

devfest 2022

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dden="" fixed="" aria-label='Hide  
Hide side navigation'
```

Neurodiversity and Inclusion
in Product Design - Embrace
the edge cases and think
beyond average users



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Glossophobia



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Agenda

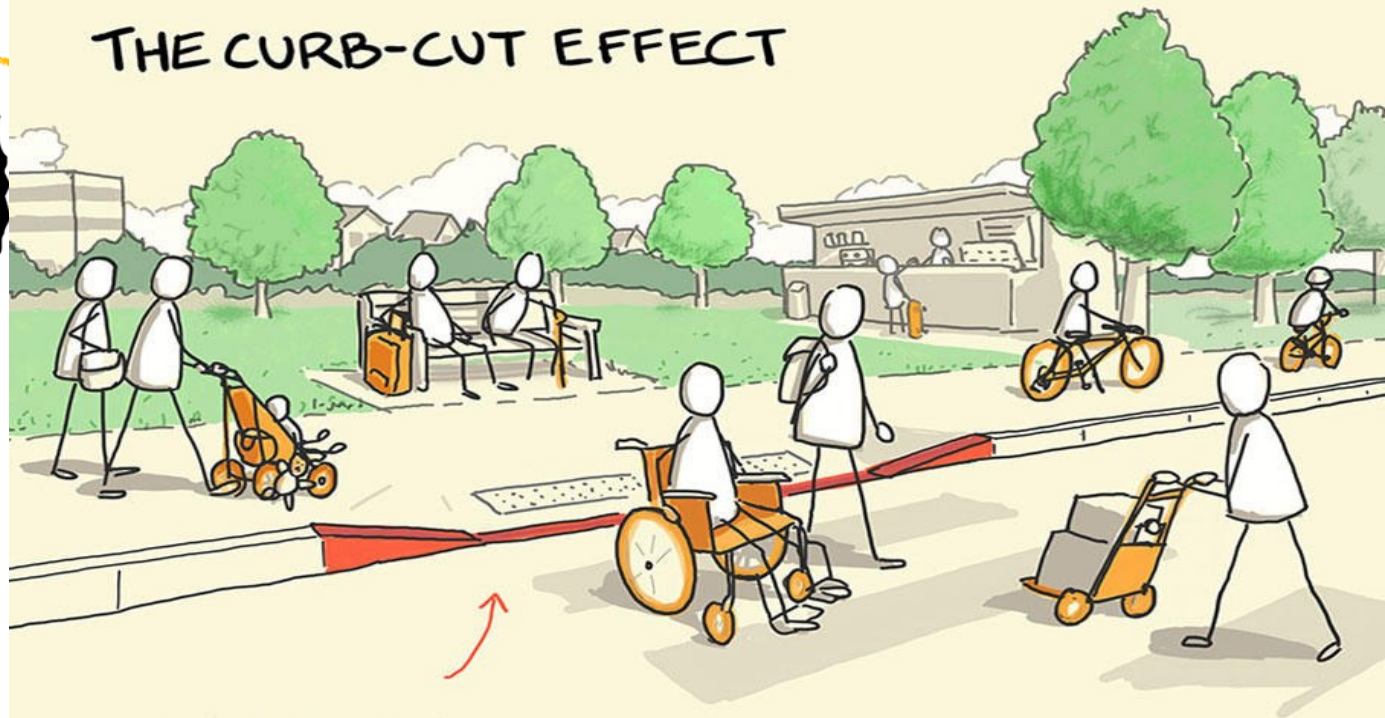
- What is Neurodiversity?
- Accessibility vs ND
- Guidelines for Design
- Concluding Remarks



class="time talk-ended single-
class="talk-name">...
class="description">...

- Named after curb cuts that enable wheelchair users to get on and off sidewalks.
- Were not legally required until 1990 with the signing of the Americans with Disabilities Act.

THE CURB-CUT EFFECT



WHEN WE DESIGN
FOR DISABILITIES

... WE MAKE THINGS
BETTER FOR EVERYONE

sketchplanations

Credit: Sketchplanations

<https://sketchplanations.com/the-curb-cut-effect>

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Not an edge case!

Neurodiversity is often invisible. What's more, it often stays invisible.



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`"class="talk-name">...`
`"class="description">...`

Definition

Measurable, biological differences in the way the brain is wired to process

- Social interactions
- Intellectual understanding
- Emotions and behaviors

A social model of disability



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Undeniable

- Neurodivergent brains are biologically different.
- One cannot be "trained out of" the way their brain works



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`"class='time talk-ended single-
' class='talk-name'>...</th>
' class='description'>...</th>`

- Abundance and not redundancy
- Kinder and Forgiving products
- Gaming and Neurodiversity
- Design Guidelines



Abundance and not redundancy

The image displays the Asana project management interface, highlighting its flexibility through multiple views. The main workspace is divided into two primary sections: 'Customer Stories - Q4' and 'Annual conference plan'.

Customer Stories - Q4 View: This section is shown in the 'List' view. It features a sidebar with navigation options like Home, My Tasks, Inbox, Portfolios, Favorites, Marketing, and Reports. The main area displays a table of tasks with columns for Task name, Assignee, Due date, and Projects. A context menu is open over the 'Duplicate task' option, listing actions such as 'Mark complete', 'View details', 'Full screen', 'Open in new tab', 'Copy task link', 'Duplicate task', 'Create follow-up task', 'Mark as Milestone', 'Mark as Approval', 'Copy task name', and 'Delete task'.

Annual conference plan View: This section is shown in the 'Timeline' view. It displays a calendar grid with tasks plotted as events. Tasks include 'Finalize event name', 'Finalize event theme', 'Propose 3 conference keynote ideas', 'Finalize event agenda', and 'Recruit three speakers for conference'.

Website Launch Assets View: This section is shown in the 'Board' view. It displays a Kanban board with columns for 'Requests', 'In Production', 'In Review', and 'Approved'. Tasks are represented as cards with progress bars and status indicators. Examples of tasks include 'Landing page template', 'New favicon', 'Welcome modal', 'Newsletter signup form', 'Feature image for blog', 'Photos for company bios', 'Support page form', 'Hero illustration', 'Product page layout', and 'Footer updates'.

Source : Asana multiple views. Title Credits : Trace M

