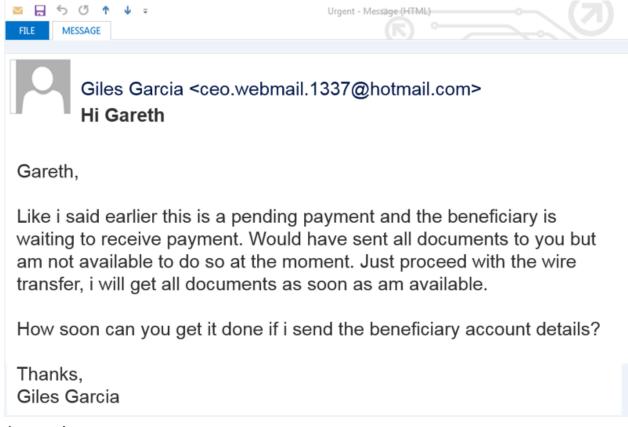

(Facebook)

Privacy Settings

The privacy settings on the computer must be checked often.

Spam

Older adults need to know when an email seems like spam and delete it. They need to understand not to click on any links from emails they are from unknown sources.

Urgent - Message (HTML)

Giles Garcia <ceo.webmail.1337@hotmail.com>
Hi Gareth

Gareth,

Like i said earlier this is a pending payment and the beneficiary is waiting to receive payment. Would have sent all documents to you but am not available to do so at the moment. Just proceed with the wire transfer, i will get all documents as soon as am available.

How soon can you get it done if i send the beneficiary account details?

Thanks,
Giles Garcia

(Gmail)

Abuse

It does not matter who the email is from, an elderly person needs to report abuse when they are being cyber bullied. They can report the abuse to the website, or even the authorities. They need to know that there are laws that protect them from abuse.

Scams

Seniors need to be careful of internet scams. If it seems too good to be true, then it is. They need to know not to give their banking or credit card information to anyone unless the site is reputable. They also need awareness to scare tactics used on them.

Online Merchants

If the company is unknown to a user, it needs to be checked for reliability. The user needs to first check with the Better Business Bureau to see if the company is registered. Many smaller sites also are offering Amazon Pay, which keeps a transaction in a website you can trust.

Identity Theft

Do not post or give personal information such as date of birth, social security number, phone number, or address, unless you are sure of the party you are giving it to. Never give out your password, a reputable site will never ask you for it, unless you are logging into the site.

User Experience and Accessibility

Elvis Canziba, in his book, Hands-on UX Design for Developers: Design, Prototype, and Implement Compelling User Experiences from Scratch, describes UX design as "the process of designing physical or digital products that are useful, easy to use, and provide a great experience in interacting with them. In short, it's everything that involves why, what, and how the product is being used by its users." They further explain the four types of design:

- UX design (research, wire framing, and prototype):
    Using tools such as Balsamiq, Pen and Paper, and sketching.
- UI design (visual design, mockups, icons, and assets):
    Using tools such as Photoshop, Illustrator, SketchApp, and Adobe XD Design.
- Interaction Design (prototype of UI, animation, human interaction):
    Using tools such as Principle, Adobe AfterEffects, InVision, and FramerJS.
- Front end side (HTML and CSS for User Interface Design):
    JavaScript, advanced CSS features for interface interaction and animations (Canziba).

There are two other design types that play a large role in developing a senior based website, Accessibility Design and Kurosu.

Accessibility Design
University of Washington defines accessibility design as, "a design process in which the needs of people with disabilities are specifically considered. Accessibility sometimes refers to the characteristic that products, services, and facilities can be independently used by people with a variety of disabilities" (What is the difference between

accessible, usable, and Universal Design?). This design process follows the W3C accessibility guidelines when designing a website.

A few of the key parts to accessibility design are:
- Keeping the design consistent among all pages
- Having as few clicks as possible to arrive at the desired content,
- Keeping a large amount of white space on your page to avoid clutter

This design process can be used specifically on a site, or the designer can design for all, making the content a universal design.

Kurosu

In his book, Theory of User Engineering, Kurosu defines universal design as follows, "Universal design is defined by Mace (2016) as "the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design." He also wrote, "The intent of universal design is to simplify life for everyone by making products, communications, and the built environment more usable by as many people as possible at little or no extra cost. Universal design benefits people of all ages and abilities"(**Kurosu).** Universal design would encompass the idea of design for all, which would be usability for the widest possible range of people.

Universal design would be a significant benefit to those with disabilities and impairments. It would take away the choice to create accessible or non-accessible design. Universal design would include everyone because it would encompass these seven principals developed by the European Institute for Design and Disability:

"Equitable Use: The design is useful and marketable to people with diverse abilities.

Flexibility in Use: The design accommodates a wide range of

individual preferences and abilities.

Simple and Intuitive Use: Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level.

Perceptible Information: The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.

Tolerance for Error: The design minimizes hazards and the adverse consequences of accidental or unintended actions.

Low Physical Effort: The design can be used efficiently and comfortably and with a minimum of fatigue.

Size and Space for Approach and Use: Appropriate size and space are provided for approach, reach, manipulation, and use regardless of the user's body size, posture, or mobility."

W3C Web Accessibility Initiative

The W3C Web Accessibility Initiative (WAI) completed extensive work on the development of set standards, materials, and guides to follow in order to help developers implement accessibility into their projects. There are four main principles to the guidelines: perceivable, operable, readable, and compatible. These four main principles organize all of the guidelines written to make using the web accessible for all.

First, the information needs to be perceivable. The design and information must be put together in a way the user can perceive. Designing for a user to be able to perceive would include having text options for all non-text items on your page. The page would also include all time based media to be presented in individual audio only and video formats.

The W3C Accessibility Guidelines 3.0 was introduced this past January in an ongoing effort to keep accessibility front and center in the online development community. The purpose of the document is to set forth guidelines so that all digital products including web, ePublications, PDFs, applications, mobile applications, and other emerging technologies will be designed to include users with disabilities.

