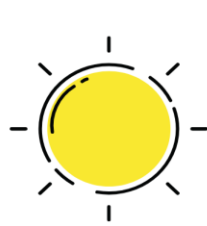


Designing for Neurodiversity, Empathy, Human Centric Design and Inclusion in Software Applications

**Vaishnavi Venkata
Subramanian**



HOW YOU DOIN'



HAPPY



OKAY



MEH



WHERE'S MY
COFFEE



YAWN



SNOOZE



THIRSTY



HUNGRY

Glossophobia



Agenda

What is Neurodiversity?

Accessibility vs ND

Guidelines for Design

Concluding Remarks




SOME DISABILITIES LOOK LIKE THIS









OTHERS LOOK LIKE THIS






NOT ALL DISABILITIES ARE VISIBLE

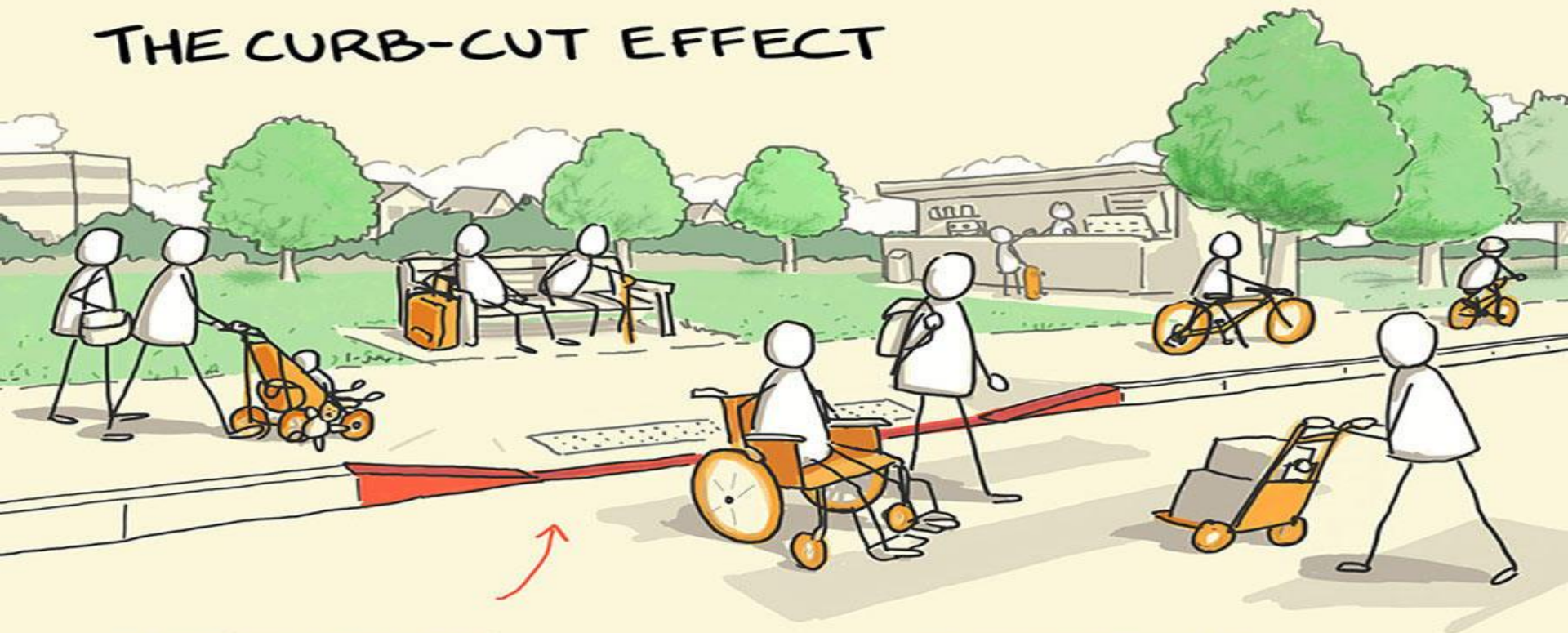
	Permanent	Temporary	Situational
Touch			
	One arm	Arm injury	New parent

