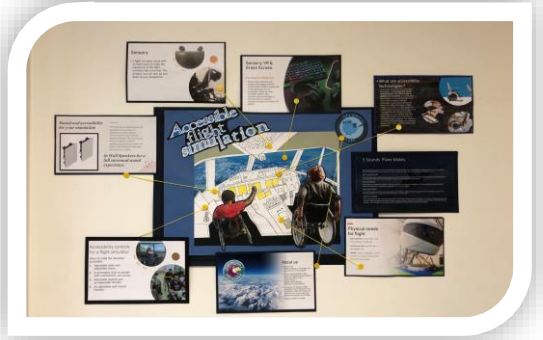
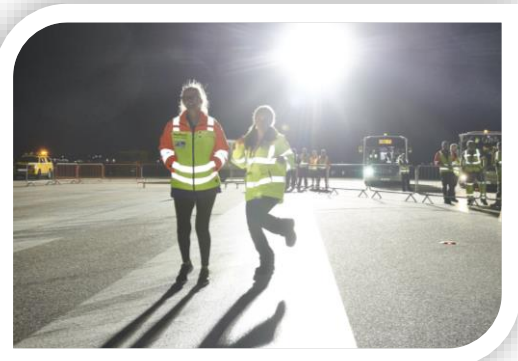


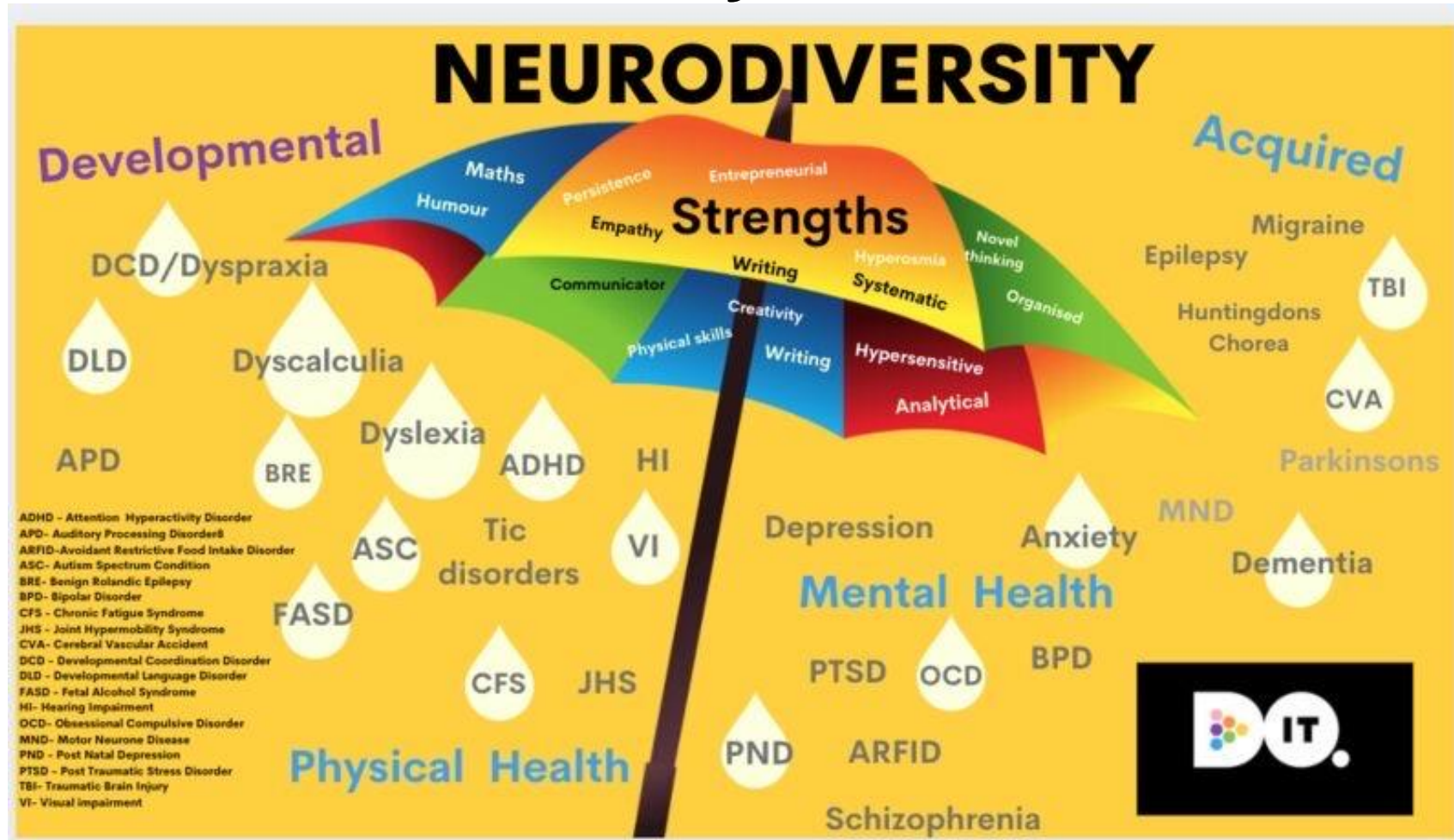
# Systematic Inclusion : Design No Barriers

