



Accessible Content Design Recommendations for Neurodivergent Users

Thaksha Krishnagumar, Grace Ding

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Content Design for General

Brief overview of the contents

Design consistent interfaces with clear navigation. Present content in small chunks with summaries. Use simple language, labels and multimodal support for clarity.

Our Vision

We aim to offer recommendations to guide content design for neurodivergent users.

Structure

- Organize the navigation menu by user group or service
- Limit the number of options in menus to reduce cognitive load
- Use consistent placement and clear labels to make menus easy to find
- Limit the main navigation menu to 5-7 items
- Group related items under submenus or dropdowns
- Ensure users can access content within 1-2 clicks
- Make submenus accessible through mouse, keyboard, and screen reader
- Clearly label buttons to show their action (e.g. “Start”, “Send”, and “Next”)
- Pair icons with text labels to make buttons easy to understand
- Incorporate scrolling buttons when menus exceed one screen
- Highlight the current page in menus using visual cues, breadcrumbs, and ARIA

- Provide visual task progress indicators (e.g. progress bars, checklist steps)
- Place important controls and features at the top of the main page for easy access
- Provide undo, back, and breadcrumbs to correct errors without losing data
- Clearly identify controls and provide instructions for their use
- Use consistent headings and guides (e.g. HTML heading tags)

Colour Contrast

- Provide grayscale/colour filter toggles to manage visual overwhelm
- Offer visual theme options such as dark or light mode

Typography

- Allow text resizing without breaking layout
- Use solid contrasting background with thick outlines for text
- Make busy backgrounds removable or simplified to improve readability

Information Content

- Provide a ready-to-go dictionary feature available for difficult terms
- Provide guided onboarding tutorials before first use of digital experiences
- Introduce new elements progressively to avoid overwhelming users
- Use tools like “read more” to shorten long text paragraphs
- Embed icons in lists to help users scan quickly
- Group related functions together visually so users do not have to search or guess
- Provide multiple support options (e.g. forms, email, phone, chat, and video calls)
- State the purpose of a webpage and its sections
- Use simple tense in written language
- Do not use double negatives or clauses within clauses

- Offer math content alternatives (e.g. plain text, step-by-step examples, and visual aids)
- If possible, avoid long or consonant-heavy words that may be difficult to pronounce
- Include explanations for abbreviations or acronyms without having users memorize them
- Avoid idioms, metaphorical expressions and roman numerals
- If possible, reduce abstract terms with no physical form (e.g. “justice” or “emotion”)
- If possible, avoid percentages and mathematical expressions
- Write content in small, manageable chunks to avoid overloading attention or memory
- Keep each web page to one subject
- Limit each paragraph or sentence to one idea
- Design forms for simple data entry with properly sized fields and sections
- Keep forms consistent across the site with clear text labels and pictographs

- Write content to follow Easy-to-Read guidelines
 - Provide support for foreign words, abbreviations and complex words.
 - Chunk information for users with limited memory
 - Offer summaries and use bullet point lists where possible
 - Provide easy-to-use help section and feedback options
 - Make data collection/protection easy to understand
 - Use simplified summaries (e.g. TextRank) to reduce cognitive load
 - Use topic modelling to preview themes before reading
- ### Modality of Information
- Embed tutorials in the website with captions and playback controls
 - Break videos into timed segments with captions/instructions in videos
 - Provide clickable, searchable transcripts linked to timestamps
 - Option to remove or reduce music, sfx and background noise
 - Option to stop sudden loudness spikes, maintain same volume all around

- Have actual human uploaded captions over auto-generated ones
- Provide speed options from 0.25x to 4x in 0.1x increments
- Include speaking/text narration where possible
- Use graphics, audio and video to support multiple modal presentation
- Avoid irrelevant graphical elements to reduce cognitive overload
- Use animations with care, only when they support content
- Use photographs for places and people & icons, symbols for abstract terms.
- Use visual guidance such as infographics rather than plain text
- Allow for the option of control (e.g. start, stop, pause) over autoplay

Layout

- Provide a predictable and consistent interface layout
- Allow users to adjust the interface layout (e.g. collapse sidebars)
- Option to hide non-essential modules

- Avoid unexpected scrolling or menus that change without warning
- Highlight key information. Use colours to aid in selective perception.
- Use easily readable fonts and large clickable areas for functions
- Have no more than 2 columns per sheet for A4 documents
- Have no more than 1 column per sheet for A5 documents



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Content Design for Autism

Brief overview of the contents

Use minimal and uncluttered layouts to present information. Keep content short and organized with headings. Use ample spacing and simple fonts. Avoid distractions or unnecessary animations.