See			
	Blind	Cataract	Distracted driver

	Permanent	Temporary	Situational
Hear			
	Deaf	Ear infection	Bartender

Speak			
	Non-verbal	Laryngitis	Heavy accent

THE CURB-CUT EFFECT



WHEN WE DESIGN
FOR DISABILITIES

... WE MAKE THINGS
BETTER FOR EVERYONE

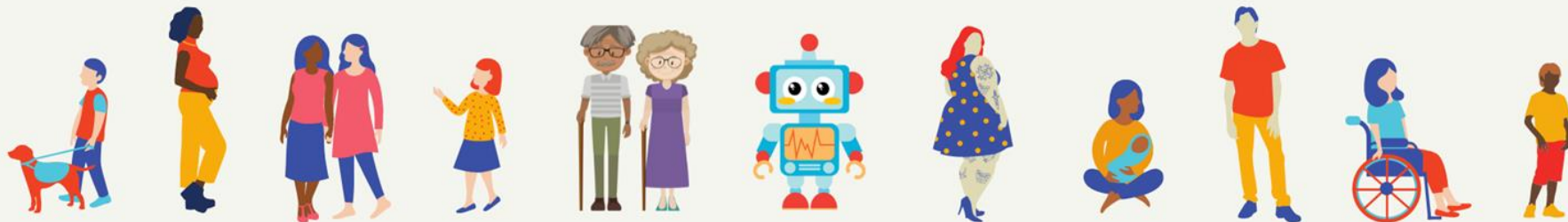
sketchplanations

A colorful illustration of a diverse group of people standing together on a blue surface. The group includes a man with a prosthetic leg, a woman with a prosthetic arm, a man in a wheelchair, and a child with a dog. The people are of various ages and ethnicities, dressed in casual clothing. A yellow dog is on the right, and a single orange balloon is in the background.