The 3.0 version of the W3C Web Accessibility Initiative conveys further implementation of key concepts from the 2.0 version. The 3.0 version guides the developer on the use of text alternatives for all non-text content. All images, including pictures of words or letters are to have text alternatives where the user can read an explanation of all images on the page.

The updated guidelines also stress the importance of using clear

words throughout your media. Clear words are common words to define or explain that the average user would be able to understand. Clear words reduce confusion and anxiety for the user, as well as promote user retention.

When the user interacts with a site that contains video, the guidelines direct the developer to include captions. This allows the user to understand what is taking place in the video. Users with cognitive, visual, or hearing impairments would benefit greatly from the use of captions.

Another guideline developed by the Initiative, is the use of structured content. The user needs to be able to see a page and understand the organization of the page. Grouping of content must make sense for the user to continue to use the media.

Lastly, the visual contrast of text, or the hierarchy of text needs to be designed in an understandable way. The user needs to be able to distinguish between a paragraph heading, a link, and a body of text.

All the guidelines implemented in the W3C Web Accessibility Initiative were created to decrease confusion for the user. Accessibility is measured by understanding, and when a user can understand the media, they will access and use the media. Accessibility should be the most important factor in user interface design, allowing all individuals the chance to access information, entertainment, and mobility across the web.

Other Guidelines for Elderly Usability

Universal Usability Web Design Guidelines for the Elderly (Age 65 and Older) is a site that was created by Professor Haixia Zhao of the Department of Computer Science at the University of Maryland, College Park (Universal usability web design guidelines for the elderly (age 65 and older)). The guidelines he presented were very similar to the W3C Accessibility Guidelines 2.0 and 3.0. He recommends using basic and common fonts, allowing the viewer ease of legibility. The font should be no smaller than 12 point, should not be bold unless denoting a title, and should not be in all caps. The designer should use high contrasting colors, such as those opposite on the color wheel. The designer should always provide a site map or table of contents, giving the user a detailed explanation of the navigation of the site. Audio and visual content must also have a text equivalent for users with vision and hearing problems. The designer should lay out the page, incorporating large amounts of white space, with well understood grouping of text. All these guidelines direct the designer to create an easily accessible website for the elderly.

AARP also created a user guide for designing websites for the elderly called Designing Web Sites for Older Adults: A Review of Recent Research (Redish and Chisnell). The review is very detailed and explains the importance of designing specifically for elderly accessibility. The writers explain the differences between the general user and the elderly user. They list how to write for the older user so they can understand the content more easily:

- "Write in the active voice most of the time
- Write to "you" the user
- Use action verbs, not nouns made from verbs
- Write short, straightforward sentences
- Keep paragraphs very short

- Use lists" (p.36).

The AARP research also explained that a large percentage of elderly users have slower internet speeds. Therefore, the content of the site must be designed to load easily and quickly.

User Personas

Name: Pauline Panichello
Job/Title: Homemaker, teacher
Demographics:
- 89 years old
- Widowed
- Mother of three children
- Grandmother of four children
- Has a degree from the Philadelphia Stenotype Institute
- Owns a smartphone, tablet, and desktop computer
- No technical training

Motivation:
- They are motivated by the necessity to use the internet for bill pay and banking
- They are looking for an easier way to get to all their stored information
- They are wanting to not be scammed online and have a better understanding of possible scams
- She needs to be able to access all of her personal information safely in one place. She needs to be able to pay her bills, and bank safely.

Name: Douglas William
Job/Title: Business Owner
Demographics:
- 75 years old
- Married
- Father of two children
- Grandfather of two children
- Has some college
- Veteran
- Owns a smartphone and desktop computer
- No technical training

Motivation:
- They are motivated by the necessity to use social media for their business
- They are looking for an easier way to get to all their business information
- They are wanting an easier way to connect to the pages they go to the most
- He needs to be able to find all of his social media in one place with all logons saved. He also needs to be able to access his banking, both business and personal, more easily.

Name: Mary Strickland
Job/Title: Retired
Demographics:

- 78 years old
- Widowed
- Mother of two children
- Grandmother of no children
- Has a high school diploma
- Owns a smartphone, and desktop computer
- No technical training

Motivation:

- They are motivated by the necessity to safely talk to friends over chat
- They are looking for a safe place to surf the internet
- They are wanting to have all of their favorite pages in one place, and only use one password to access all of them
- She needs to be able to use banking, and have all of her medical information in one place
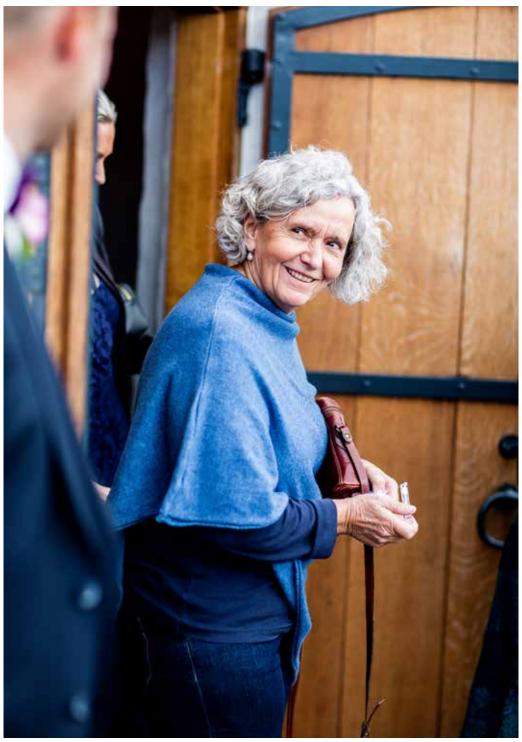
Name: Thomas Castile
Job/Title: Retired
Demographics:

- 80 years old
- Divorced
- Father of one child
- Grandfather of two children
- Has a degree from the University of Georgia
- Owns a smartphone, tablet, and desktop computer
- No technical training

Motivation:

- They are motivated by the necessity to use the internet for the stock market
- They are looking for an easier way to have all of their stored information in one place

- They are wanting to access information in the shortest time possible
- He needs to hop on and off the internet checking the rise and fall of the market, but does not want to have multiple logins

(Pexels)

Scenarios

1. An elderly user needs to order more of his prescription from his doctor, but does not remember the doctor's name or practice name.