Heathrow

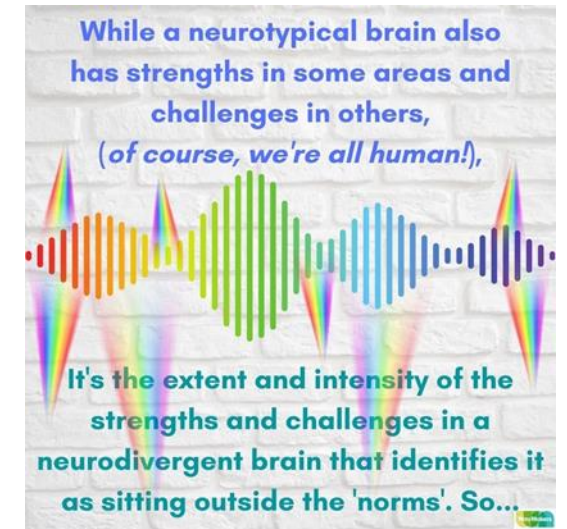
# Jenny McLaughlin (she/her)



# What is Neurodiversity



[\(3\) Post | Feed | LinkedIn](#)



‘Norms’ are determined by what is most commonly experienced by the majority of people.

This gives us measures by which ‘typical’ behaviours and skills are established

# We all experience, process and communicate differently



## Co-Regulation

We are not born knowing how to soothe ourselves. We need to learn the felt sense of being soothed from someone who can bear our distress and stay regulated in their own nervous system. This is known as co-regulation.

SWIPE →

@PSYCHOTHERAPY.CENTRAL

@Jennifer Nurick

## Neurodiversity 101: Task, individual, Environment



When considering making different adjustments think about which of the three elements can be changed.

### Tasks

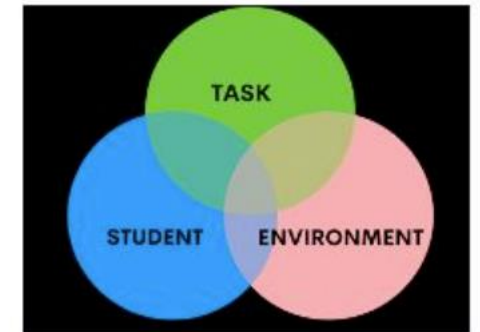
- ✓ Can you make the task simpler?
- ✓ Can you make it take less time?
- ✓ Can you adapt the task for the individual?
- ✓ Can the individual do a task with other individuals?
- ✓ Is there another way of completing the task e.g., using computer rather than handwriting?
- ✓ Can you break the task into parts?

### individual

- ✓ What are the individual's strengths?
- ✓ Do they have specific challenges in this setting?
- ✓ Do they understand the task they need to complete?
- ✓ Is the individual frightened?
- ✓ Does the individual find specifically things helpful for them?

### Environment

- ✓ Is it too noisy?
- ✓ Are there sensory challenges?
- ✓ Is there too much movement around them?
- ✓ Is the light a problem?
- ✓ Does the individual need defined space around them to work/study/participate/manage their emotions?



# Accessibility is for everyone

- Accessibility at Heathrow is used to mean that all our infrastructure, services, technology and processes can be accessed by all people equitably
- It builds from the concept that humans are different and will access and experience Heathrow differently.
- However, those differences shouldn't stop them being treated with dignity and feeling belonging.
- If we design for a broad spectrum of diversity, we will become the hub of choice for all to work and travel.

