COGA info for WCAG 3 sprint teams

Purpose of this document

- To share information in Making Content Usable for People With Cognitive and Learning Disabilities that is relevant to the guidelines being developed for WCAG 3
- We are starting with the first set of sprint groups and will add relevant info for other sprint teams soon

Important FYI for WCAG 3 sprint teams using this document

- Making Content Usable has a huge section on conducting user testing with people who have cognitive and learning disabilities
- Each of the design patterns that are listed below from Making Content Usable includes test examples of what to use and what to avoid.
- We are developing additional testing info and will share that with sprint teams when it's ready.

Guideline: On-screen flashing or motion does not cause harm

User needs

- Distractions
    - As a user with an attention impairment and impaired memory, I need to avoid distraction. If I lose focus and forget what I am doing, I need reminders of what I was doing, so that I can complete my task.
    - I need tasks to not have distractions.
    - I need to turn distractions off easily, if there are distractions.
    - I need to know where a task starts and finishes to help with switching attention so that I can focus on the task.

    - I need to know the context, where I am, what I just did, or what just happened to me after I lost cognitive focus and then needed to come back to the task.
    - I need to be able to go back or see information about where I am in a site so that I can reorient myself.
    - I need to know where I am in a process to avoid disorientation, including what I have done and what my next step will be.

Patterns

- Ensure controls and content do not move unexpectedly
- Let users control when the content moves or changes
- Limit interruptions (Part of Objective 5: Help users focus)

Use cases/Personas

- Amy (Autistic computer scientist): Changing color schemes, flashing, blinking, and automatic videos or music
- Yuki (Yoga teacher with ADHD): Stopping carousels and banners from scrolling

Please be aware of the ADAPT group's work on distractions.

Guideline: Minimize impact of timing and interruptions

User needs

- Distractions
    - As a user with an attention impairment and impaired memory, I need to avoid distraction. If I lose focus and forget what I am doing, I need reminders of what I was doing, so that I can complete my task.
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    - I need to know where a task starts and finishes to help with switching attention so that I can focus on the task.
    - I need to know the context, where I am, what I just did, or what just happened to me after I lost cognitive focus and then needed to come back to the task.

    - I need to be able to go back or see information about where I am in a site so that I can reorient myself.
    - I need to know where I am in a process to avoid disorientation, including what I have done and what my next step will be.
- Assistance and support
    - As a user who has difficulty with organization (executive function), typing, and putting letters and numbers in the right order, I want an interface that stops me from making mistakes, and helps me complete forms and perform other similar tasks successfully.
    - I need an interface that helps me avoid mistakes.
    - I need to enter as little information as possible, so the task is more manageable.
    - I need the interface to only give valid options, so I can select the ones I want.
    - I need an interface that helps ensure I rarely touch controls by accident.
    - I need long numbers that often have spaces, like credit card numbers, divided into chunks. That way I find it easier to check them.
    - I need inputs to accept different formats and not mark them as mistakes.
    - I need interfaces to use metrics I know, and that are common in my location (such as feet or meters), otherwise I get confused. I do not always know what metric they are talking about or notice when the number looks wrong.
    - I need to use applications (or standard application programming interfaces - APIs) that help me. For example, by remembering my information so I do not need to enter it again and helping with spelling.
    - I need clear labels, step-by-step instructions, and clear error messages, so I know exactly what to do.
    - I need examples that make it easy to understand what I need to do.
    - I need clear and simple explanations of options or choices to help me know what they mean.
    - I need help managing my time, such as letting me know how long a task will take.
    - I need time to complete my work. I do not want a session to timeout while I try to find the information needed, such as my postal/zip code or social security number.
    - I need to save my work as I go or be sure all my work is saved automatically. I do not want to start over again, which can create a cycle of reentering my data. This makes me tire easily and more likely to make mistakes.
    - I need support to manage the task, such as letting me know what information I will need (credit card, full address, etc.) before I start.
    - I need to understand the consequences of what I do online.

Patterns

- Limit interruptions
- Avoid data loss and “Timeouts”

- Avoid too much content
- Make the site hierarchy easy to understand and navigate
- Let users control when the content moves or changes
- Let users avoid navigating voice menus
    - See in particular these bullets about timing:
        - Design helpful voice menus by:
            - Waiting for a slow speaker to respond.
        - Extra time should be a user setting for both the speed of speech and ability for the user to define if they need a slower speech or more input time etc. Timed text should be adjustable (as with all accessible media).
        - The user should be able to extend or disable timeouts as a system default on their device.