2. An elderly user wants to group chat with her fellow older friends, and wants to make sure they are not being hacked.

3. An older man needs to look up good places for help with care giving.

4. An older user wants to watch her church sermon online, but does not have good motor control of their hands. She needs to get there with as few clicks as possible.

5. An elderly man wants to read the latest google news and also needs to check his bank account.

6. An senior user has ten minutes to spare between phone calls, and wants to check all her favorite sites.

Conclusion

Eldre65 will be designed using all of the found research. Guidelines from the W3C usability for accessibility will be followed. The choices made on the user interface will be completely based on research and data findings. Users will be able to use a screen with a high contrast color pallet, and large text. None of the text will be smaller than 24 point, therefore eliminating the need for a tool to make the text larger. Elderly users will use Eldre65 needing to make as few clicks as possible.

All pages will be created based on the same design. Therefore, each page will have consistency and not be confusing to the user. There will be a large amount of white space used in the design, creating a less cluttered feel for the user.

The heuristics of Eldre65 will be as follows:
- Visibility of system status: Eldre65 consists of a basic grid layout, where the user will understand grouping of items, plus all groups are labeled for a lack of confusion for the user.
- Match between system and the real world: Eldre65 is totally dedicated to the user that is 65 years and older. All language used is written for the lay person. No prier understanding of technology will be required.
- User Control and Freedom: Eldre65 has an easy flow and layout. There is no confusion as to where to click for a link. There is an easy to understand hierarchy for all information presented.
- Consistency and standards: All pages on Eldre65 will be designed with the same layout. From the home page to the entertainment page, each will be designed using a clickable grid layout. Each section is explained, as well as each page has an explanation at the top as to its purpose on the site.

- Error prevention: Eldre65 is laid out in sections. Each section is labeled as to what information the user can find there. There should not be any question as to where to locate information.
- Recognition rather than recall: Eldre65 is broken down into easy-to-understand sections. Navigation is easy for the user to use and understand.
- Flexibility and efficiency of use: Eldre65 will not seem mundane to the experienced user. It will feel easy and forthcoming to a user at any level of skill.
- Aesthetic and minimalist design: Eldre65 is based on a minimalist design. A good amount of white space is incorporated into the design. Pictures and icons are used when possible. The site is void of sections of large amounts of text.
- Help users recognize, diagnose, and recover from errors: Eldre65 will be presented in such a way that users will not be confused. Use of the main top navigation bar will be easy for the user to navigate the site.
- Help and documentation: Each section of Eldre65 is spelled out for the user. The final navigation button on the top navigation is a help button. There the user can find out how to contact us.

Eldre65 is a user-driven website for the elder user over 65. All design aesthetics were based on usability and accessibility. The elderly user will be able to navigate their way through the site with ease and no confusion. They will feel a sense of freedom and control as they take over their online lives.

Visual
Process

Eldre65 took a good amount of planning and imagining. There were several steps taken before the actual design process could begin. One such beginning design process was building a mood board. Eldre65 was to be uplifting and a positive place to be online.

I had chosen a navy blue and deep orange as my two signature colors. These two colors were across from each other on the color wheel, therefore they complimented each other and had good contrast. The mood board showed that Eldre65 was to be a place where elderly users could be online and experience peace, freedom, safety, and fun.

The next pre-design process that was taken was to create a sitemap of what Eldre65 was going to be comprised of. The sitemap would later be scaled down to just the essentials of what elderly users would find important.

Literature Reviews for the research behind Eldre65:

1. Designing Web Usability, by Nielsen, Jakob Nielsen, Jakob.
Designing Web Usability. New Riders, Indianapolis, Ind, 2000;1999;.

Nielsen delivers complete direction on how to connect with any web user. I have chosen this source because Nielsen is one of the leading experts on web design.

He designs for any group, elderly, disabled, etc., and explains the what and why of the user experience they are desiring. This book will show me how exactly to connect with my target audience. This book will also explain the key designs that will help my target audience use my website.

This book will play a key role in my thesis, as it will be the backbone of my design choices.

2. Human factors and Web development, by Ratner, Julie.
Ratner, Julie, and Inc ebrary. Human Factors and Web Development. Lawrence Erlbaum Associates, Publishers, Mahwah, N.J, 2003;2002;.

Ratner delivers a book depicting the research being conducted at the beginning of the 21st century on UX.

I have chosen this source because it is a book that studies the human factors behind the ease of using the web. It also combines hundreds of articles of research from corporate to graduate students on usability. I feel the research will help understand my target audience.

This book will be a good place for research on my target audience and their practices on the web.

3. Assistive Technologies for the Interaction of the Elderly The Development of a Communication Device for the Elderly with Complementing Illustrations and Examples
By: Moritz, Eckehard Fozzy. Moritz, Eckehard Fozzy. Assistive Technologies for the Interaction of the Elderly The Development of a Communication Device for the Elderly with Complementing Illustrations and Examples .
1st ed. 2014., Springer International Publishing, 2014, doi: 10.1007/978-3-319-00678-9.

I have chosen this book because it looks at assistive technologies for the interaction of the elderly. It gives results of experiments done with elderly and technology, examines what works and what doesn't work, and gives me charts.

This book will be an excellent source for my research on the elderly and what technology attracts them.

