



LOGIN

Increasing Usage of Digital Platforms, Services and Products by Older People

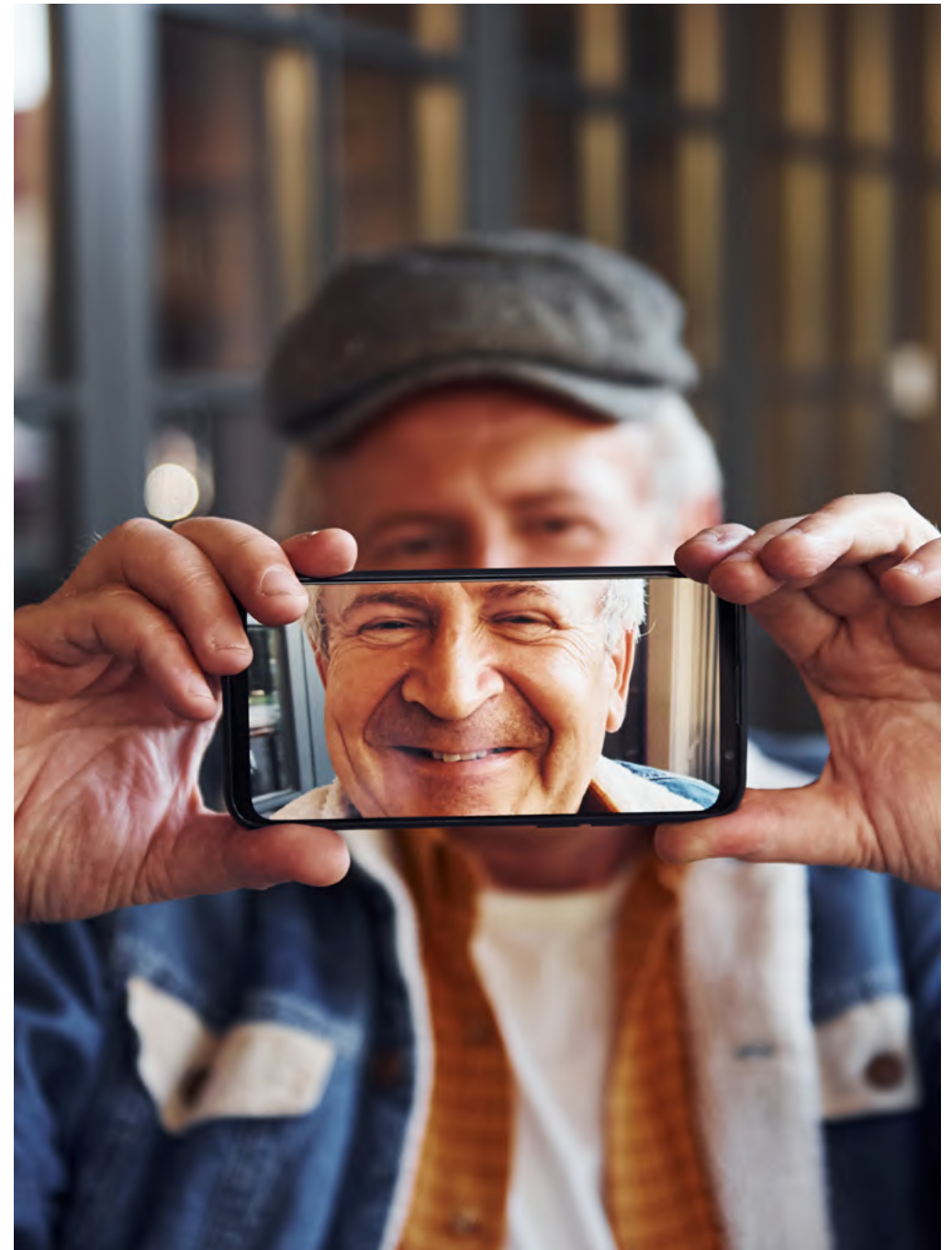
A guide for CX, UI, UX, and PM professionals

Research & Editing
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***"The youngster has better eyes,
but the elderly person sees better."***

(Henrietta Szold)

This guide aims to provide tools and knowledge needed to design services that are customized for older populations. It was created as part of the National Initiative to Promote Digital Literacy among Older Adults, which is a partnership between the Israel National Digital Agency, the Digital Israel initiative, and JDC-ESHEL.

Dozens of professionals from various sectors took part in writing this guide, and we would like to take this opportunity to thank them for their excellent work (Acknowledgments can be found at the end of this guide).

Today, designing inclusive, customized services is essential for realizing personal potential and maintaining contact with the world. For this reason, the National Digital Agency strives to connect the aging population in a way that allows them to express themselves and exercise their rights.

This guide provides general recommendations for great UI/UX based on accessibility standards, focusing on the most crucial issues for people aged 65+.

Clearly, sometimes compromises in user experience are necessary due to the competing design requirements of various target audiences. However, there are cases in which a principle that works for older adults also works for younger people. In other cases, traditional solutions may serve older adults better than digital ones.

This guide does not presume to solve all the complex issues in this field. We, therefore, recommend that you consult experts in aging and accessibility to ensure that your design is as inclusive as possible and is customized to your unique digital platform.

We hope this guide will serve you well, and that applying the principles that appear here will turn the user experience for many people aged 65+ from one that is frustrating and discouraging to one that is convenient, engaging, and enabling.



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This guide was created within the framework of the National Initiative to Promote Digital Literacy Among Older Adults, which is a partnership between the Israel National Digital Agency and JDC-ESHEL.

The guide was translated into English in collaboration with the Royal College of Art (RCA), whose history of inclusive design dates back to the 1990s. The approach arose from the need to move beyond considering aging simply as a process of physical decline by taking a holistic view of people's lives when designing. An integral part of the program consisted of training future designers to engage with older people through inclusive design.

We ensured that the intended inclusiveness remained in the translation of the language and culture. Cultural translation is the practice of translation while respecting and acknowledging cultural differences. This included potential cultural differences regarding intergenerationality and technology adoption that had to be considered.

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Production & design: Lowtech Studio

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HOW TO USE THIS GUIDE?

The chapters in this guide correspond to the various stages required to develop digital platforms and products. You can make use of individual chapters, or the entire guide, depending on the requirements of the product you are developing. Each chapter presents a real story of an issue in the lives of older people, which is followed by an explanation of the issue's significance and guidelines for managing it.

At the end of the guide, you will find more information about the changes that occur with age and their implications in the digital world. You will also find a concise checklist for designing digital platforms suitable for older people.

In this guide, we chose to focus on issues that require attention to age-related difficulties and limitations that make it harder to use digital tools. Despite this, it is important to note that increased age brings more than difficulties and limitations; it also brings many advantages. We must also recognize that the variety and diversity among people aged 65+ is vast. As a demographic with an age range of over 40 years, the in-group diversity is greater than in any other age group.

We would be glad to hear if and how this guide has helped you. Any comments, additions, and examples of well-customized digital platforms for older people – are very welcome.

Contact us:

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CHAPTER 1

WHY ADAPT OUR PLATFORMS AND PRODUCTS TO THE NEEDS OF OLDER PEOPLE?



Info Bites

- One person in eight on the planet is over 60. They comprise a large consumer group whose potential is relatively unrealized.
- More than a billion potential users aged 60+ can enjoy digital products and the opportunity for social integration they bring -- but only if we ensure these products meet their needs, abilities and desires.
- Meeting accessibility requirements does not have to come at the expense of a digital product's usability and inclusivity. If we take older people into account at the initial stages of development, we can expect a significant rise in their usage and engagement.
- Adapting a digital platform for older people can also serve other audiences too. Bottom line: We don't need to compromise on design to make our platforms usable by older people too.

Some stats about the world's older population

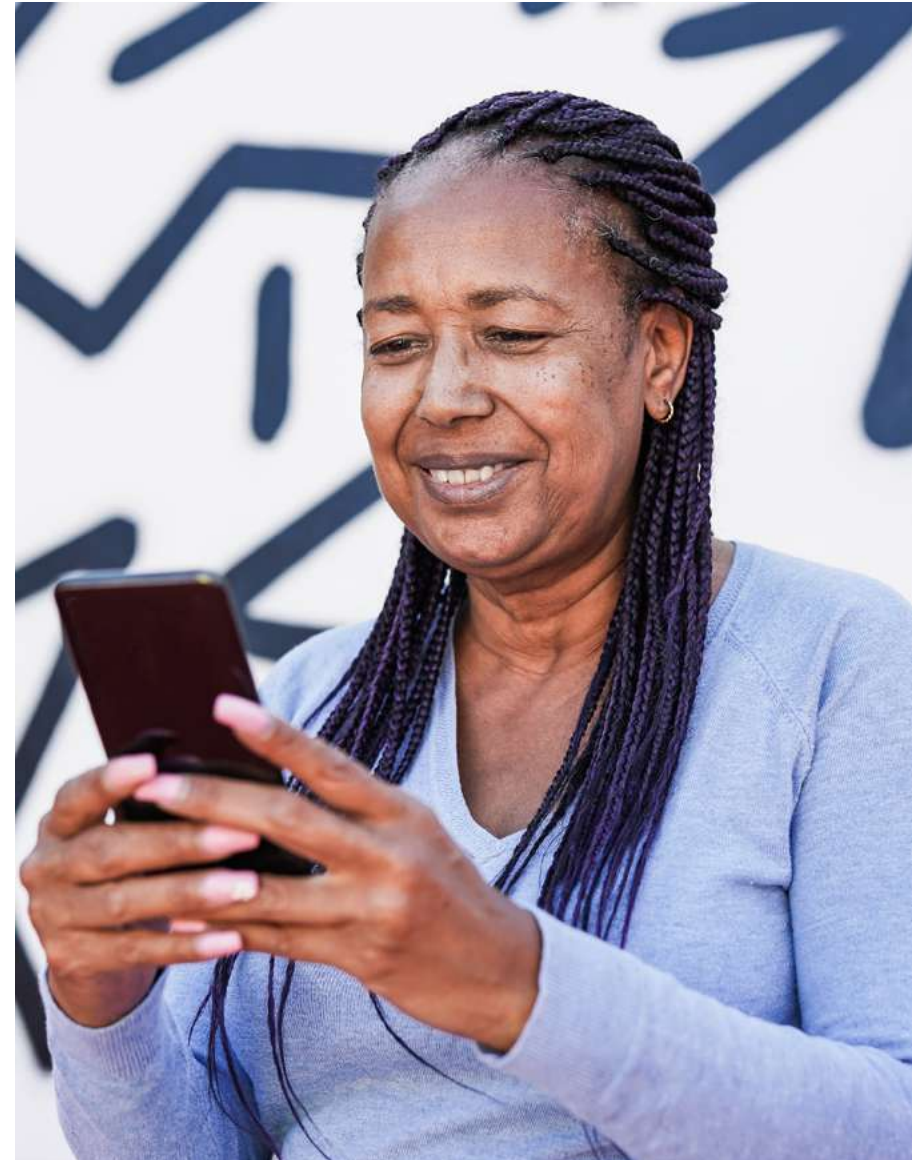
Approximately one billion people aged 60+ are alive today. Most are healthy and active and have discretionary income. The 60+ population is growing faster than any other age group, and is projected to be 20% of the world's population (~2 billion people) by 2050. They are also the fastest growing category of e-commerce shoppers. ⁽¹⁾



- Older people today are adopting technology more than ever before. Internet, smartphones, tablets, wearables, and even smart TVs and speakers, are being used by a growing number of older people. Ownership of smartphones, for example, increased from 70% to 77% among the 50+ population in the United States between 2017 and 2021.⁽²⁾
- During the Covid-19 pandemic, there was a significant rise in older adults' motivation to use digital technology. So, usage increased, with 38% of older Americans describing the internet as essential.⁽²⁾

In the UK, 54% of people 55+ have been using more online services since the start of the pandemic, with almost one in five (17%) signing up for at least three new online entertainment, socializing, or shopping services.⁽³⁾
- It has also been reported that older people are the fastest-growing category of e-commerce shoppers.⁽⁴⁾ However, many older people still lack sufficient Internet connectivity or technological skill to use devices and consume digital services. A recent report by Aging Connected found that 22 million Americans are still not online. People 75+ stand out as particularly likely to say they need help with new devices; 66% say that when they get a new computer, smartphone, or other electronic devices,

they usually need help to set it up, compared with 48% of those age 65 to 74. Moreover, two in five feel that technology is not designed for them.^{(5) (6)}



4 GOOD REASONS FOR ENSURING YOUR PRODUCTS AND PLATFORMS MEET THE NEEDS OF OLDER ADULTS

1

It is an opportunity to integrate older people into the digital world and contribute to their quality of life.