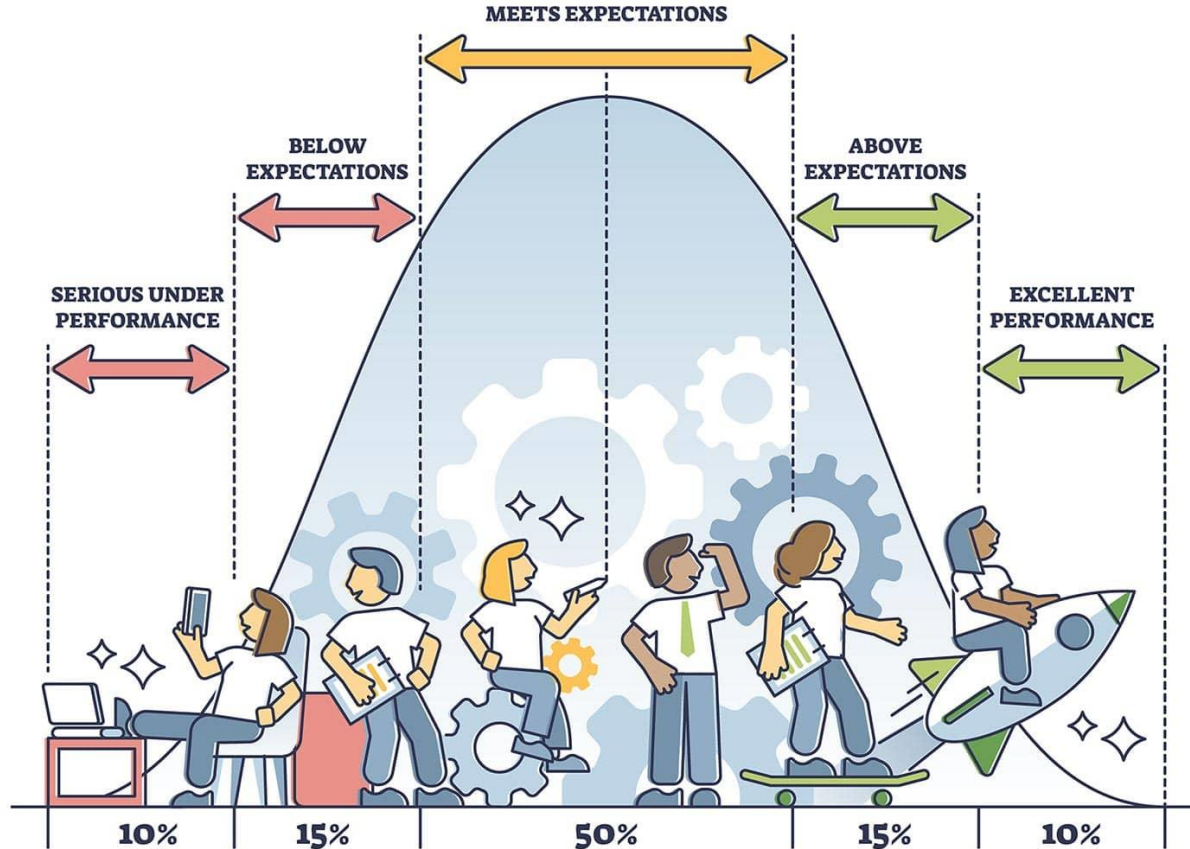


IDA
International
Disability Alliance

#IDPD21



BELL CURVE



Implement a Forgiving Format to Accommodate Users' Mistakes

“We don’t make mistakes, just happy little accidents.”

—Bob Ross, American painter, painting instructor, and TV show host



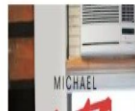
[Become a Host](#) [Help](#) [Sign Up](#) [Log In](#)

Where to? Start your next adventure on Airbnb.

Where Destination, city, address	When Anytime	Guests 1 guest ▾	Search
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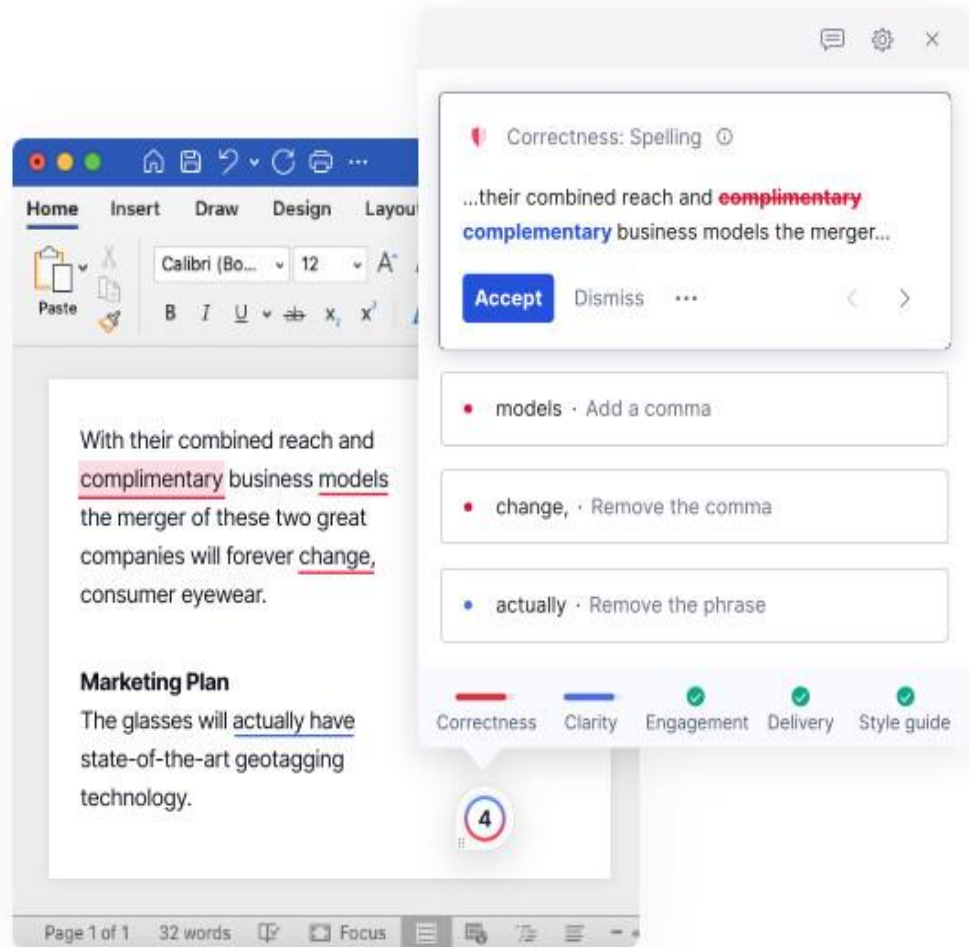
[FOR YOU](#) [HOMES](#) [EXPERIENCES](#) [PLACES](#)