4. Smart Technology for Aging, Disability, and Independence: The State of the Science by William C. Mann PhD

This book shows how technology can improve continued independence for the elderly and those with disabilities. It examines technologies including: human computer interactions, assisted vision and hearing, smart wheelchairs, smart phones, visual sensors, assistive robotics, and more.

This book will be effective in my research because my website is for the purpose of giving the elderly users more independence and freedom.

5. Grandcare Case Study: Technology to Help the Elderly Live Independently at Home Grandcare Case Study: Technology to Help the Elderly Live Independently at Home. Data monitor Plc.

This book shows how technology will continue to give elderly freedom and independence so that they can continue to live at home. This is creating a new culture where the elderly can stay in their homes, instead of being forced in to facilities.

I have chosen this case study because it works hand in hand with my website. I want the site to help the elderly keep freedom and independence through increased usability.

6. Positive Technology for Elderly Well Being: A review
Grossi, Giuliano, et al. "Positive Technology for Elderly Well-Being: A Review." Pattern Recognition Letters, North-Holland, 2019, doi:10.1016/j.patrec.2019.03.016.

The elderly represent a significant portion of our country, therefore, a considerable research effort has been devoted to the use of information and communication technologies in daily living to promote activity, social connections, and independence.

I have chosen this book because it continues the idea of promoting independence to the elderly.

7. A trajectory for technology-supported elderly care work
The government aims to de-institutionalize elderly care services by upscaling home care services and care housing and downscaling long-term stays at nursing homes.

This is to better facilitate elderly to stay independent in their homes.

I chose this book because it continues my quest to allow the elderly more freedom through technology.

8. Aging and Technology : Perspectives from the Social Sciences

This book takes on human beings first, and not technology. As the senior population continues to grow, we must do something to help them in staying independent. This book looks at how the individual reacts to the technology.

I chose this book because it show the human side of the interaction.

9. Gerotechnology: research and practice in technology and aging : a textbook and reference for multiple disciplines
Burdick, David C., and Sunkyo Kwon. Gerotechnology: Research and Practice in Technology and Aging : A Textbook and Reference for Multiple Disciplines. Springer Pub. Co, New York, NY, 2004.

Two waves are growing aging population and growing technology. This book looks at both as they collide. It includes concepts from the basics of gerotechnology-person environment fit-to the core activity fields-computer and assistive devices and their practical applications-to models, or prototypes for technical development and its application to everyday life.

I chose this book because it covers the merge of elderly and technology, and how it affects the elderly in their everyday lives.

10. Aging Friendly Technology for Health and Independence
This book looks at the common technologies and how they are affecting the elderly. What technologies are friendly and what ones are not when it comes to increased age. It also discusses how this affects businesses and the rest of us.

I chose this book because it shines a light on how current technology is affecting seniors and all of us.

Final
Solution

Eldre65 is a website created for Elderly users ages 65 and older. The design choices are all based on research and on the W3C user accessibility design principles.

Color
To begin, the colors chosen for Eldre65 were based on contrast, mood, and how each complimented the other. There was to be a large amount of white space in the design, as per following the guidelines set forth by the W3C for user accessibility. The other two colors chosen for the site were #00007F and #FF4900.

Orange #FF4900 is thought to bring about feelings of enthusiasm or excitement. It is a high energy color and that was the decision behind the choice to use orange. From there, blue #00007F was chosen because it sits across from orange on the color wheel, therefore, giving the eye high contrast and very complimentary. That is why several sports teams use the two colors together.

Typeface
Mendl Sans Dusk was used throughout the site, H1 being bold, H2 semi-bold, and H3 regular. According to the W3C sanserif fonts, such as Mendl, are easier for users with vision problems to read. All type throughout the site is larger than 24 pt. There is no need for the user to try to find a button to make the text larger, since the site was designed with all large text.

Minimal Popups
Eldre65 was designed so that there were to be very few popups to confuse the elderly user. According to the W3C accessibility guidelines, popups can be confusing to the challenged user, especially if the user is unable to x out of the popup easily.
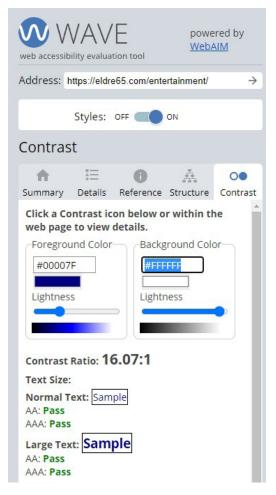
The Pages
The Landing Page

Eldre65

Login

Welcome to Eldre65 - a place for adults 65+ to experience a new kind of freedom online. Eldre65 helps you stay connected online. Here you can:

Safely store all your important website information in one place so you do not have to remember multiple passwords

Easily find your medical, banking, and shopping in one convenient location

Chat with your friends in a safe inclusive environment

All designed based on your needs - large type, easy navigation, vibrant design - helping you live your best life online!

Freedom Fun Safe Easy **Eldre65**

Sign UP

Sign up today and see how Eldre65 puts the online world at your fingertips, giving you freedom, safety, and empowers you to easily stay connected. Fill out the information below to start living your best life online!

Name

Address

City, State, Zip

Phone

Email

Date of Birth

Password

Sign Up

Terms of Use   Info   Support   Marketing   Privacy Policy

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The Landing Page was designed to explain exactly what Eldre65 was for the user that just happened upon it. It is also the place the user signs up for the service or logs into the service.

The puzzel piece is to show all the pieces that go in to make Eldre65 a complete landing place for elderly users. Eldre65 is a combination of freedom, fun, safety, and ease.

Eldre65 is all about continuity and forms throughout the site are the same design, therefore, a user will not be confused as to what they are supossed to do with the form.

The footer is the same on each page. Part of accessibility design is keeping the design the same page to page so that the user knows where to go to find information.