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Abundance and not redundancy

The screenshot displays the ClickUp project management interface. On the left is a sidebar with navigation options: Home, Notifications, Goals, Spaces (Everything, Development, Marketing, Engineering), Dashboards, and Docs. The main area is titled 'Project' and shows a list of tasks under 'ISSUES FOUND' and 'REVIEW' sections. A 'Chat' window is open on the right, showing messages from Courtney and Julie. Below the chat, a 'Docs' window is open, displaying 'Meeting Notes' with a table of links and a paragraph of text.

ClickUp

Home Notifications Goals Spaces Everything Development Marketing Engineering Dashboards Docs

Project List Board Timeline Doc Whiteboard

ISSUES FOUND

- Update contractor agreement
- Plan for next year 3
- How to manage event planning

REVIEW

- Budget assignment 3
- Finalize project scope
- Gather key resources +4 5
- Resource allocation +2

Chat

Courtney on Jun 26 2022 at 1:37 pm
@Julie Hey! Just checking if you're still good with posting the final version of the UI refresh design today?

Julie on Jun 28 2022 at 2:51 pm
@Courtney Yep! @Marci jumped in to help, but I'll be posting it by 4pm.

Docs

Add Comment Settings

Meeting Notes

PAGE LINKS

Docs 2.0: Rework & Thinking	Product	The Jernycan
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2/Mark editing

Today, many of us know the how ClickUp went on to pave the way and influence many other products in the 21st century. It was one of the first models to change the way people work.

Source : ClickUp. Title Credits : Trace M

— ↗ ×

Membership Payment Invoice for Toastmasters fall 2022

Hello Keith,

Please find attached invoice for EA Toastmasters.

Please find attached invoice for EA Toastmasters.

A screenshot of a Gmail error message on a dark background. At the top left is the Gmail logo (a circle with a cross) followed by the text "mail.google.com". Below this, the message reads: "It seems like you forgot to attach a file." followed by "You wrote 'find attached' in your message, but there are no files attached. Send anyway?". At the bottom right, there are two buttons: a red "OK" button and a grey "Cancel" button.

It seems like you forgot to attach a file.

You wrote "find attached" in your message, but there are no files attached. Send anyway?

Cancel

Send        

Be Kind and Forgiving

Grammarly - Disneyland of Spell



If you have any questions about my rate or if you find it necessary to increase or decrease the scope for this project, please let me know.

Clarity · Rephrase sentence

If you have any questions about my rate or ~~if you~~ find it necessary to increase or decrease ~~the scope~~ ~~for~~ this ~~project~~ **project's scope**, please let me know.

Rephrase

Dismiss



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The Sims is a game of comfort for so many neurodiverse people






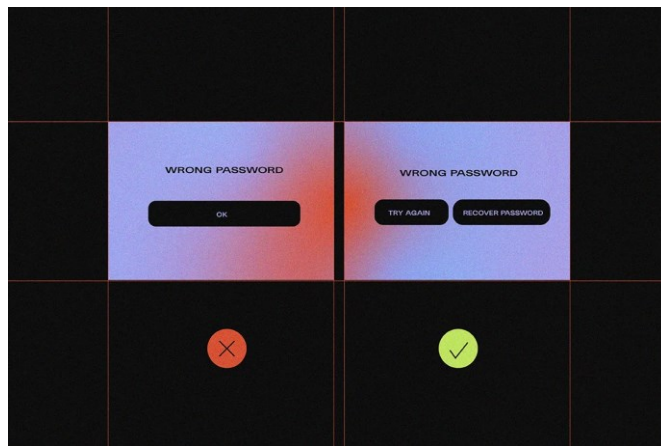
- Play in different ways depending on my mood. allows to build and create
- Play out different situations in a safe environment.
- Explore relationship dynamics that don't come naturally to us
- “A new trait – now a Sim could be an ‘overachiever.’ When applied, he would get bored and restless when his life became dormant. When he took on challenging tasks, he was so happy and fulfilled.

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```
"class='time talk-ended single-  
' class='talk-name'>...<br/>' class='description'>...
```