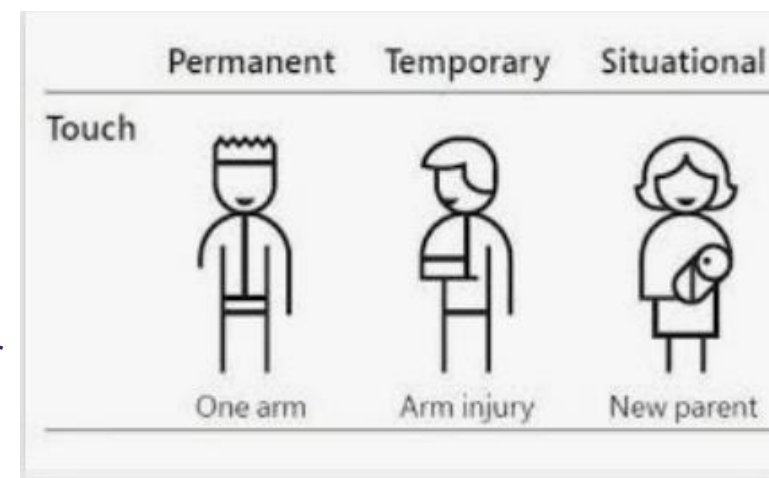
IF WE ACCEPTED ALL HUMANS ARE DIFFERENT, PERHAPS WE'D SPEND LESS TIME TRYING TO MAKE DIFFERENCE 'FIT IN'. #FLIPTHENARRATIVE

In the UK, inclusion (inclusive design and accessibility) is covered by the **Equality Act, 2010**. The Act creates a duty on **both public and private** service providers to make anticipatory adjustments to their services to ensure that people are not discriminated against. It sets out our duty to:

- **Eliminate** unlawful discrimination
- **Advance** equality of opportunity;
- **Foster** good relations

Accessibility needs will be different for everyone and some maybe temporary or driven by certain life situations

We need to make sure the way we operate allows everyone with any accessibility needs to be able to thrive as a colleague or have the best experience as a passenger



# Definition of Inclusive Design

## “ Heathrow | Definition ”

An approach to .. design, ensuring that it can be accessed and used by everyone. ”



A methodology that enables and draws on the full range of human diversity (Microsoft).



Aims to remove the barriers that create undue effort and separation. It enables everyone to participate equally, confidently and independently in everyday activities (Design Council).



The design of mainstream products and/or services that are accessible to, and usable by, as many people as reasonably possible ... without the need for special adaptation or specialised design. (British Standards Institute).

### Interchangeable Terminology

*'design for all', 'universal design', 'human-centred design', 'accessible design', 'barrier-free design', and transgenerational design'.*

## 4 Principles of Inclusive Design

1 **People-Centric**

Places people at the heart of the design process

2 **Diversity & Difference**

Acknowledges diversity and difference

3 **Choice**

Offers choice where a single design solution cannot

4 **Flexibility**

Provides for flexibility in use

# Designing Right First Time



Inclusively  
**designed**



Inclusively  
**built**



Inclusively  
**operated &  
maintained**



Inclusively  
**accessed &  
used**



Inclusive  
**environment**

# Understanding Human Diversity



# Designing for Everyone



Design\_01-

Source, *Designing for Diversity*, DCA Design International

# Human Abilities & Experience

MOBILITY, SIZE &  
HEIGHT



COGNITIVE



TASTE



SMELL



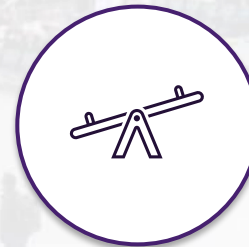
METABOLIC



VISUAL



AUDITORY



BALANCE



ORIENTATION



TOUCH



# Human Diversity

But this isn't just a problem of the past, nor is just a problem of fit.

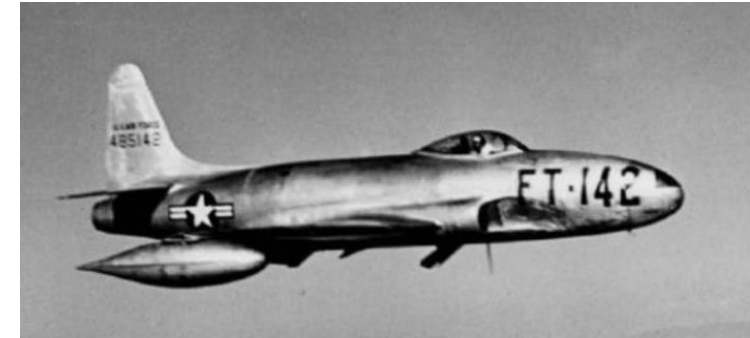
In most industries, driver crash tests are still conducted with a 50<sup>th</sup> percentile male mannequin (based on US and European population).