Use cases/Personas

- Amy: Changing color schemes, flashing, blinking and automatic playing videos or music
- Gopal: Making a medical appointment
- Yuki: Stopping Carousels and Banners from Scrolling
- Yuki: Losing focus when completing tasks
- Yuki: Gathering key points from a heavy text-based document or web page
- Alison: Correcting typos and writing fluently
- Tal: Overlooking important information

Guideline: Contents are programmatically and visually ordered

User needs

- Findable
    - As a user with a memory impairment, impaired executive function, or impaired language processing skills who has trouble finding the features they need, I need to identify important information and critical functions on a page, so that I can find things in a reasonable amount of time.
    - I need to identify important information and critical functions on a page, quickly and easily.
    - I need to reach important information and the controls I need without scrolling or carrying out other actions. They are not hidden or off screen.

    - I need to find it easy to identify the content that I need, and do not need. Information I need to know and important information stands out, or is the first thing I read and does not get lost in the noise of less important information.
    - I need to get to the feature I need using the minimum number of easy steps.
    - I need to know the starting point for each specific task, such as applying for a job.
    - I need to find the design and user interface elements familiar. Menus, buttons, design components, and common elements such as help and search are easy to recognize and where I expect them to be.

Patterns

- Use a clear and understandable page structure
- Make it easy to find the most important actions and information on the page
- Make it easy to find the most important tasks and features of the site
- Use clear visible labels
- Provide search
- Break media into chunks
- And all of Objective 1: Help users understand what things are and how to use them

Use cases/Personas

- Alison (aging user with mild cognitive impairment): Learning how to use new technologies and interfaces
- Amy (autistic computer scientist): Coping with poor layouts and illogical navigation
- Kwame (traumatic brain injury survivor): Understanding where information is in a hierarchical structure
- Maria (user with memory loss): Finding key information on websites

Guideline: The site or app aids navigation

User needs

- Clear navigation
    - As a user with a cognitive or learning disability and who likes to browse on the Web, I need the structure and menu categories to make sense to me, so that I find what I am looking for, without looking in the wrong place.
    - I need to easily understand, navigate, and browse both the site and page structure.
    - I need to scan the page and understand the priority and structure of the content.

- Findable
    - As a user with a memory impairment, impaired executive function, or impaired language processing skills who has trouble finding the features they need, I need to identify important information and critical functions on a page, so that I can find things in a reasonable amount of time.
    - I need to identify important information and critical functions on a page, quickly and easily.
    - I need to reach important information and the controls I need without scrolling or carrying out other actions. They are not hidden or off screen.
    - I need to find it easy to identify the content that I need, and do not need. Information I need to know and important information stands out, or is the first thing I read and does not get lost in the noise of less important information.
    - I need to get to the feature I need using the minimum number of easy steps.
    - I need to know the starting point for each specific task, such as applying for a job.
    - I need to find the design and user interface elements familiar. Menus, buttons, design components, and common elements such as help and search are easy to recognize and where I expect them to be.
- Directions
    - As a user with cognitive and learning disabilities that affect navigation and sequencing, I need help understanding and using directions and navigation.

Patterns

- Make the site hierarchy easy to understand and navigate
- Use a clear and understandable page structure
- Make it easy to find the most important tasks and features of the site
- Make it easy to find the most important actions and information on the page
- Provide search
- Make short critical paths
- Use clear visible labels

Use cases/Personas

- Amy (autistic computer scientist): Coping with Poor Layouts and Illogical Navigation
- Kwame (traumatic brain injury survivor): Understanding where information is in a hierarchical structure
- Kwame (traumatic brain injury survivor): Using speech recognition to navigate the web
- Maria (user with memory loss): Finding key information on websites
- Sam (librarian with hemiplegia and aphasia): Trying to activate elements that are mis-recognized

Guideline: Controls have correct semantic markup

User needs

- Clear operation
    - As a user with a memory impairment, a learning disability, or a communication disability who uses symbols, or executive function impairment, I find it hard to learn new interface design patterns. I need to know which controls are available and how to use them so that the site is usable for me.
    - I need to understand my options and the tasks I can perform and I can identify the controls I can interact with to complete actions.
    - I need to know how to use all the controls and the effects of each action.
    - I need the controls to be easy to correctly activate. The interface is designed so that I rarely activate controls by accident.
    - I need to know what are controls and what are not controls. I do not try to activate elements that are not controls. Otherwise I think the site is broken.
    - I need to know where things are. Controls and content do not move unexpectedly as I am using them.
    - I need to know what happens when I touch things. I know the consequence of each action, such as sending information, changing settings, changing the context or closing the application.

Patterns

- Make the relationship clear between controls and the content they affect
- Use clear visible labels
- Provide help for forms and non-standard controls
- Support a personalized and familiar interface

Use cases/Personas

- Kwame (traumatic brain injury survivor): Using speech recognition to navigate the web
- Sam (librarian with hemiplegia and aphasia): Trying to activate elements that are mis-recognized

Testing info

COGA's testing subgroup put together this folder and will continue to develop this resource, which needs input and alignment from the larger COGA taskforce:
https://drive.google.com/drive/folders/1RUiKsY_WUaFJFvdR6ezFJ8Jx35JkHssy?usp=drive_link