Our Vision

We aim to offer recommendations to guide content design for those with autism.

Structure

- Keep the top row or first column visible when scrolling tables
- Provide page numbers in documents
- Have a clickable table of contents in documents or webpages
- Use checkboxes or radio buttons with default options to reduce typing errors
- Use a minimal and uncluttered layout to reduce distractions

Colour Contrast

- Use alternative colour-coding rows in tables
- Avoid bright colours or extreme colour clashes
- Use muted colour schemes to avoid overstimulation

Typography

- Line spacing of text should be at least 1.15
- Use simple fonts (e.g. Arial, Open Sans, Calibri)
- Avoid italics or dense blocks of text

Information Content

- Avoid providing too much information at once
- Present info in short paragraphs, bullets, or numbered steps
- Use clear headings to split information
- Adjust summary length by user preference such as shorter text or more images
- Provide short, content-relevant summaries with key ideas

Modality of Information

- Provide options with text and audio
- Consider sensory sensitivity to animations and clutter
- Minimize unnecessary decorative elements

Layout

- Keep a clean interface with ample white space.
- Avoid pop-ups or side distractions on webpages
- Use progress bars or step indicators



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Content Design for ADHD

Brief overview of the contents
Use simple and consistent layouts.
Provide clear instructions, progress
feedback, and multimodal cues.
Accompany text with labeled visuals.
Avoid sudden changes in format.

Our Vision

We aim to offer recommendations to
guide content design for those with
ADHD.

Structure

- Limit the number of buttons on a single webpage
- For websites/apps, guide users using instructions like ‘read this first’ and ‘click here’
- Prioritize consistency across pages on websites
- Use clear categories and consistent content order
- Avoid unexpected layout changes across webpages and documents
- Provide the ability to bookmark/save chapters

Colour Contrast

- Use soft, consistent colours across websites and documents
- Allow users to mute colours or blur the background behind overlays

Typography

- Avoid decorative or hard-to-read fonts (e.g. cursive)
- Avoid changing styles/ layout of font throughout text

Information Content

- Break down information into small chunks with spacing
- Summarize what was said to make it easier to remember

- Use literal language; avoid sarcasm, metaphors, or vague terms
- Include visuals with clear labels
- Tell users how long tutorials or tasks will take
- Add warnings before flashes, surprises, or pop-ups
- Keep each paragraph to about 50 words
- Provide a summarized review of form entities before submission

Modality of Information

- Avoid “moving” elements (e.g. videos that play automatically)
- Everything on the page should be static.
- Have labeled visuals
- Avoid auto-playing sounds or motion
- Ensure tasks adapt in difficulty
- Provide real-time progress feedback
- Include multimodal instruction cues (e.g. text, audio, visual)

Layout

- Ensure layout is clear and simple
- Keep paragraphs to no longer than four lines on an A4 document
- Use a symmetrical layout
- Allow users hide non-essential information



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Content Design for Dyslexia

Brief overview of the contents

Use high-contrast and dyslexia-friendly fonts. Present content with consistent layouts. Use concise sentences with visuals. Provide alternative formats such as audio and Easy Read.

Our Vision

We aim to offer recommendations to guide content design for those with dyslexia.

Structure

- Use concise headers and short titles for clarity
- Provide content summaries at the top of pages to support focus
- Provide a site map and search functionality for quick and efficient navigation
- For websites/apps, offer navigation based on users' previous errors or response time
- Provide a “reading ruler” to highlight a few lines and aid focus

Colour Contrast

- Use dark-coloured text on pastel-coloured backgrounds
- Ensure to colour code sections on larger documents
- Maintain high text/background contrast
- Avoid red/green and blue/yellow combinations
- Avoid pure black text on pure white backgrounds
- Allow changes in foreground and background colour

Typography

- Use a minimum font size of 16pt (22px) and line spacing of at least 1.5
- Avoid italics and all caps for long passages of text
- Only use upper case for acronyms and not for sentences/paragraphs
- Bold keywords
- Use dyslexia-friendly fonts such as Lexend or OpenDyslexic
- Automatic line breaks in scaled-up text
- Limit colour use to three subdued hues to mitigate visual strain
- Allow users to adjust line spacing and choose spacing between paragraphs
- Aim to have about 60-70 characters per line
- Allow users to pick line length (e.g. 44, 66, or 77 characters) to stay on track while reading
- Make sure character spacing is between 7% and 14%
- Offer wider line spacing (1.5-2.0), with 2.0 preferred for readability