More and more aspects of life are conducted on digital platforms: interpersonal communication, banking, healthcare, personal consumption, and exercising one's rights are just some of them. Therefore, developing digital platforms that are challenging for older people to use may have a negative impact on their quality of life. It prevents them from accessing essential services and integrating equally into society.



2

People aged 65+ are a fast-growing consumer group.

In 2018, 28% of online purchases worldwide were made by this age group. As of 2020, 62% of older people living in the US conducted their shopping online. They also have higher than average purchasing power.⁽⁷⁾

Customizing a digital platform for older people can enhance its usability and increase trust among all users.

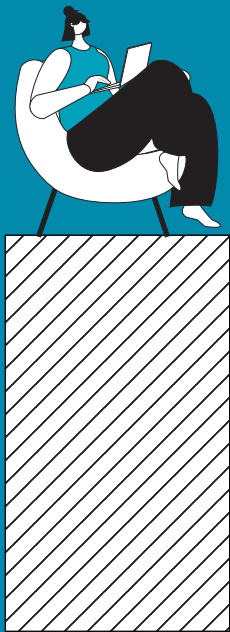
Investing 10% of your development budget in usability can improve the conversion ratio by 83%.

Adopting a user-centered approach increases the chances of success.⁽⁸⁾⁽⁹⁾⁽¹⁰⁾

4 GOOD REASONS FOR ENSURING YOUR PRODUCTS AND PLATFORMS MEET THE NEEDS OF OLDER ADULTS

3

According to the **inclusive design** approach, one should take into account the needs of as many users as possible without stigmatizing or excluding a specific group by designing niche products. **If you adopt this principle, you can design a digital platform that serves a wide range of people, not just those aged 65+.** Usually, a service that meets the needs of people aged 65+ will serve other audiences as well.⁽¹¹⁾⁽¹²⁾



4

Older people are twice as likely as young to give up on a digital task, abandoning it 30 seconds earlier than their younger counterparts.⁽⁷⁾ The reasons for this are many and complex. Some have to do with age-related changes, whether on the emotional-social level or in motoric, sensory, and cognitive function, which may make it harder to use digital platforms. Additionally, digital literacy among people aged 65+ is lower than among younger people. Adjusting digital platforms to their abilities and needs can ease (and therefore increase) usage.



Accessibility regulations assist with this challenge, but compliance does not necessarily exhaust the digital platform's potential for clarity and usability.

Many sites and apps satisfy accessibility criteria but fail usability tests.

- Current accessibility standards do not provide a solution to some components, such as spacing.
- **Additionally, it is important to note that most people aged 65+ do not use accessibility add-ons, because they do not perceive themselves as having disabilities.**

Finally, remember:

We recommend customizing the entire user journey and experience. Proper planning in the research, design, and development stages enhances the digital platform's usability, engagement, and trust among older people.



SO, HOW DO WE DO IT?

4 highlights in adapting digital products for older people



Prioritize the acquisition of older users (Specify it in road maps and company targets).



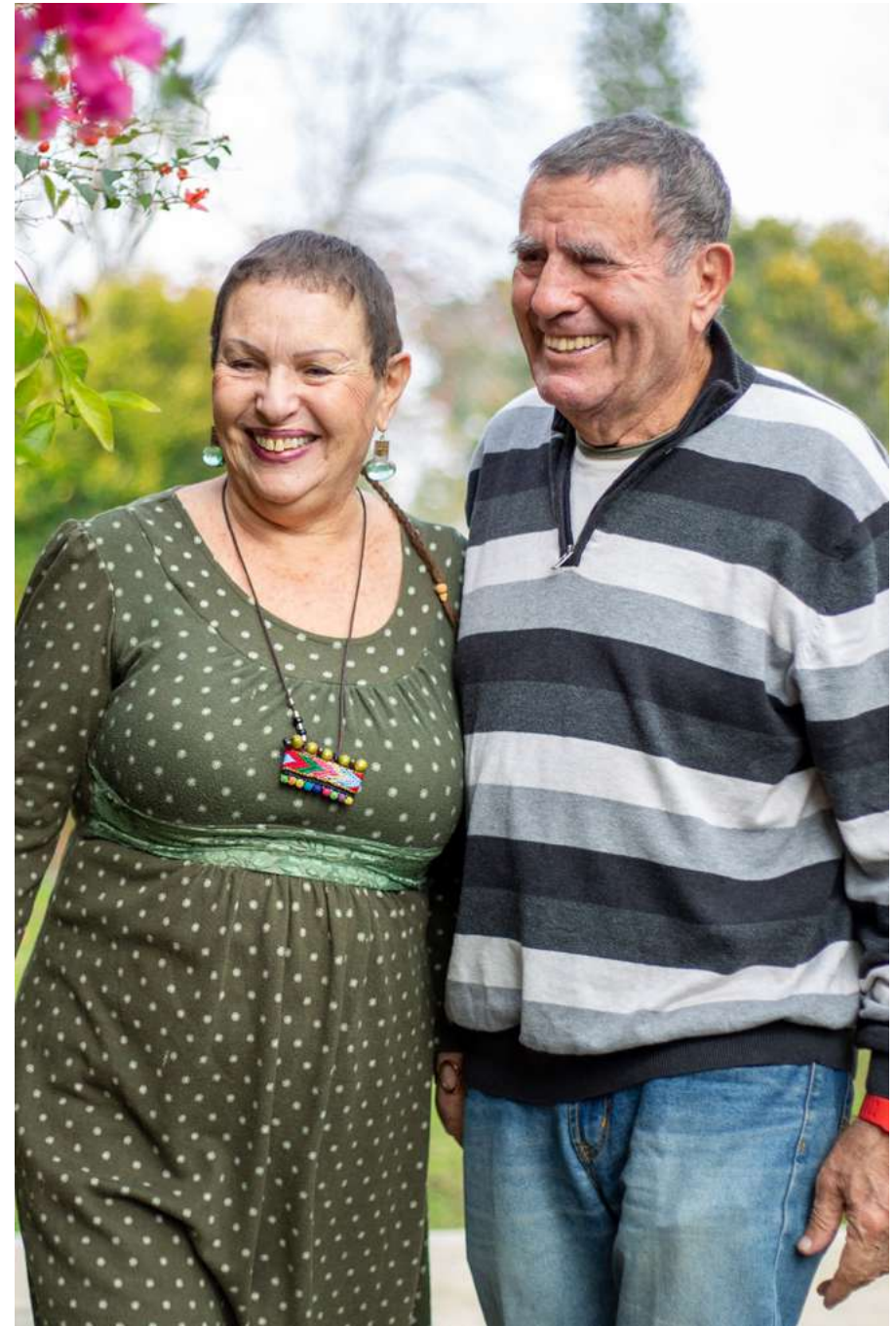
Include older people in the process of planning, development, and testing, and take them into account throughout the user journey.



Remember that accessible and inclusive design is not a compromise. On the contrary, it can and should be beautiful.

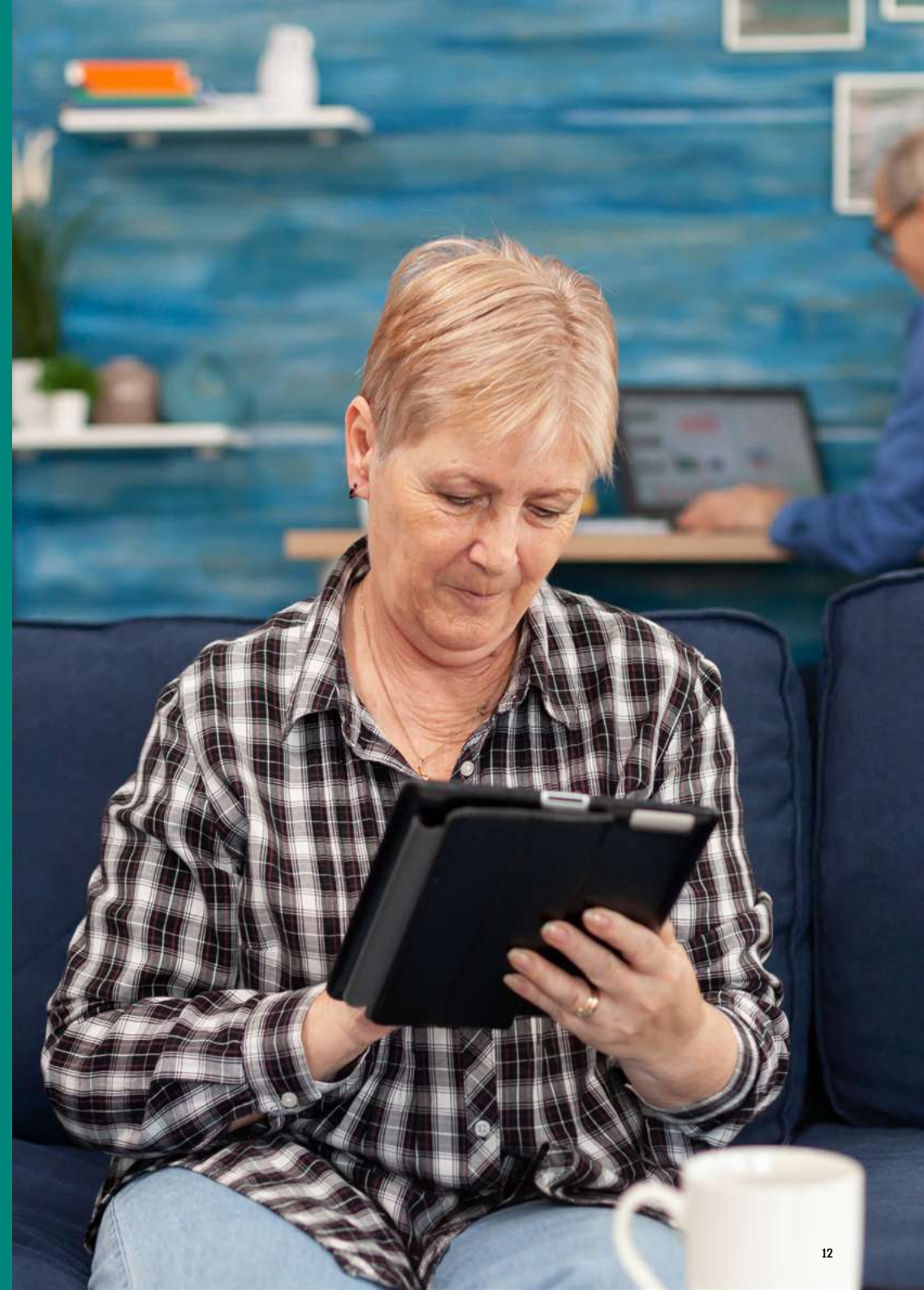


Consult experts: gerontologists, experts in aging and technology, and those with expertise in older people's user experience.