Colors used on the site were #00007F, #FFFFFF, and #FF4900. The contrast of the page passes the Wave Accessibility Evaluation Tool(Wave). Therefore the site is designed for those with visual imparements. The W3c guidelines "requires a higher contrast ratio of at least 7:1 for the visual presentation of text and images" (WAI)

Home page
This is the page the user is directed to once signed up for the Eldre65 service. Here the user can upload a profile picture, as well as add pages that the user frequents. The pages are grouped in three categories, social, shopping, and personal. All social media will go into the social group. All stores will be placed into the shopping section. And all other sites the user wants to include in their Eldre65 experience will go into personal.

There is a large amount of white space designed into each page. This follows the W3C guidelines for elderly design by "providing sufficient inter-column spacing"(WAI). Each page includes an explanation of what the page is and what you can do on said page. That way the user will never be confused as to what they are able to accomplish on each visited page.

There is also a search bar at the top of the header so if the user were to get confused on the location of an item, they can search and easily find it that way. This is a design guideline from the W3C accessibility guidelines. "Providing a search function that searches your Web pages is a design strategy that offers users a way to find content. Users can locate content by searching for specific words or phrases, without needing to understand or navigate through the structure of the Web site" (G161: Providing a search function to help users find content).

The main navigation in the header is consistent on each page except for the landing page. Home, profile, banking, medical, entertainment, and help are the six main navigation points in the site. The user is not given an over abundance of choices, keeping the user from getting overwhelmed while using the site. This design element is addressed in the W3C guidelines, by "avoiding overuse of different styles on individual pages and in sites" (WAI).
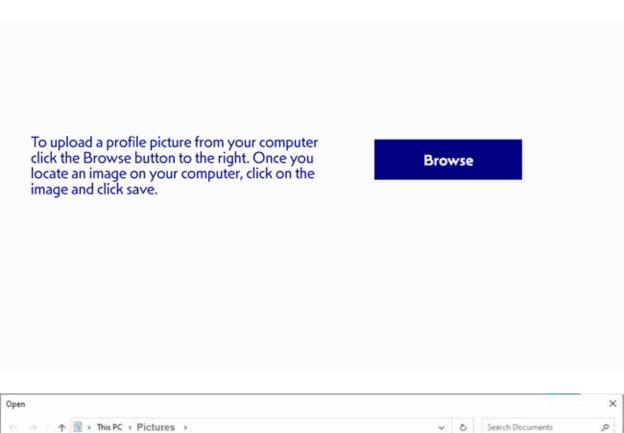
Q

Click Here
to Upload a
profile Picture

Ann Strickland

Social

Shopping

Personal

Welcome!
We hope you are having an amazing day! Enjoy your time online today!

Your Pages
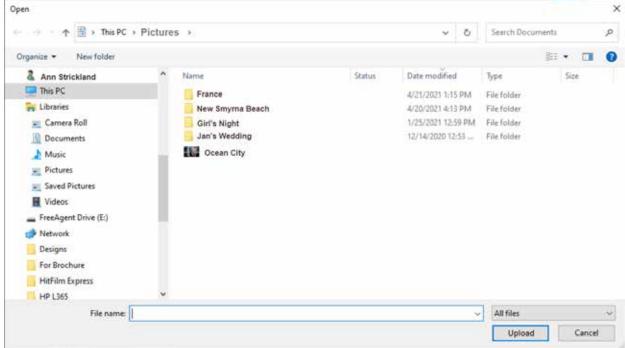
Click here
to add a
website

Click here
to add a
website

Click here
to add a
website

Each click the user makes includes easy directions on how to accomplish the task. This follows the W3C guidelines where "labels or instructions are provided when content requires user input" (WAI).

To upload a profile picture from your computer click the Browse button to the right. Once you locate an image on your computer, click on the image and click save.

Browse

Open						✕
← → ↑ 🖥 › This PC › Pictures ›				⌄ ↻	Search Documents	🔎
Organize ▾ New folder					▦ ▾ ▢ ❓	

	Name	Status	Date modified	Type	Size
👤 Ann Strickland					
🖥 This PC	📁 France		4/21/2021 1:15 PM	File folder	
📚 Libraries	📁 New Smyrna Beach		4/20/2021 4:13 PM	File folder	
🖼 Camera Roll	📁 Girl's Night		1/25/2021 12:59 PM	File folder	
📄 Documents	📁 Jan's Wedding		12/14/2020 12:53 ...	File folder	
🎵 Music	🖼 Ocean City				
🖼 Pictures					
🖼 Saved Pictures					
🎞 Videos					
⎯ FreeAgent Drive (E:)					
🌐 Network					
📁 Designs					
📁 For Brochure					
📁 HitFilm Express					
📁 HP L365					

File name: | | All files ⌄

Upload   Cancel

The design is driven on user clarity and ease of use through the site. At all times, Eldre65 is a anxiety free usability site.

Large icons were used so the user could easily decipher one from the other as well as for users with visual impairments. And as stated previously, all forms are designed the same in order to bring about user recognition. Consistency in design was used in all design choices.

Profile Page
The profile page is where the user has all of their entered information when they signed up for the site. They can update information on this page as well as change their profile picture.

Forms remain consistent throughout the design. All text is no smaller than 24pt anywhere in the design of the site. The profile picture stays in the same location on each main navigation page. Eldre65 wants the user to understand, recognize and feel at ease using the site. They also follow the W3C guidelines by "says that labels should be provided "when content requires user input"" (WAI).

Each heading on the site is labeled. This follows the W3C guidelines where "section headings are used to organize the content" (WAI). This helps users to not get confused as to where they are on the site. It also helps users search in the search bar when they want to find a section of the site, but do not know where it is located.

Profile
Where your personal profile information can be changed and updated.