New in Harlem



Be Kind and Forgiving

Grammarly - Disneyland of Spelling



Forgot attachment?

Attachments first, message second, subject third, and recipients last. This is my way.



Abundance and not redundancy



- Home
- My Tasks
- Inbox
- Portfolios
- Goals
- Show less

Favorites

- Recruiting weekly mee...
- Website Launch
- Rebranding video
- Marketing
- Editorial Calendar
- Customer Stories - Q4
- Website Design Reque...

Show more

Reports

Teams

- Marketing



Customer Stories - Q4



On Track



Share



Search



- List
- Board
- Timeline
- Calendar
- Dashboard
- More...

Last task completed on 12 Oct

Incomplete tasks

Filter

Sort

Rules

Apps

Fields



Recurrent pieces



New formats



Content



Design

✓ Edit customer testimonial



19 Nov

1

✓ Customer Stories - Q4 submission



18 Nov

◇ Content marketing campaign!



16 Dec

◇ Editorial calendar



22 Dec

📅 Create campaign



✓ Work-life balance newsletter



24 Nov

✓ Apollo for nonprofits



14 Jan, 2021

2

◇ Quarter in review



25 Nov

2

📄 Press release on acquisition



23 Dec

1

✓ Add testimonials



22 Dec

◇ new



Monday

◇ Changes



30 Dec

✓ Rewrite blog post



19 Jan, 2021

✓ Choose customer for February spotlight



20 Jan, 2021

◇ Editorial calendar



29 Dec

✓ Customer spotlight



18 Jan, 2021

📄 Create new in



17 Dec

Canary in the coalmine



Often the first to sense danger akin to canaries in the coal mine

Preventing miscommunication and not overwhelming the users



Guidelines

Guidelines

Interpretable messages

Avoid use of characters that look alike

E.g. 1ll, B8, QOOCd, and break up long strings in phone numbers e.g. (000) 000-0000

Stick to active voice : Passive voice sentences 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.

Avoid autoplay
Unexpected movement is
surprising and scary, not to
mention the sound!