CHAPTER 2

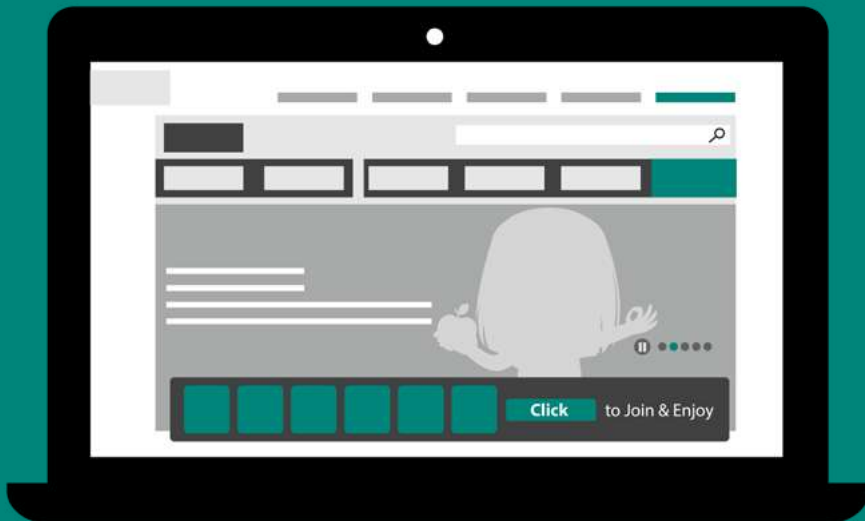
INFORMATION ARCHITECTURE, ORIENTATION, & NAVIGATION



DAVID'S STORY:



"I went to my healthcare provider's website to check the result of my blood test. I searched for my personal account, right? Personal account... I couldn't see anything like that... I saw an ad that kept moving around. I searched; I saw Covid tests and then 'Join & Enjoy.' I already joined; what's that got to do with anything? I couldn't find what I was looking for... The doctor is always busy, and I don't feel comfortable disturbing her."



Why is this important?



As age increases, the speed of processing information decreases. It takes longer to take in, comprehend, and perform certain actions.



Many people aged 65+ find it difficult to ignore distractions and are more prone to performing random actions, such as unintentional clicking. Some feel insecure and unable to orient themselves in a digital environment.

Therefore, basic information architecture principles should be followed when designing a digital platform for the entire population, especially older people.

Key points in information architecture and hierarchy formation – essential for everyone, but especially for people aged 65+

- 1 Designing wireframe and information architecture
- 2 What we need to know about navigation and orientation
- 3 Creating an easily operational interface

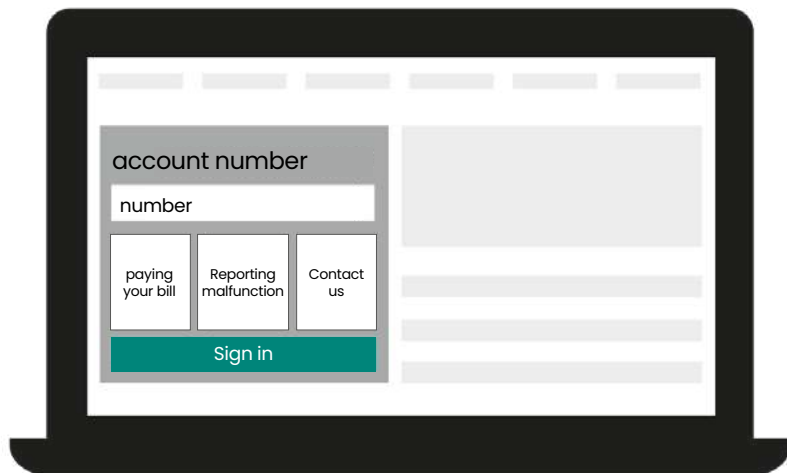
1 Designing a wireframe and information architecture

Guiding Principle:

Minimize the number of required actions and create shortcuts.

Some people over 65 find it challenging to cope with information overload and multiple options.

Proper information architecture and hierarchy will indicate what is important to the user and require less effort. We should ensure that the required actions appear immediately and easily, so that the user does not have to search for them.



Guidelines

White space: Reducing the number of elements on a screen, increasing the spacing between them, and

retaining whitespace will make the screen feel less crowded and therefore clearer and more inviting.

The added value is in the feeling of simplicity it creates. This improves the user's sense of competence and ability to focus. Clear typography following one of the established typographic scales is relevant for websites, apps, and complex data systems.

Wizard: A limited number of options prevents cognitive overload. Therefore, conduct a **careful mapping** of the digital platform, distilling out the most important actions and contents.

Central placement: The most important themes should be positioned at the center of the screen.

Large & spacious: The most important buttons should be enlarged and positioned prominently to allow immediate recognition.

Clear language: Topics should be clearly labeled and the labels should be verified in usability testing. Complicated terms should be avoided since they might not be familiar to the target audience.

Limited number of actions: The number of steps (clicks and scrolls) necessary to achieve a goal should be minimized.

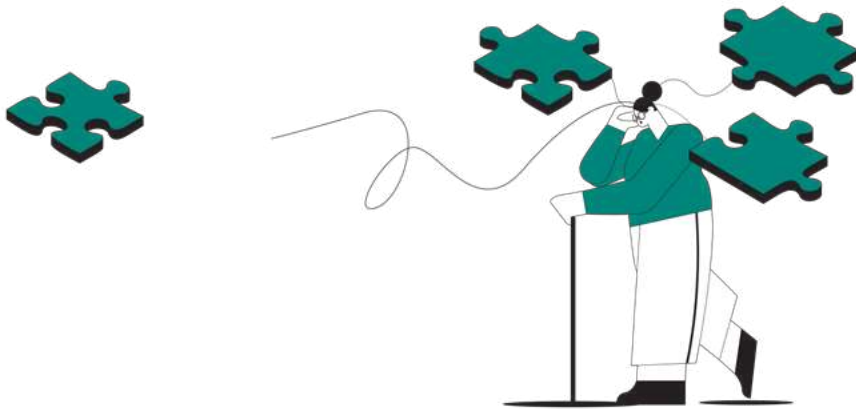
Shortcuts and multiple/redundant paths: Make it easy for users to reach their goal by providing multiple options, such as Quick Links.

2 What to know about navigation & orientation

Guiding Principle:

Rely on recognition to ease navigation

Some people aged 65+ can experience decline in memory recall. Some are also unfamiliar with the principles of the digital world. Therefore, to enhance their sense of control, the following principles should be adopted: rely on recognition, not memory; allow going back; design clear navigation keys; be consistent in design and operation; and provide indicators.



Guidelines

Recognition, not memory: This principle means creating an interface in which users do not have to use their memory to recall information. Instead, they will be asked to identify familiar and prominent components, such as quick access to previously visited pages or actions.

Going back: Make it easy to go back to a previous stage by showing how, e.g., with "breadcrumbs".

- Create a conspicuous and permanent back icon that takes the user to a previous page/stage. This is in addition to the browser's back and homepage icons.
- Clear and prominent navigation buttons: Emphasize navigation buttons and add text to explain their function.

Consistency: Create an ongoing, consistent user experience using recurring items. Allow the users to learn the interface, generating a sense of success and building anticipation for the next stage. Pay attention to the location and design of fixed buttons that have the same function.

Progress: Create obvious hints, such as a progress bar, that help users to understand where they are in the process.

Indicators and feedback:

- Emphasize the performed actions: Use breadcrumbs to indicate which links or buttons the user has clicked on and their location.
- Success & mistakes: Highlight progress and successful actions. Additionally, indicate errors clearly and provide for easy recovery.

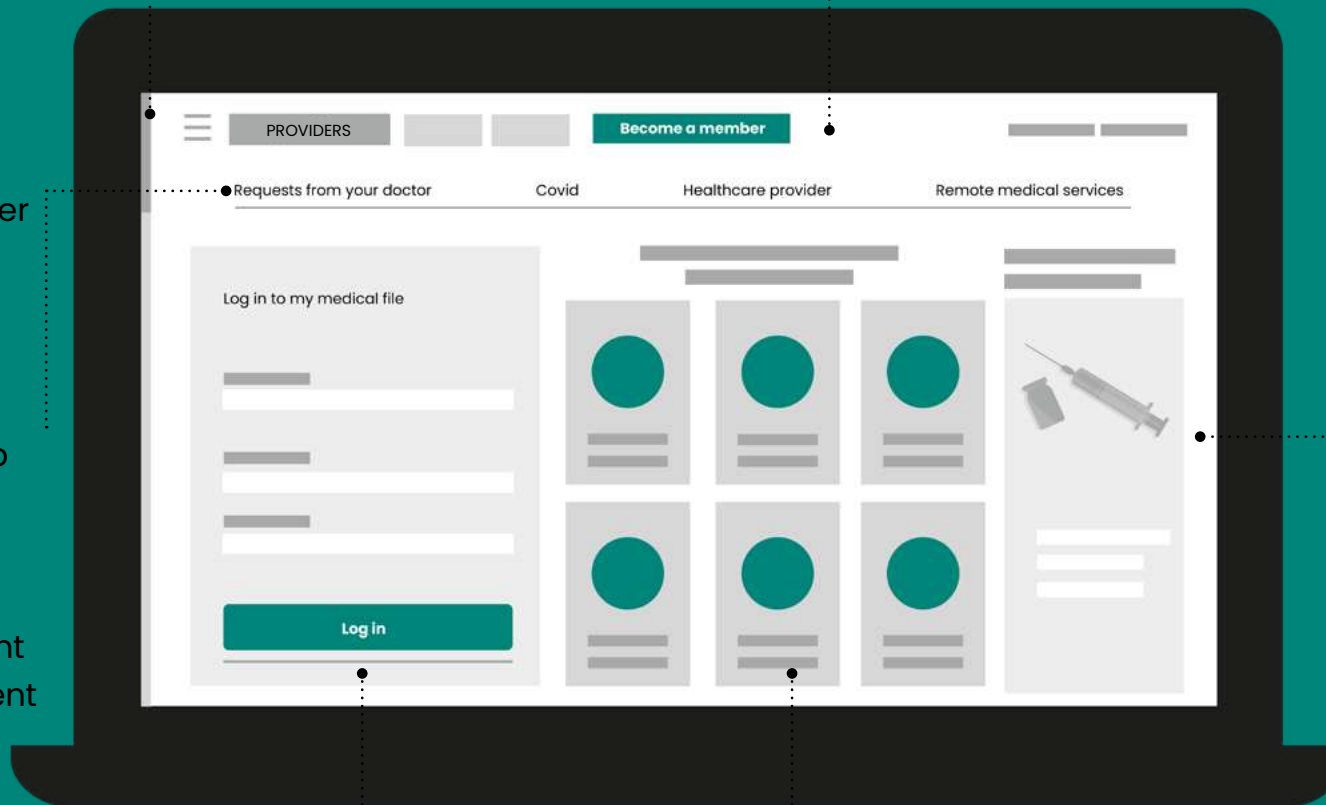
Contact Us: Choose a prominent location for the help options. Provide contact information using various channels, e.g., telephone number and email address.