Guidelines

 :neurodiversity:



Guidelines

- Interpretable messages

Avoid use of characters that look alike

E.g. 1l, B8, Q00CD, and try to break up long strings in phone numbers e.g. (000) 000-0000

- Stick to active voice: Sentences in the passive voice are longer and harder to comprehend. Users with ADHD will get bored, dyslexics will have even more trouble reading, and so will readers on the spectrum.

- Avoid metaphors: Trouble understanding metaphors, such as idioms and other abstract figures of speech.

E.g. Instead of calling it a day, it's more inclusive to say that something is done.

Guidelines

- **Format your writing:** Divide large chunks of text into smaller paragraphs. It is challenging for people struggling with limited attention spans.
- **Use descriptive buttons:** No vague microcopy, such as *Click here*. Describe the purpose of the button.
Example: *Upload images, Register, Download the e-book*.
This simple change makes navigation smoother and reduces anxiety.
- **Be careful with animations:** Too much stimulation can induce anxiety in people on the autism spectrum, which may even lead to physical pain, withdrawal, or meltdown. Use of animated elements should be limited to instances when it serves a purpose. Also remember not to make them too invasive.

Guidelines

- Avoid autoplay: Unexpected movement is surprising and scary, not to mention the sound!
- Add subtitles and captions
- Bring in the perspective of ND users and perform user testing and focus groups with them.



Designing for users on the autistic spectrum



Do...

use simple colours



write in plain English

Do this.

use simple sentences and bullets



make buttons descriptive

Attach files

build simple and consistent layouts



Don't...

use bright contrasting colours



use figures of speech and idioms



create a wall of text



make buttons vague and unpredictable

Click here!

build complex and cluttered layouts



Designing for users with dyslexia



Do...

use images and diagrams to support text



align text to the left and keep a consistent layout



consider producing materials in other formats (for example, audio or video)



keep content short, clear and simple



let users change the contrast between background and text



Don't...

use large blocks of heavy text



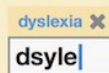
underline words, use italics or write in capitals

DON'T
DO THIS

force users to remember things from previous pages - give reminders and prompts



rely on accurate spelling - use autocorrect or provide suggestions



put too much information in one place



DIMINISHING VISUAL GLARE WHEN DESIGNING COURSE MATERIAL FOR

NEURO-DIVERGENT KIDS



Use a neutral colored background.



Employ lower intensity of black color.



Separate sections or bullets by colors.



Reduce the intensity of screen brightness.



Avoid neon or bright hues, use natural tones.



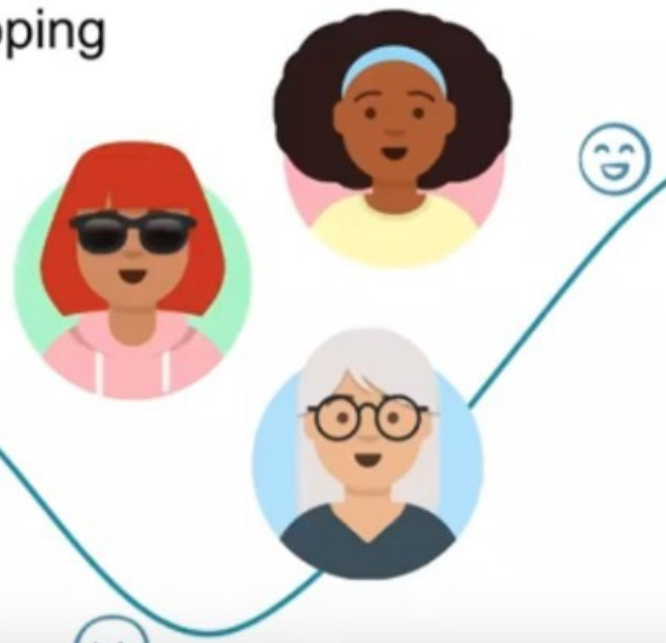
Use contrast to highlight call-to-action.

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Personas and Journey Mapping

- Include neurodivergent characteristics in our user personas
- Journey map the experiences of neurodivergent users




```
on class= 'devsite-book-nav-toggle'
-haspopup='menu' hidden=''' fixed=''' aria-label='Hide
navigation' data-title='Hide side navigation'
-expanded='true'><span class='material-icons
' /></span></button>
```

Great Minds Think Unalike And Learn
Differently

Representation Matters!



```
on class= 'devsite-book-nav-toggle'
-haspopup='menu' hidden=''' fixed=''' aria-label='Hide
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' /></span></button>
```

A design with inclusivity and
neurodiversity in mind is not just
'nice to have' – it's imperative