Ann Strickland

Click to Edit Profile Information

| Name | Ann Strickland |

| Address | 600 Sweetwater Club Circle |

| City, State, Zip | Longwood, FL 32779 |

| Phone | 407-774-5470 |

| Email | astrickland@gmail.com |

| Date of Birth | 05-25-1942 |

Change Profile Picture

Banking

Banking should be the most important when it comes to security for the elderly user. Eldry65 will have security protocols in place so that the user's information does not get out or leaked. It is a safe and secure site for all of the user's personal information.

On the banking page, the user can see all of their latest transactions, see where their balance has risen and fallen, deposit a check, check their credit score, open a savings account, check their savings account, and dispute a charge. Eldre65 is directly linked to your bank's interface, so what you are used to seeing on your bank page, is what you will see when it is linked on Eldre65.

Ann Strickland

SunTrust

Banking

Where you can complete all your banking needs with safety and ease.

Balance Statistics

$1645.43 $2000.00
Current Balance   Credit Balance

Recent Activity   Click for more ⌄

Walmart Supercenter Store	-150.00	1645.43 12/20/2021
Starbucks Restaurant & Cafe	-8.64	1795.43 12/20/2021
Lowes Hardware Store	-202.65	1804.07 12/19/2021
Applebee's Bar & Grill Restaurant & Cafe	-26.30	2006.72 12/18/2021

Check Your Credit Score

Open a SunTrust Savings Account

Check Your SunTrust Savings Account Balance

Dispute a Charge

Deposit a Check

Account Details

Account Balance	$1645.43
Present Balance	$1645.43
Account Number	486235795
Routing Number	854236845
Interest Rate	0.00%
Interest in 2021	$0.00
Last Statement Date	11/27/2021

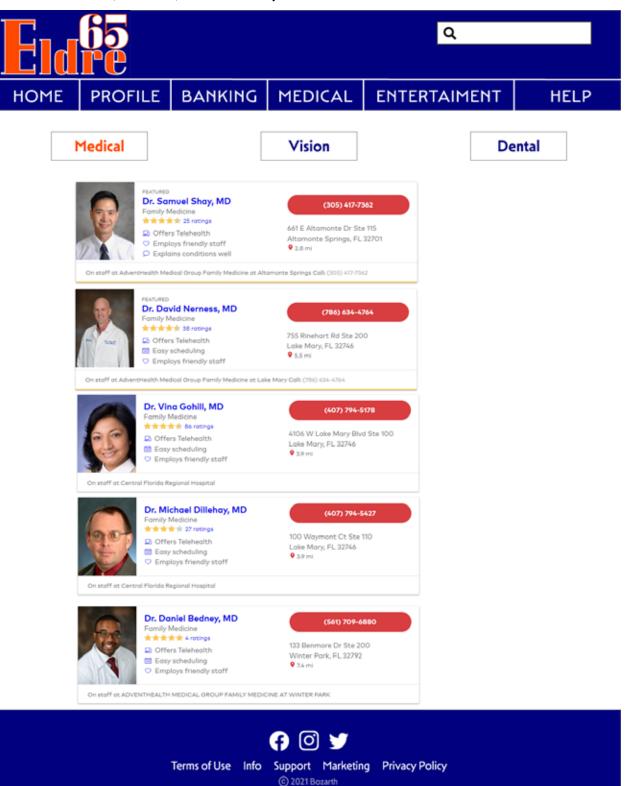**Medical**

The medical pages on Eldre65 contain important patient information.

The user will link their insurance information, as well as the medical, vision, and dental practices they visit often. The user can also search for a medical, vision, or dental practice in their area.

Eldre 65

Q

HOME | **PROFILE** | **BANKING** | **MEDICAL** | **ENTERTAIMENT** | **HELP**

Medical   Vision   Dental

Dr. David Auerbach, DO
Ophthalmology
★★★★☆ 155 ratings
📅 Easy scheduling
♡ Employs friendly staff
💬 Explains conditions well

790 Concourse Pkwy S Ste 200
Maitland, FL 32751
📍 4.9 mi

Dr. Angela Dempsey, MD
Ophthalmology
★★★★★ 41 ratings
📅 Easy scheduling
♡ Employs friendly staff
💬 Explains conditions well

1070 Greenwood Blvd
Lake Mary, FL 32746
📍 3.4 mi

Dr. Harry Pappas, MD
Ophthalmology
★★★★★ 574 ratings
📅 Easy scheduling
♡ Employs friendly staff
💬 Explains conditions well

160 Boston Ave
Altamonte Springs, FL 32701
📍 3 mi

Dr. Nader Moinfar, MD
Ophthalmology
★★★★★ 44 ratings
📅 Easy scheduling
♡ Employs friendly staff
💬 Explains conditions well

560 Rinehart Rd Ste 110
Lake Mary, FL 32746
📍 5.1 mi

Dr. My Hanh Nguyen, MD
Ophthalmology
★★★★★ 176 ratings
📅 Easy scheduling
♡ Employs friendly staff
💬 Explains conditions well

160 Boston Ave
Altamonte Springs, FL 32701
📍 3 mi

Dr. Miguel Lugo, MD
Ophthalmology
★★★★★ 32 ratings
📲 Offers Telehealth
📅 Easy scheduling
♡ Employs friendly staff

661 E Altamonte Dr Ste 223
Altamonte Springs, FL 32701
📍 2.8 mi

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HOME | PROFILE | BANKING | MEDICAL | ENTERTAIMENT | HELP

Medical | Vision | **Dental**

FEATURED
Dr. Jaime Ruiz Jr., DMD
Dentistry
★★★★★ 1 rating
🗓 Easy scheduling
♡ Employs friendly staff
💬 Explains conditions well

(407) 887-8439

1385 West State Road 434
Longwood, FL 32750
📍 1.6 mi

On staff at Longwood Family Dentistry Call: (407) 887-8439

FEATURED
Dr. Paul Pimentel, DDS
Dentistry
★★★★☆ 2512 ratings
🗓 Easy scheduling
♡ Employs friendly staff
💬 Explains conditions well