EXAMPLE

✗ SCROLL:
As a rule,, it is best to avoid scrolling. If there is no better option, make sure to indicate clearly where and how the user should scroll.

✓ HIERARCHY
Don't waste space at the top with irrelevant, redundant or decorative content. Highlight important content and prioritize it.

✓ RECOGNITION, NOT MEMORY:
Use location and size to make it easy to find a key without having to remember how to get to it. Instructions on completing forms remain them even after you start to fill it in.



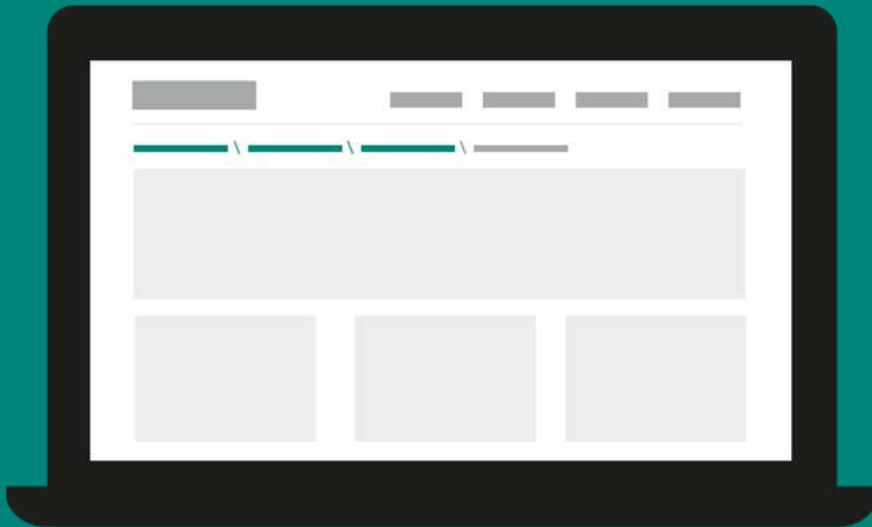
✗ LANGUAGE:
Use button labels that clearly state what the buttons do. For a task-driven interface, consider front-loading verbs for labels.

✓ OVERLOAD:
Components in this frame are large and spaced out, which can increase engagement.

✗ LOCATION & SIZE:
Enlarge and center the access button to "my account"

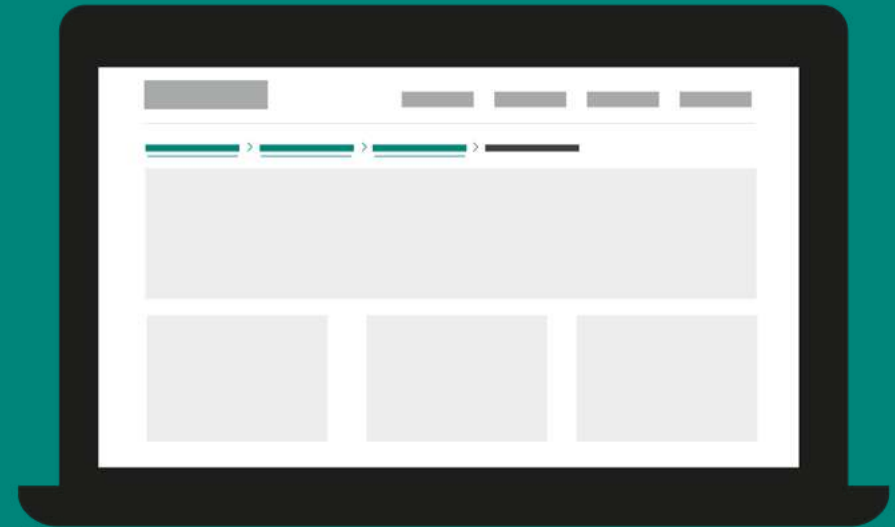
WHERE AM I?

Example of navigation & orientation
(breadcrumbs)



Breadcrumbs that need improving:

1. Indicators are color coded but are not clickable and lack satisfactory contrast.
2. Use of a backslash.



Effective breadcrumbs:

1. Color-coded indicators.
2. Separation arrow that indicates direction.
3. The last item is the current page, shown as a static component, not a hyperlink.

3 Creating an interface that is easily operated

Guiding Principle:

Make operation simple without requiring precise actions.

As age increases, it may be accompanied by difficulty in touching a specific spot accurately, regulating a click's intensity or performing quick actions, such as a double-clicking. Therefore, the following principles should be followed: space out the keys, avoid the need for a high degree of precision, avoid gestures requiring sensory regulation, and enable users to progress at their own pace.



Guidelines

Large & spacious: Design large and well-spaced elements.

Explanation: Provide a clear and concise description of each button's function.

Individual pace:

- When creating pop-up/toast messages, allow users to initiate closing or at least leave the messages visible for longer for slower readers.
- Avoid menus that open on hover. Always use clicktap menus instead.

Indication: Provide clear scroll indicators (e.g. side arrows).
Reduce need for precision: Avoid small clicking areas, mouse hovering and double clicking.

Ensure that the interface is responsive on all screens.

For touchscreens:

- Click actions should not rely on touch intensity or precision.
- Avoid, as much as possible, long strokes and drag gestures, and reduce scroll options. At the very least, provide clear indication, and instruction, and offer alternatives, such as an arrow or button directing to specific places.
- Avoid the need for very precise actions, such as in small clicking areas, and try to keep to the minimum size for comfortable tapping/clicking of at least 44x44 px.
- Avoid actions requiring fine-motor regulation such as spread, pinch, and rotate.
- Avoid the need for very precise actions, such as in small clicking areas.

For more information, see references ⁽¹³⁾(14).

SUMMARY & EXAMPLES



Clicking these buttons requires precision

Scrolling is required to select dates

Fillable areas not clearly labeled



This simple identification screen does not require accuracy and is centrally located

CHAPTER 3

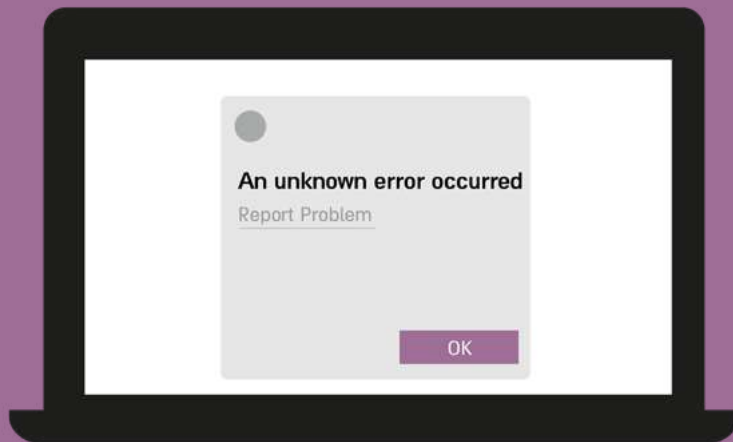
MICROCOPY, FEEDBACK, AND SYSTEM NOTIFICATIONS



ARIEL'S STORY:



"It's been a while since we've seen the grandkids... the holiday we said: That's it, it's time to use video chat. We made it into the link their parents sent and even got to see our newborn great-granddaughter. But we didn't even get to say, "who's the sweetest of them all?" before... puff! They were all gone. We received a message on the screen with an error number but even my kids wouldn't know what it means. We don't have the energy to deal with this kind of thing. Since then, we talk on the phone, on regular calls, same as always."



Why is this important?



Clear error messages, including instructions for repair actions, strengthens everyone's sense of competence. That's especially true for older people using digital tools. Clarity helps them cope with uncertain situations and reduces the abandonment of digital tools.

There are 4 simple principles to writing microcopy and designing messages that can improve the usability of allowing older adults (and younger ones) to enjoy them.

Key points in writing microcopy

- 1 Language and tone
- 2 How much we write, where, and how
- 3 Why we should add dialogue messages and success feedback
- 4 Things to consider when writing error messages

1 Language and tone

Guiding principle:

Write in a direct, down-to-earth manner.

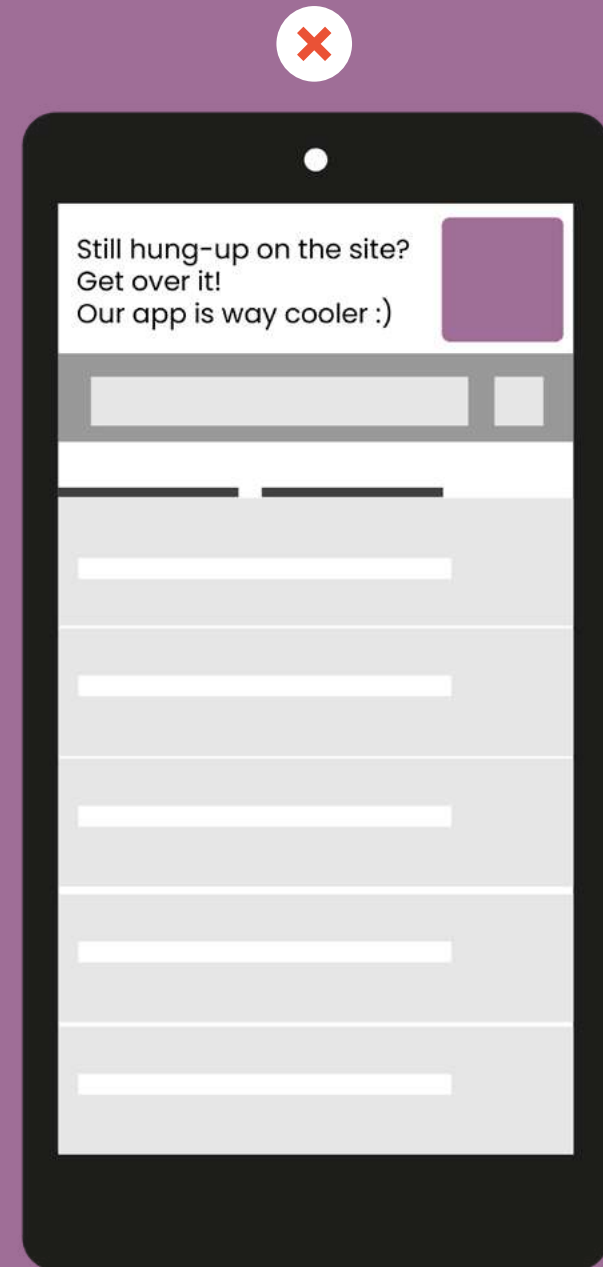
For some older users, over-humanizing digital services, such as with a chatbot that simulates a customer service representative, or with over-the-top success messages, does not correlate with their expectations and makes it harder for them to concentrate on essential information.

Guidelines:

It is important to approach the user at their level, with language anyone can understand. We appreciate that sometimes informal language is desirable.