Information Content

- Match images with words, especially for Easy Read documents
- Split complex content into multiple documents if needed
- Keep bullet points similar in length, about two lines each
- Use questions only in headings, not in body text
- Put images on the left and align text to the left
- Do not split paragraphs and sentences across pages

- Bold and define difficult words. Add a glossary
- Avoid long sentences and complex grammar
- Add a synonym tool to replace difficult words with simpler ones
- Provide customizable task reminders
- Reinforce writing with visuals or icons
- Provide a feedback feature if entered information is wrong
- Prevent errors before submission
- Allow to save content and read offline

- Automatically adjust task difficulty based on performance
- Allow multiple attempts without resetting progress

Modality of Information

- Ensure all text and images convey clear and relevant information.
- Place images on the left with left-aligned text
- Provide text-to-speech, transcripts, and audio guides.
- Accompany visuals with text
- Ensure that reading speed is not set by movement speed
- Use visual guidance such as infographics rather than plain text

- Avoid animations or image carousels that may distract users
- Use icons or photos (physical space) as visual cues
- Avoid using graphics not directly relevant to the information presented
- Use QR codes in accessing audio directions (for physical spaces)
- Integrate levels, progress bars, and show progress to enhance motivation.
- Add reward animations after completing tasks (e.g. thumbs up, fireworks, a smile)

Layout

- Include Easy Read formats for documents
- Use left-aligned text. Do not use justified text alignment
- Present content in a clear and linear order from top to bottom
- Avoid sidebars and very wide text columns as they can be hard to read
- Design layouts with simple controls (e.g. tapping instead of dragging)
- Avoid actions that need precision in general
- Use consistent screen layouts and predictable input types (e.g. text fields, checkboxes, dropdowns)



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Content Design for Dyscalculia

Brief overview of the contents

Make navigation straightforward with step-by-step instructions. Highlight key information with colour and offer audio alternatives. Reduce the use of complex data wherever possible.

Our Vision

We aim to offer recommendations to guide content design for those with dyscalculia.

Structure

- Keep navigation menus and webpage widgets minimal
- Simplify complex information, such as visual data, into smaller parts
- Use progress indicators to guide users through steps

Colour Contrast

- Use small amounts of colour to highlight important numbers or patterns

Typography

- N/A

Information Content

- Minimally use information with numbers, percentages and fractions
- Minimally use graphs, bar charts and pie charts
- Use bullet points and clear instructions to make information easy to process
- Keep documents short with only key information
- Allow personalized date and time formats
- Provide calculation-checking tools to reduce math anxiety

- Offer verbal schedules, audio reminders, and calendar visuals

Modality of Information

- Avoid graphs, bar charts and pie charts unless necessary
- Offer drag-and-drop or interactive visualizations

Layout

- N/A



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Content Design for Dyspraxia

Brief overview of the contents
Offer search suggestions to improve efficiency. Keep instructions straightforward and easy to follow.

Our Vision
We aim to offer recommendations to guide content design for those with dyspraxia.

Structure

- Add shortcuts or suggestions of words in the search function

Colour Contrast

- N/A

Typography

- Increase letter spacing to reduce visual clutter

Information Content

- Keep instructions simple (e.g. “please click here”)
- Avoid using too much imagery, especially close together

Modality of Information

- N/A

Layout

- N/A



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Content Design for Down Syndrome

Brief overview of the contents

Label icons and group controls for easy navigation. Avoid timers to reduce pressure. Minimize abbreviations. Include real or animated narrators to guide users when possible.

Our Vision

We aim to offer recommendations to guide content design for those with down syndrome.

Structure

- Reduce the use of icons
- Add labels to icons to clearly indicate their meaning
- Group buttons and controls to reduce long or tiring mouse movements

Colour Contrast

- Use a monochrome background colour to improve the attention of users

Typography

- N/A

Information Content

- Offer syntactic information for complex words
- Avoid abbreviations because they require abstract reasoning
- Use short sentences, no more than 25 words
- Avoid timers or chronometers during application use

Modality of Information

- Use a visible narrator (real person/animated character) in videos
- Audio files should be played at 20dB, avoid background noise

Layout

- N/A



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