(407) 589-7426

1528 Rinehart Road
Sanford, FL 32771
📍 7.1 mi

On staff at Aspen Dental - Sanford, FL Call: (407) 589-7426

FEATURED
Dr. Tirzah Elliott, DMD
Dentistry
★★★☆☆ 3 ratings
🗓 Easy scheduling

(407) 589-7440

410 E Altamonte Drive Ste 1040
Altamonte Springs, FL 32701
📍 3.1 mi

On staff at Aspen Dental - Altamonte Springs, FL Call: (407) 589-7440

Dr. Alvin Dennis, DMD
Dentistry
★★★★★ 26 ratings
🗓 Easy scheduling
♡ Employs friendly staff
💬 Explains conditions well

(407) 887-8450

1385 West State Road 434
Longwood, FL 32750
📍 1.6 mi

On staff at Longwood Family Dentistry

Dr. Leonides Sandoval, DDS
Dentistry
★★★★☆ 7 ratings
🗓 Easy scheduling
♡ Employs friendly staff
💬 Explains conditions well

Request Appointment
(407) 589-0653

813 Douglas Ave
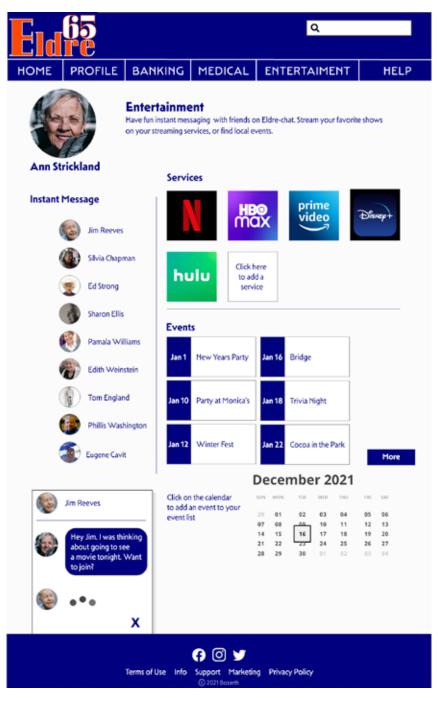Altamonte Springs, FL 32714
📍 3 mi

On staff at Alta Dental Group

Entertainment

The entertainment page is where the user can relax and enjoy themselves. Here they can chat with other Eldre65 users, stream their favorite shows, or find a local event. It is also where they can keep their personal event calender. Once the user has completed the important tasks on Eldre65, the entertainment page is where they can reward themselves for being proactive in their online community.

Ann Strickland

Entertainment

Have fun instant messaging with friends on Eldre-chat. Stream your favorite shows on your streaming services, or find local events.

Instant Message

- Jim Reeves
- Silvia Chapman
- Ed Strong
- Sharon Ellis
- Pamala Williams
- Edith Weinstein
- Tom England
- Phillis Washington
- Eugene Cavit

Services

NETFLIX | HBO max | prime video | Disney+

hulu | Click here to add a service

Events

Jan 1	New Years Party	Jan 16	Bridge
Jan 10	Party at Monica's	Jan 18	Trivia Night
Jan 12	Winter Fest	Jan 22	Cocoa in the Park

More

December 2021

Click on the calendar to add an event to your event list

SUN	MON	TUE	WED	THU	FRI	SAT
28	01	02	03	04	05	06
07	08	09	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	01	02	03	04

HOME | PROFILE | BANKING | MEDICAL | ENTERTAIMENT | HELP

Ann Strickland

Entertainment
Have fun chatting with friends on Eldre-chat. Stream your favorite shows on your streaming services, or find local events.

Events

Jan 1	New Years Party	Feb 2	Groundhog Party
Jan 10	Party at Monica's	Feb 14	Valentine's Dance
Jan 12	Winter Fest	Feb 16	Trivia Night
Jan 16	Bridge	Mar 3	High Tea
Jan 18	Trivia Night	Mar 17	St. Patrick's Party
Jan 22	Cocoa in the Park	Mar 26	Zumba

▶

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Q

| HOME | PROFILE | BANKING | MEDICAL | ENTERTAIMENT | HELP |

Entertainment

Have fun chatting with friends on Eldre-chat. Stream your favorite shows on your streaming services, or find local events.

Ann Strickland

Chats

Jim

Sil

Ed

Sh

Pamala Williams

Edith Weinstein

Tom England

Phillis Washington

Eugene Cavit

January 1 - New Year's Party

Come celebrate the beginning of the New Year with us as we enjoy a lavish buffet, full band, and dancing.

Location: Event Hall St. Mary's Catholic Church
436 Markhamwoods Trail, Orlando, FL 32702

Time: 6PM - 11PM

Contact info: www.stmaryscatholicchurch.org
Event Coordinator: Samantha Davis (407)774-5263

X

Disney+

Events

Jan 1	New Years Party	Jan 16	Bridge
Jan 10	Party at Monica's	Jan 18	Trivia Night
Jan 12	Winter Fest	Jan 22	Cocoa in the Park	More

December 2021

Click on the calendar to add an event to your event list

SUN	MON	TUE	WED	THU	FRI	SAT
28	01	02	03	04	05	06
07	08	09	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	01	02	03	04

As stated previously, the user is also able to add events and keep a personal calender. The form is designed consistently with all other forms on the site. The boxes are large to add text, as well as the type design being large and readable.

Please fill out the information to add to your event list

Event Title:

Event Details:

Event Location:

Time: Date:

Contact info:

Cancel   Click to Add to Event List

The last of the main navigation is the **Help Page**.
The help page is where the user can go for any problems they are having on the site. There the user will find information on all the ways they can contact Eldre65, as well as a permanent address of where the company is located.