However, it is essential that users understand the digital platform's terminology, feel that it is talking to them, and feel able to engage in a clear dialogue. We should therefore use straightforward and clear language that is not too informal and avoids slang or jargon. If we must use terms that are familiar only to a knowledgeable audience, an explanation should be provided.

Avoid humor that only some will understand.





Registry file

Court file number

Name of insolvent person or company

ID of insolvent person or company



File no. @ off.rec.

year-mo-day-court-file-no

Debtor name / company name

ID – insolvent / company

We're sorry, we've temporarily suspended your account to protect your security following several incorrect entry attempts.

To reactivate the account, please contact our customer service representatives by email or phone.

xxxxxxx@xxxxx.xxx.com
xx-xxxxxx, x-xxx-xxxx, *xxxx

Your identifying number (for customer service):
xxxxxxxxxx

Dear customer

Due to an illegal action upon signing into the app on your computer – you are blocked.

Your support id: xxxxxxxxx

Please contact customer service

Mail: xxxxxxx@xxxxx.xxx.com

Telephone: xx-xxxxxx, x-xxx-xxxx, *xxxx

2 How much we should write, where, and how

Guiding Principle:

Insert a short, clear, readable text in the user's journey where uncertainty may occur.

In our experience, older people rely heavily on a digital platform's language, usually reading more carefully than younger users, who instead rely on usage habits and familiarity.

Therefore, text should be concise and well placed throughout the user's journey to strengthen a sense of success and competence.

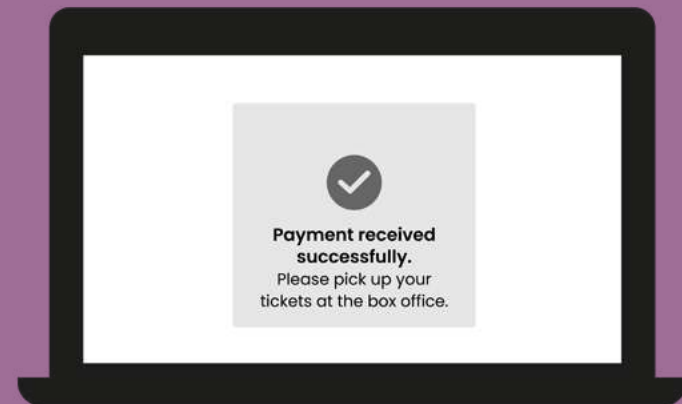
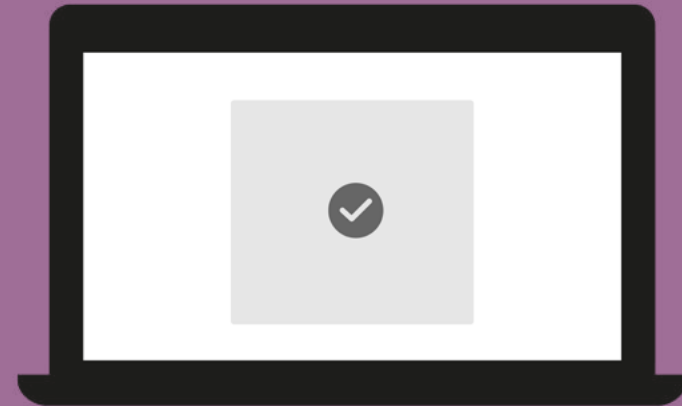
Guidelines

How much we should write?

As little as possible without compromising usefulness, clarity, and user experience. However, when the digital platform is part of a service chain, ensure that users receive all the information they need, such as the time and manner of receiving the service or product. For example, if tickets were purchased online but will be waiting at the box office, this should be specified.

Icon or text?

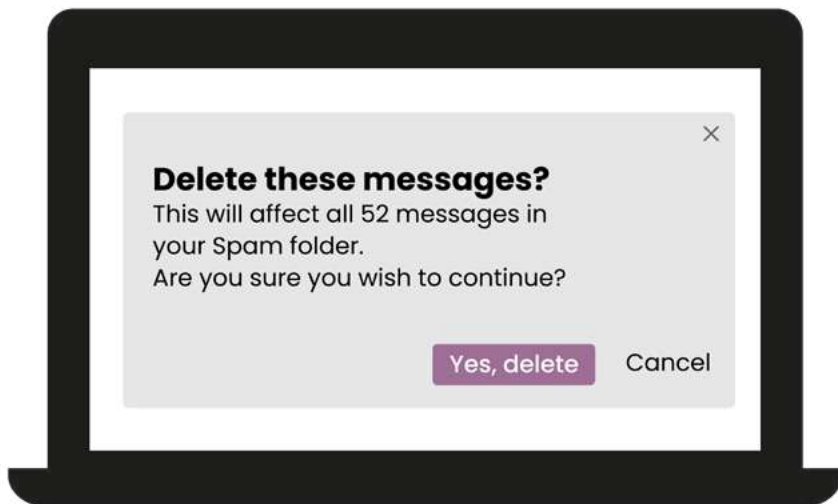
Both, because some users are not familiar with an icon's meaning. Therefore, when possible, it is best to add a text tag.



3 Why we should add dialogue messages and success feedback

Guiding Principle:

It is common for people to become more cautious as they get older. Many prefer avoiding risks, especially in alien environments such as digital ones, or in essential aspects of life, such as financial services and healthcare. It is possible to improve a user's sense of control and security, by adding friction and choices at points of no return, or before taking actions with significant implications (e.g. cancel, exit, delete).



Guidelines

When should the friction/confirmation dialogue messages appear?

Every time the user chooses an action with significant implications, such as deleting essential items, transferring money, cancelling medical appointments, exiting a document without saving, and in uncertain situations such as during data processing.

Where should the messages appear?

At the center of the screen, ensuring it is large enough and that essential text is highlighted.

For how long should the messages appear?

When possible, allow users to undo an action within a reasonable time after it's completed, or ask them to confirm the action and inform them that the action is irreversible.

Another way to contribute to the user's sense of security and trust is through success/failure feedback on completing a significant action, such as filling in details in a form.

4 What to consider when writing error messages

Guiding Principle:

Do not use generic error messages. Instead, phrase the error message respectfully, while explaining the type of error in clear language. The message should offer a choice of options, such as explicit instruction for a solution and a call for action.

Some older users tend to blame themselves when they encounter an error message, and even see it as a personal failure. It is therefore important to add an underlying message that strengthens their sense of capability and control.

Additionally, some older people need more time than younger users to understand the message and the instructions for solving what went wrong.

For more information, see reference (15)(16).

Guidelines

What should we write in error messages?

1. What happened? Describe the problem simply and concisely. Messages should be created for all possible scenarios; a generic message is insufficient.

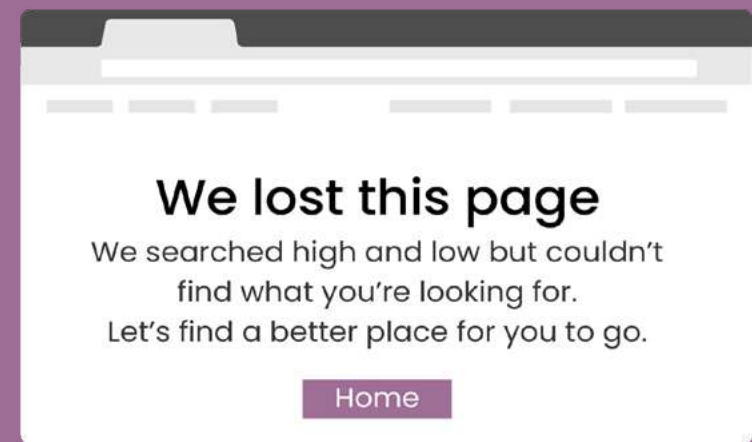
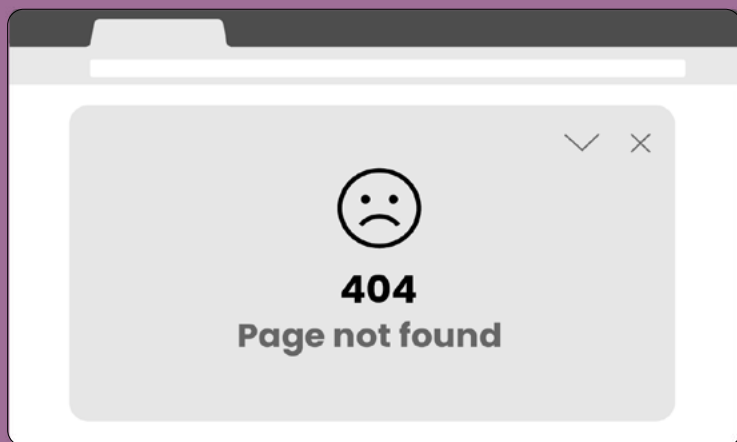
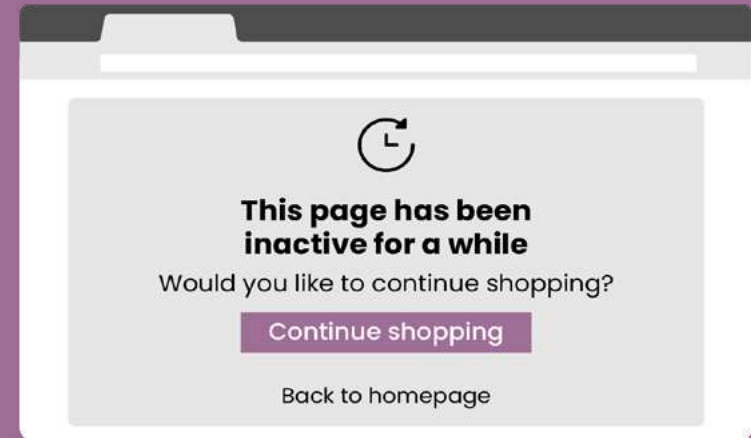
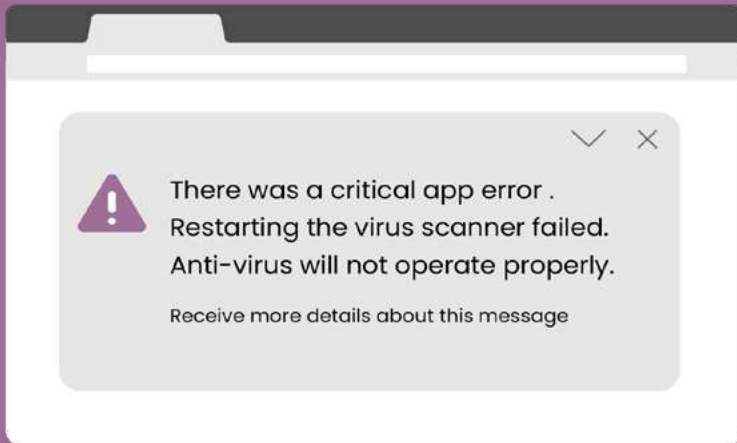
2. What now? Explain in simple and clear language which action should be performed next.

Where and what size? Place the error message at the center of the screen. ([see chapter 4 for more information](#))

Take care to avoid covering the location of the error with the message. For example, the message should not be placed over a wrongly filled-out area of a form.

What language should we use? Use empowering language and affirmations to avoid trepidation and provide a sense of control.

Limited options: Make sure you provide a limited number of options for continuing.