Add subtitles and captions

Bring in the perspective of ND
users

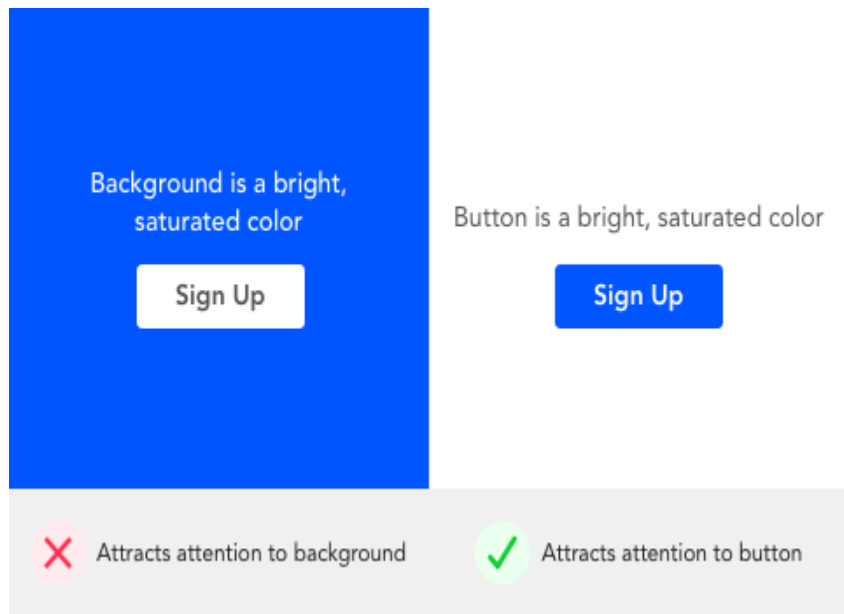
Perform user testing and focus
groups with them.



Aim to visually please,
rather than disturb.

Abstain from auto play in
websites and music that
suddenly appears out of
nowhere.

Skip highly vibrant colors.



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.

Great Minds Think
Unlike And Learn
Differently

Representation
Matters!



Aim for higher SNR

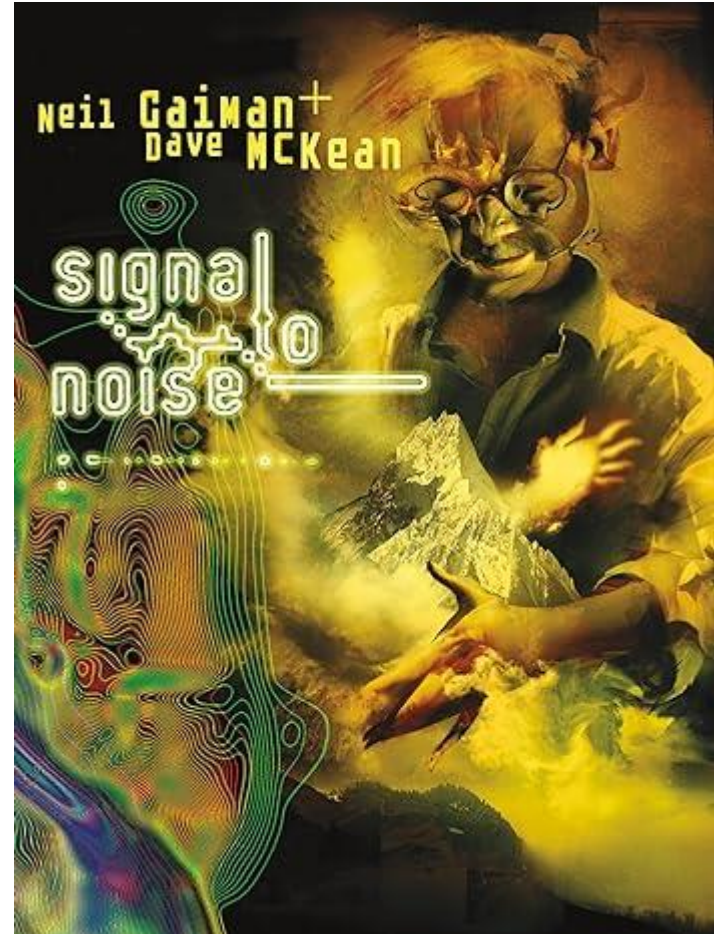
more useful
information (the signal)
>>>>> unwanted data
(the noise)

S/R (dB)



Aim for higher SNR

more useful
information (the signal)
>>>>> unwanted data
(the noise)



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





**THANK YOU FOR WATCHING OUR
PRESENTATION**



makeameme.org