All info is straight forward and understandable. The form is consistent with all other forms on the site, as are the buttons. This creates little to no user confusion. The entire site also uses an easy to read fonts. This follows the W3C guidelines where it directs to design "using readable fonts" (WAI). The cite does not use italicized or serifed fonts, which can be difficult for the visually impaired to see.
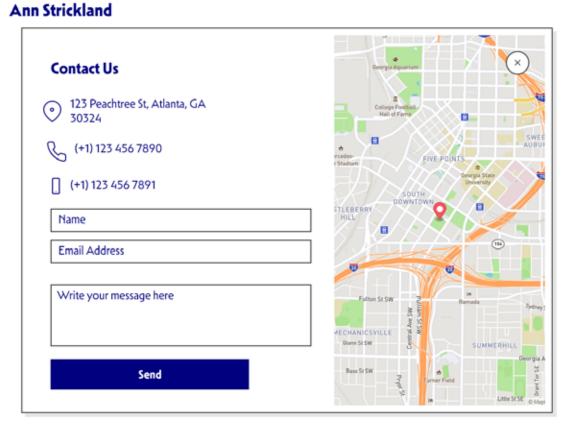
Ann Strickland

Help
Having a problem with your Eldre service? Find our contact information here.

Contact Us

📍 123 Peachtree St, Atlanta, GA 30324

📞 (+1) 123 456 7890

📱 (+1) 123 456 7891
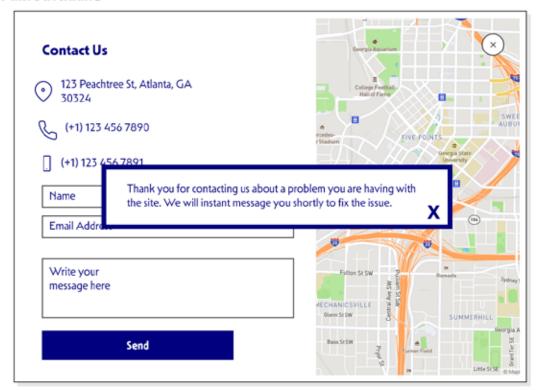
Name

Email Address

Write your message here

Send

If the user does try to email us with a problem, they can be sure the message was received on our email response form. That way there is never confusion on whether the form went through or a problem occurred in the transmission.
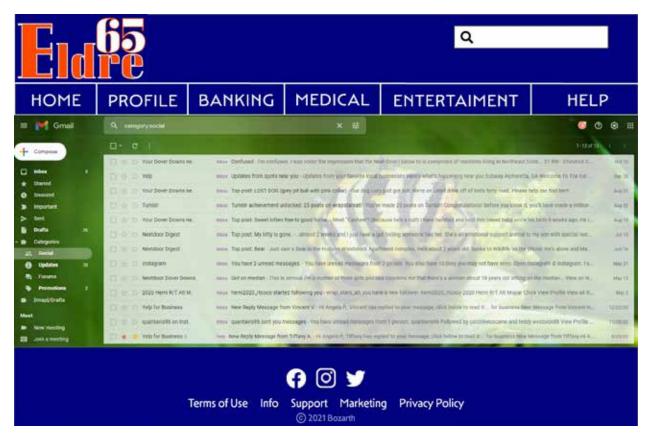
continuity. The user needs to be able to recognize what are familiar interfaces for them. While they will be logging onto their email or social media through Eldre65, the interface will stay the one the user is accustomed to. This creates little to no user confusion. This will greatly benefit users who are unskilled or have cogitative disabilities. As the W3C states, "Many older people are inexperienced web users without advanced browsing habits and therefore read the whole page, so good page organization is important" (WAI).

While every interface has to be learned to a certain extent, Eldre65 was designed to have very little user learning time. From the consistency in the design layout, to each element containing an easy description, there should be a very short learning curve for the user. Eldre65 was also designed to have as few user clicks as possible for the user. This benefits users with lack of control disabilities.

Conclusion

In conclusion, the thesis problem was that there were not websites designed based on user accessibility for elderly users. Eldre65 is a site completely designed keeping with the accessibility principles for elderly users. Every page and design choice was solely made on usability of the elderly.

The heuristics of Eldre65 are as follows:

- Visibility of system status: Eldre65 consists of a basic grid layout, where the user will understand grouping of items, plus all groups are labeled for a lack of confusion for the user.

- Match between system and the real world: Eldre65 is totally dedicated to the user that is 65 years and older. All language used is written for the lay person. No prier understanding of technology will be required.

- User Control and Freedom: Eldre65 has an easy flow and layout. There is no confusion as to where to click for a link. There is an easy to understand hierarchy for all information presented.

- Consistency and standards: All pages on Eldre65 will be designed with the same layout. From the home page to the entertainment page, each will be designed using a clickable grid layout. Each section is explained, as well as each page has an explanation at the top as to its purpose on the site.

- Error prevention: Eldre65 is laid out in sections. Each section is labeled as to what information the user can find there. There should not be any question as to where to locate information.

- Recognition rather than recall: Eldre65 is broken down into easy-to-understand sections. Navigation is easy for the user to use and understand.

- Flexibility and efficiency of use: Eldre65 will not seem mundane to the experienced user. It will feel easy and forthcoming to a user at any level of skill.

- Aesthetic and minimalist design: Eldre65 is based

on a minimalist design. A good amount of white space is incorporated into the design. Pictures and icons are used when possible. The site is void of sections of large amounts of text.

- Help users recognize, diagnose, and recover from errors: Eldre65 will be presented in such a way that users will not be confused. Use of the main top navigation bar will be easy for the user to navigate the site.
- Help and documentation: Each section of Eldre65 is spelled out for the user. The final navigation button on the top navigation is a help button. There the user can find out how to contact us.

Eldre65 is a user-driven website for the elder user over 65. All design aesthetics were based on usability and accessibility for individuals that may have accessibility issues due to age. The elderly user will be able to navigate their way through the site with ease and without confusion. They will feel a sense of freedom and control as they take over their online lives.

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