CHAPTER 4

DESIGN DECISIONS



TAMI'S STORY:

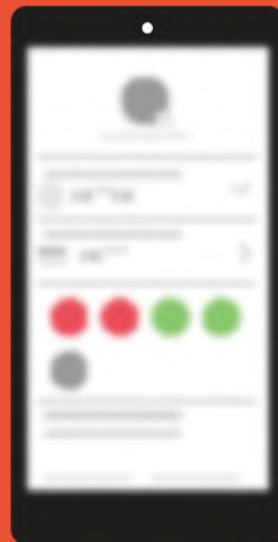


"The instructor asked me to pay for the Pilates sessions through a certain app, but in her app, you can barely see the icons, the writing is microscopic, and everything is blurred... I texted her that I would pay through a different app that I use all the time. In that app, everything is clear."

UX designer's view



Tami's view



Why is this important?



As the years go by, many older people experience decreased eyesight. Some have difficulty seeing up close, or differentiating between certain colors and between shades of the same color. Additionally, many do not use accessibility add-ons or change device settings, which could make usage much easier.

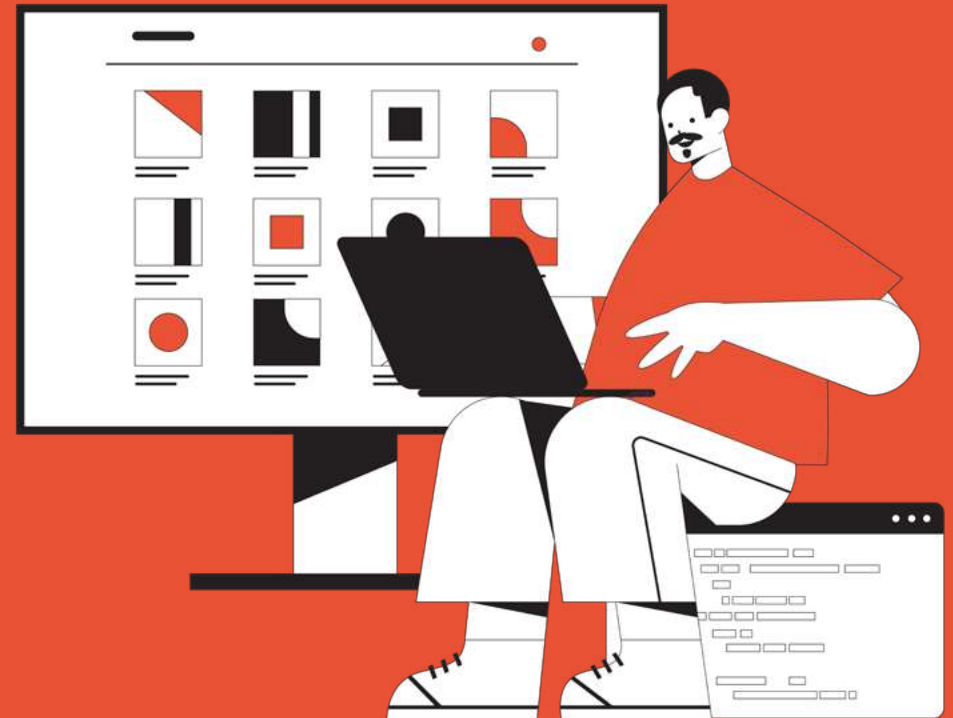
A good choice of colors, fonts, and object size will allow Tami and many others (yes, younger users too) to use the app more easily.

This chapter is based on the rules in an accessibility standard*, with a few additional emphases that are articulated in six simple principles. Applying these rules and principles in the early stages of a digital platform's design will make it easier for older people to use. We should remember that accessible and user-friendly design can be amazing.

*This chapter is based on WCAG 3.0 and on WCAG 2.0 as implemented in Israeli standard #5568.

Key points in design decisions

- 1 Font, size, and spacing
- 2 Proper contrast and how we integrate animation
- 3 Using colors to convey information
- 4 How clicking areas are sized and spaced out
- 5 Expandable UI components, icons, and images



1 Font, size, and spacing

Guiding principle:

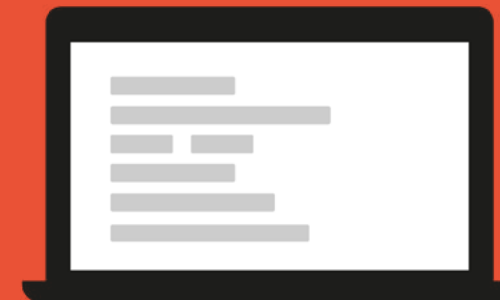
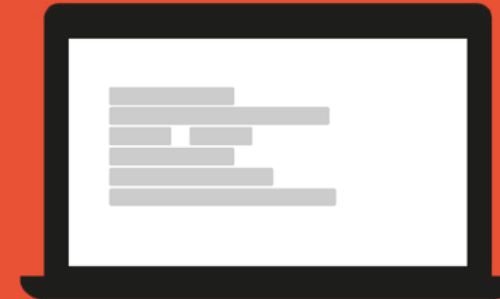
Text that does not have consistent font, size, and spacing can be distracting and takes more time and effort to read. Many people's vision deteriorates over time and distractions become harder to ignore. Therefore, we should choose an easily-legible font, taking care to ensure a high degree of readability and consistency in the text (e.g. the number of words per line, spacing between lines, words, and letters, font size, etc.).

Font: Use a font of a design, size, and spacing that make it easier to recognize letters and read.

Choose simple, easily-legible, evenly-spaced fonts bearing in mind that "hooks" on letters can be distracting.

Size: Font size 16 is recommended as a minimum for body copy / main content. Avoid using fonts smaller than size 12 (in CSS - Cascading Style Sheet pixels).

Spacing: Use flexible size units instead of absolute pixels to define the spacing. This will ensure that content does not get lost when users utilize help add-ons. Additionally, try to maintain spacing that is twice the font size between paragraphs, 1.5 times the font size between lines, 0.16 times the font size between words, and 0.12 times the font size between letters.



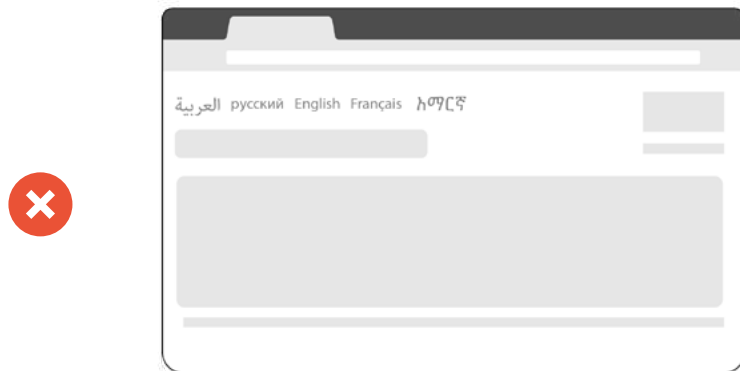
Font size and spacing that make it easier to identify letters and read.

2 Proper contrast and integrating animation

Guiding principle:

Careful choice of contrast levels and animated content.

The rate of processing visual information may decrease with age, as may the ability to differentiate colors and hues. It can also take longer to notice a stimulus, process its meaning, and form a reaction. Therefore, using contrast is essential, while animated content should be used carefully and sparingly.



Guidelines

Maintain the same contrast in the text's components:

In large text, over 18 points (24 pixels) or bold over 14 points (~19 pixels), maintain a standard contrast of at least 4.5:1. In regular text, we recommend using a ratio of at least 1:7.

Active non-text elements: Use a 3:1 contrast ratio between background and object. Ensure the contrast is maintained across an element's various modes, such as focus, hover, and active/selected.

Animation: Differentiate between animation intended to enhance understanding of a digital platform, and animation that is mainly for design purposes. Animation dealing with non-essential content should be used carefully and sparingly.

We recommend using the various tools available to test contrast and accessibility.⁽¹⁷⁾⁽¹⁸⁾



3 Using colors to convey information

Guiding principle:

Color should not be the only indicator of information but should be combined with shape and size.

As people get older, they often find it harder to see certain colors. We should therefore add an icon and not rely solely on color to prompt the action.

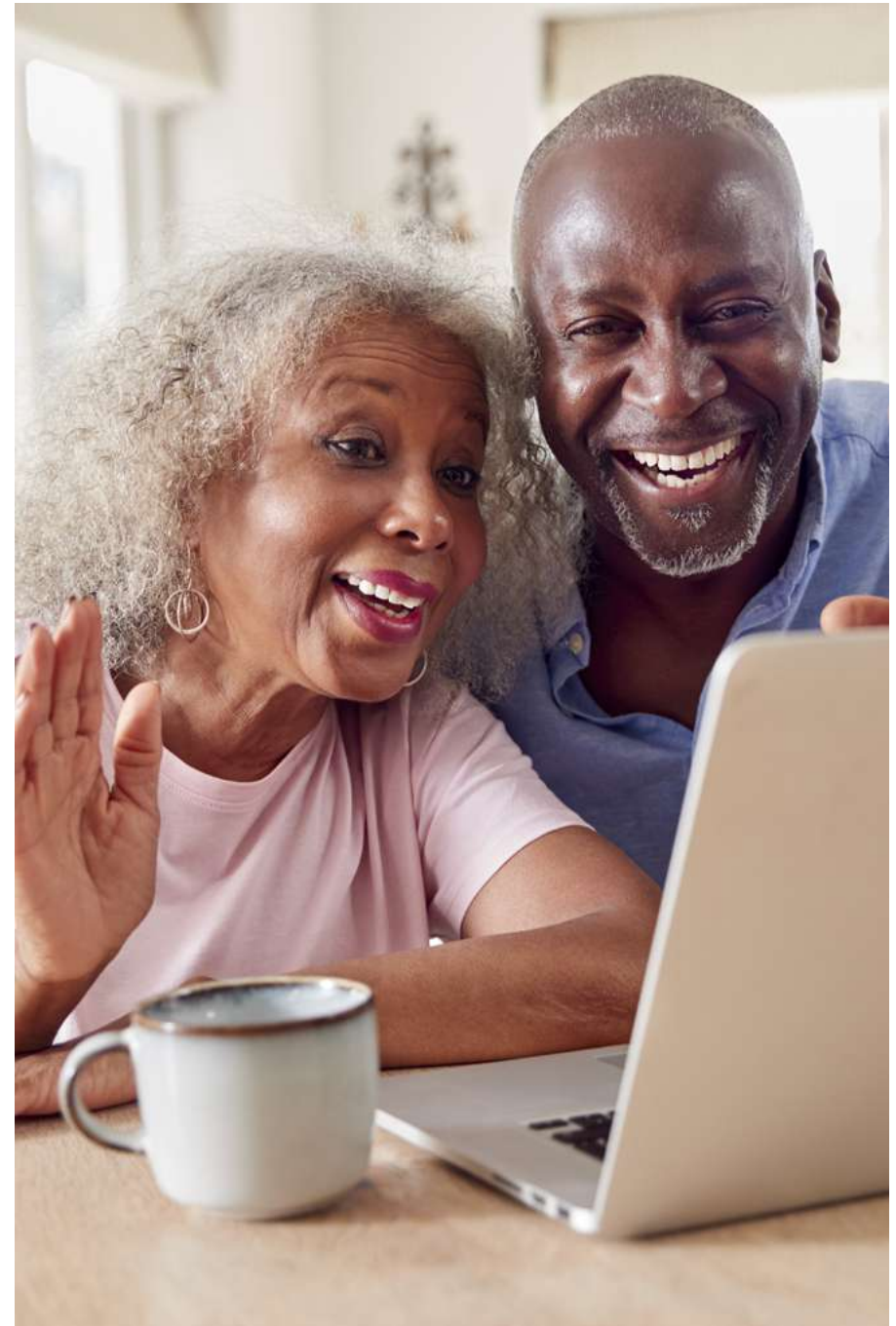
Remember, though, that users are not always clear about the significance of certain icons, so it is best to add text as well.



UX designer's view



What older people see



4 How much should we enlarge and space out the clicking areas?

Guiding principle:

When designing for cellphones, create large, spaced-out clicking areas to reduce errors.

This makes it easier to use for those who have difficulty clicking on a precise point with sufficient intensity (whether older adults or others).

Guidelines

Ensure sufficient space between buttons

[\(see chapter 2 for more information\)](#)

Size: Try to create clicking areas of at least 44x45px on the edges of the screen and 26px in the center of the screen.

Spacing: For adjacent objects, encircle each clickable object with a non-clickable area of at least 24 pixels of CSS (where the gap is measured as the space between one object's furthest point to an adjacent object's closest point).

Responsiveness:

Ensure settings that keep the size of text, icons, and buttons constant on small screens too. When a choice has to be made between narrowing the gap between clickable areas to below the recommended minimum, or changing their location, the latter is preferable.

Font enlargement features should be considered to

ensure responsiveness for various screen sizes. Remember that some users activate the text enlargement feature in their phone's operating system. Make sure that this action does not hide information or prevent important components on the page from being viewed.



5 Expandable components

Guiding principle:

Provide easy-to-find and clear information about expandable components.

Users with low digital literacy are not necessarily acquainted with the images and principles that underlie the digital world, especially regarding hidden components (like expandable lists, menus, and dropdown menus). Therefore, it is vital to inform users of where they are in a process, and what that means for the action they wish to perform.

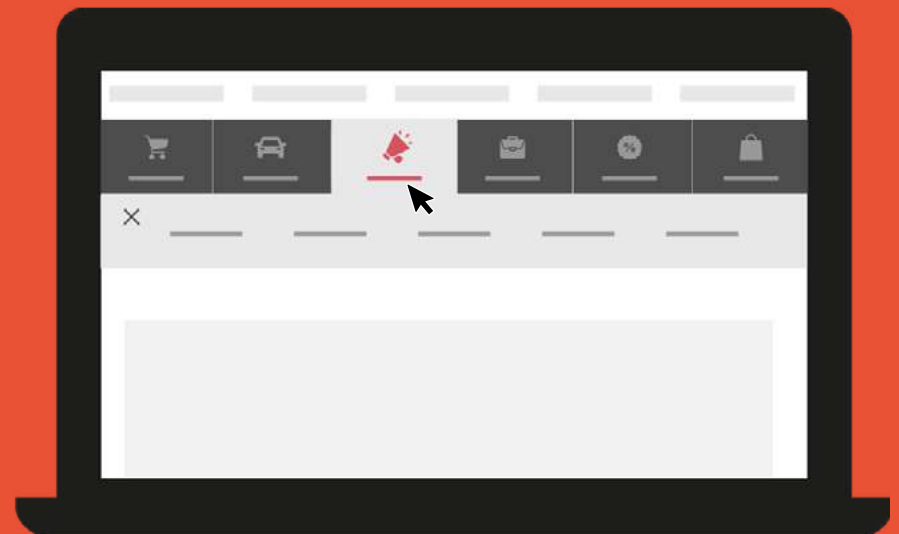
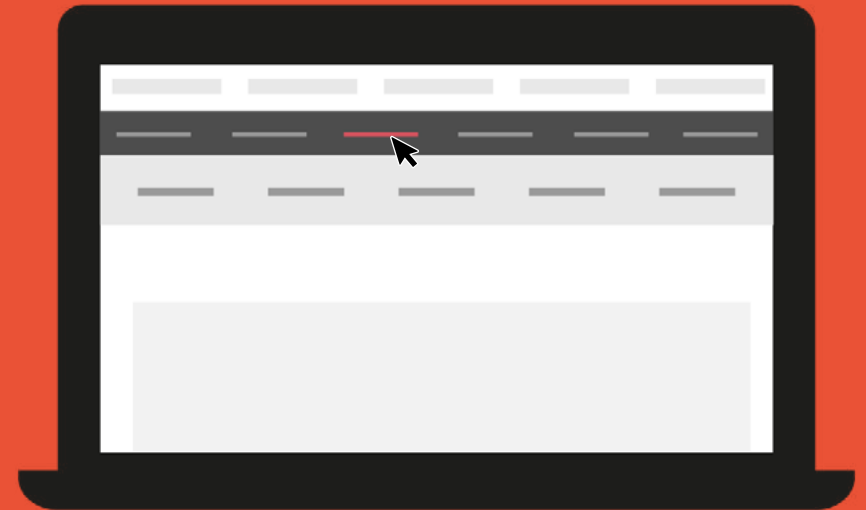
Guidelines

Provide clear visual information pointing to the component that needs to be opened.

For opening the component, ensure that the clicking area is large enough to reduce the possibility of error.

When in open mode, provide easy-to-find information about how to close.

Mark elements that are under focus with a visible outline similar to other active components of the interface: links, icons, menu elements, etc.



6 Icons and images

Guiding principle:

Use images and icons similar to the real world and add labels.

Some older people are unfamiliar with icons that are widely accepted within the digital world, and find it challenging to navigate digital platforms relying on icons. If icons are similar to real-world elements, users will act intuitively and not have to guess their meaning.

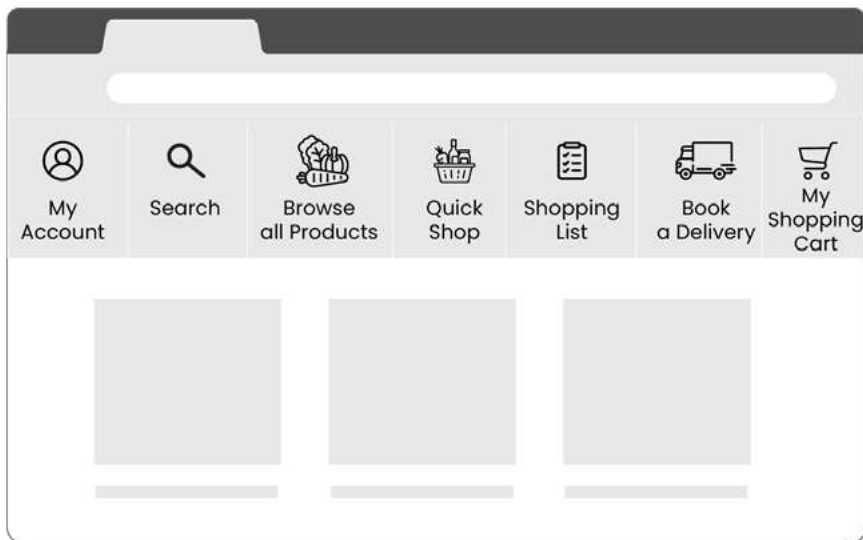
Guidelines

Add a **text tag** to icons as often as possible.

Use icons that most users will know from the **familiar physical world**. ([see chapter 5 for more information](#))

Use well-known icons that appear on familiar platforms.

For more information, see reference (20).



CHAPTER 5

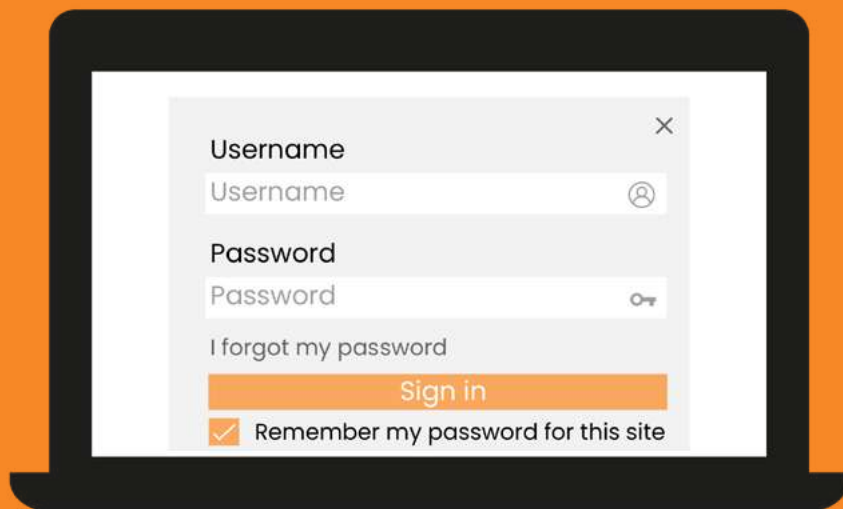
FORMS, REGISTRATION, AND SIGN-IN – APPLYING THE PRINCIPLES



RONI'S STORY:



"I wanted to book a ticket to a play. I went into the website, and they asked for an email address. Do they mean my email address? They think I remember it... I looked in my notebook, type, err, delete, re-type, I forgot how to type @, ID number??? Why do they need my ID? Password??? – which password...? Why do I need to register and have a password in order to book a ticket???"



Why is this important?



As previously explained, certain changes may occur with age that affect memory and the ability to plan, execute, and delay response (executive functions). Filling in a lot of information and thinking up new passwords (especially ones that are hard to remember) are tedious for everyone, but particularly so for older people. Thus, when designing forms, carefully consider the need for lengthy registration processes and whether they can be eliminated entirely. If they are necessary, they should be simplified as much as possible, so that they are easy for older people to complete. Include a brief explanation about why registration is necessary, limit the number of fields to be completed, and use a user-friendly design.

This chapter provides principles and tools for designing easy-to-fill forms, registration, and sign-in processes, that are clear and easy for users of all ages.

Key points for creating forms, registration, and sign in

- 1 What information do we need to provide?
- 2 What actions do we require for registration or sign in?
- 3 What do we need to remember when designing fields for completion?

1 What information do we need to provide?

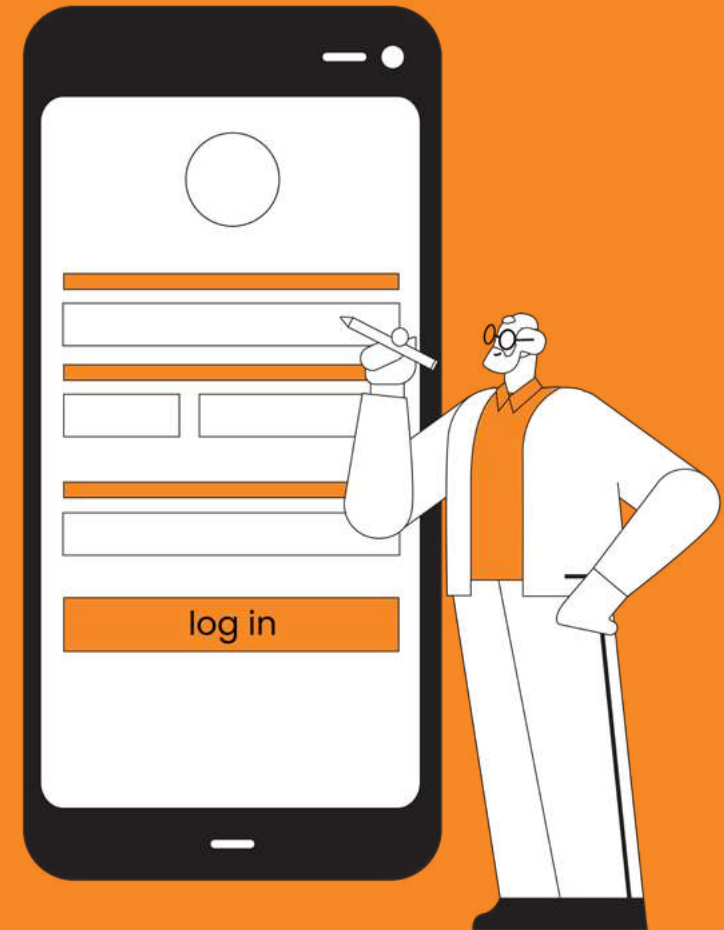
Guiding principle:

Explain the need for the requested information, and provide users with ways to simplify the process.

Use simple language that explains the need for registration, what the users gain, and the significance of each action, such as creating an account, signing into their account, or defining a personal profile.

Can we skip registration?

If access is possible without registration, such as sign-in with a one-time code sent to a user's phone, display this option prominently and provide a simple explanation about how to use it.



2 What details do we require for registration or sign in?

Guiding principle:
Essential actions only.



Full Name
[Text Input Field]

E-mail
[Text Input Field]



Full Name*
[Text Input Field]

E-mail*
[Text Input Field]

Street Name
[Text Input Field]

Street No.
[Text Input Field]

City
[Text Input Field]

Zip Code
[Text Input Field]

Name of parent 1
[Text Input Field]

Name of parent 2
[Text Input Field]

Guidelines

Consider when the information is necessary: Do we really need both an ID number and a user code to sign-in? Ask for the minimum data necessary for security and avoid hidden elements. ([see chapter 4 for more information](#))

Reduce the number of actions: For example, consider omitting the password confirmation field, which makes the process cumbersome. If password confirmation is essential, simplify the process as follows:

- Provide simple and clear instructions for password creation.
- Give the user the option to see the password without concealment.
- If possible, display the last 2 characters typed.

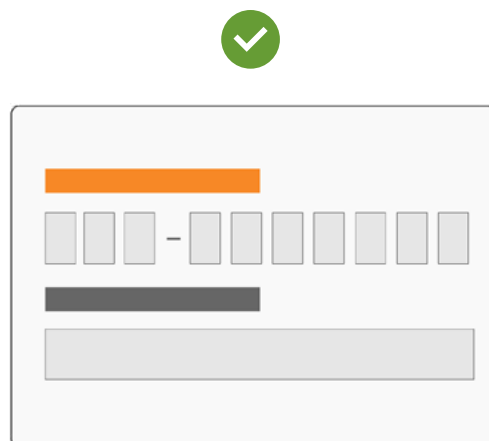
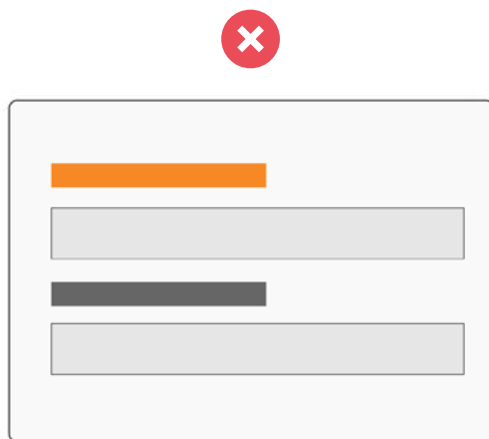
In a form: Instead of mixing mandatory and non-mandatory fields and using an indicator such as an asterisk to mark the mandatory ones, keep only the mandatory fields.

On a page: Wherever possible, avoid scrolling and use only as many fields as fit on each non-scrolling page.

3 When designing fields in a form, maximize visibility and operation.

Guiding principle:

When designing fields in a form, use all available means to boost visibility and foster ease of operation.



Guidelines

Labels: Display large, high-contrast labels and avoid placeholder text within a form field. ([see chapter 4 for more information](#))

Expandable UI components: Ensure that users have a large clickable area that does not require precision and that allows easy scroll control.

Numeric field: When possible, use graphic elements to indicate the number of digits to be filled.

Location of fields: Prefer a single column to enhance responsiveness. Pay attention to clickable areas and hidden components. ([see chapter 4 for more information](#))

In-line indication of errors: Display the indication adjacent to the field or command immediately after the user has left the field. The indication should be noticeable enough that the focus shifts to it immediately.

Keyboard setting: Display the virtual keyboard with the input type relevant to the field. Alternatively, validate the form only when the user clicks on the "Continue" button.

For more information, see references [\(21\)](#) and [\(22\)](#).

CHAPTER 6

USER TESTING & USABILITY TESTING



STEVEN'S STORY:



"I was asked to join a focus group for a company that developed an app. At first, I was happy that people like me were actually asked for our opinion. Later I realized this app is designed for fall prevention in elderly adults. I asked them, 'What do falls have to do with me? I go to the gym four times a week'. I am in better shape than the young guy who asked me the questions. They think anyone over 60 needs nursing care."



Why is this important?



To increase the likelihood that older users will adopt new products, it is strongly recommended that you conduct research. Conducting UX research at any stage of the design cycle can boost the chances that older users will adopt a digital product. This research and testing may seem time-consuming, but will ultimately save time and money.

When planning UX research, we should bear in mind that the population of older people is very diverse. With an age range of as much as 40 years, it has greater in-group differences than any other age group. Therefore, when developing products for people aged 65+, the research should include older adults whose characteristics fit the product's target audience.

In this chapter, we focus on two aspects important both for user research in the initial stages of digital platform or product development, and usability testing in more advanced stages, with the following questions:

- 1 Who are the participants in the research groups?
- 2 What should we ask and how?

1 Selecting participants for the research

As mentioned earlier, it is not enough to simply speak of "older people". Rather, we must consider the full range of characteristics that may be relevant to the product's persona, profile and rules. Make sure that descriptors of the study participants include their motivations, goals, behaviors and frustrations.

Example of characteristics: age group, socio-economic status, ethnic background, social network, functional abilities (physical, mental, relevant disabilities), native language (What types of digital products they use, how they use them, and how often.).

A note about recruiting participants: We should be aware that how participants are recruited has a bearing on the diversity of participants. For example, if the proposed digital platform requires some familiarity with Zoom/Facebook, only users of these platforms should participate in the study. Similarly, if you recruit from places designed for people with a certain level of functional ability, anyone with a different level should not participate.

Avoid ageism* when recruiting: Do not make sweeping assumptions about the abilities and desires of older people. Instead, be curious and let them surprise you.



*Ageism a way of thinking, feeling, and behaving towards older people simply in terms of their age. This phenomenon is expressed in stereotypes, exclusion, discrimination, and inequality because of age. Ageism can be directed toward any person of any age, but it is more commonly directed at older adults and therefore harms them more.

2 What should we ask and how?

Here are some suggestions for conducting user research and usability testing. These are relevant in all research and testing, but should be specifically emphasized when including older people.

The significance



Self-ageism is an internalization of stereotypes and prejudice towards a person because of their age. The following guidelines can help deal with self-ageism and prevent a situation where participants tell themselves they are too old for the technology being offered and so decide they are not interested in participating. ([Further reading about self-ageism](#))

Guidelines

Collecting personal details: When interviewing participants, avoid mentioning participant age and referring to limitations/disabilities that are characteristic of that age. If you must mention it, such as when collecting personal details, do so at the end of the interaction (interview, survey, etc.).

Clarity: Provide users with clear and accurate instructions to reduce stress.

Feedback: Try to update the participants, when their comments are taken into account.

FAIRNESS AND ETHICS:

Consent to participate: Ensure that consent forms are simple and short.

Withdrawal consent: Emphasize several times that they are free to leave the research at any time, and when someone chooses to do so, accept the decision and show support and empathy.

Accessibility:

User's device: Determine whether the device has custom settings that may affect its usage.

Environment: Pay attention to factors that may significantly affect usage, such as lighting, acoustics, and familiarity.

Accessibility according to need: Use an appropriate font and proper contrast when preparing research material, e.g., questionnaires, prototypes, and any other means the users may encounter. Bear in mind that some participants may have deteriorating hearing or eyesight.

([see reference 19 for more information](#))

CHAPTER 7

**WHY WE
NEED THE
GUIDELINES:
AGE-RELATED
CHANGES**



As we age, certain changes occur in our emotional and mental condition, as well as in cognitive, sensory, and motoric functionality.

These changes ,along with low digital literacy among some older people, lead them to grasp and experience the world differently than the younger population.

Here is a summary of why we need the guidelines:



Some older people with low digital literacy feel insecure and inadequate in a technological environment. Often, the reasons for this are a lack of familiarity with the digital world, alongside the internalization of stereotypical ideas about older adults not being able to use digital platforms optimally ([read more about self-ageism](#)). As a result, they experience more difficulty in this environment than younger people, and their motivation to use a digital platform decreases. Additionally, some older people avoid taking risks and therefore will not click icons or enter pages with content of which they are unsure.



Older people with low digital literacy are not familiar with the digital world's various icons and design conventions, because they have different mental models of the digital world.



Advancing age can also bring with it a decrease in the rate of information processing, whether in understanding, thinking, or remembering. The ability to ignore distractions, focus on one stimulus, and perform several complex actions simultaneously, also decreases. Additionally, due to their age, some suffer from a decrease in executive functions that enable planning, executing, and delaying reactions. Therefore, there is a higher chance they will perform random actions such as clicking on unintended places, closing pages, or making errors when using apps. Some may have difficulty understanding that icons carry the same meaning across different apps, or in dealing with situations that do not correspond with their expectations of the digital world.

Despite such difficulties, it is essential to stress that the ability to learn from feedback – for example, via affirmations – does not diminish with age.



Our ability to see close objects can decrease as we get older. Some older people also find it difficult to differentiate between certain colors or between shades of the same colors. Additionally, some experience a decrease in their peripheral vision, which means they are less likely to see information located on the edges of screens.



With age, the ability to regulate hand gestures sometimes decreases. Moreover, some difficulty may occur in pinpointing the location and intensity of a click. Older people may also encounter difficulty in performing certain tasks, such as scrolling, or rapid actions, such as double-clicking.

APPENDIX





CHECKLIST

Checklist for age-friendly digital interface development



Easy operation of an interface

- Large, spaced-out objects
- Operation does not require fine gestures and precision
- Minimum number of actions to achieve goal



Easy visibility of the screen

- High contrast
- Large font, preferably sans serif
- Clear background



Clear language and simple interface

- Controlling the rate of progress
- Reassuring notifications upon successful actions
- Familiar words, clear and simple phrasing
- Clear and accurate error messages with a call for action
- Dialogue messages for actions that may harm the user



Easy orientation

- Text tag alongside a graphic icon
- Central placement for the 'contact us' options
- Most important items located in the middle of the screen
- Consistency of design and operation
- Minimizing the number of choices the user must make
- Highlighting the actions performed by the user

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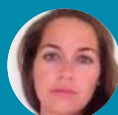
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LOG IN

Contact us:

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