So if you are fortunate enough to be male and 175cm tall then you can be comforted by the idea that over the last 50 years cars have been optimised for your safety.



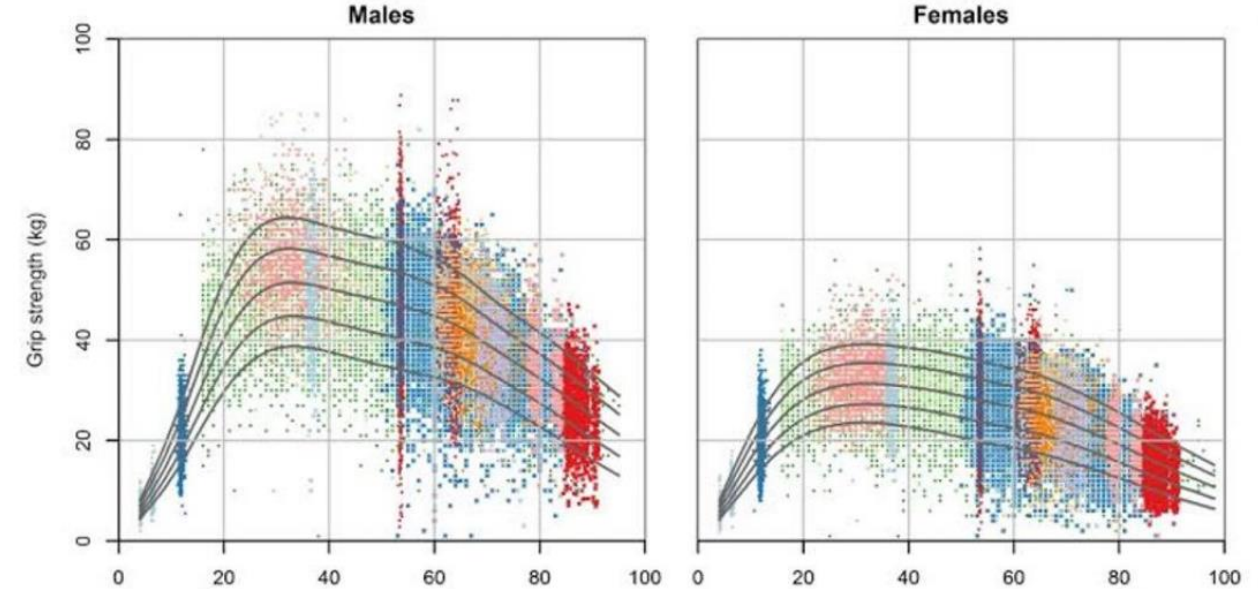
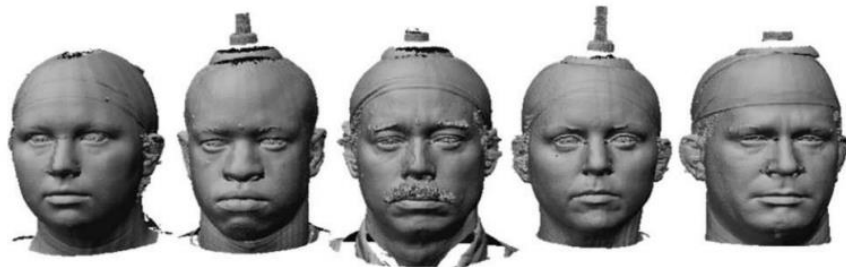
In terms of strength it really is down hill from 40, in fact more like mid 30s.

And we can see similar trends for many of our sensory capabilities too like eye sight and hearing.



And its not just about tall and short and gender, but also variance in features that may be linked to ethnicity.

A lot of products are designed around a European face – what happens if you nose is a different shape?



# Fire Escape Route | Visual Considerations



IMAGE SIGNAGE



DIRECTIONAL SIGNAGE



INFORMATIONAL SIGNAGE

This sign accommodates people who have low vision, an eye infection, vision distortions, or totally blind.

## Tottenham Hotspur FC, White Hart Lane Stadium



STANDARD VISION



PROTOPIA VISION  
(COLOUR-BLIND)

If a fire exit sign is not mounted onto a colour contrasted background, it is not accessible to people who are colour-blind.

# You can't say, 'You can't play'



What is the activity?



What are the barriers?

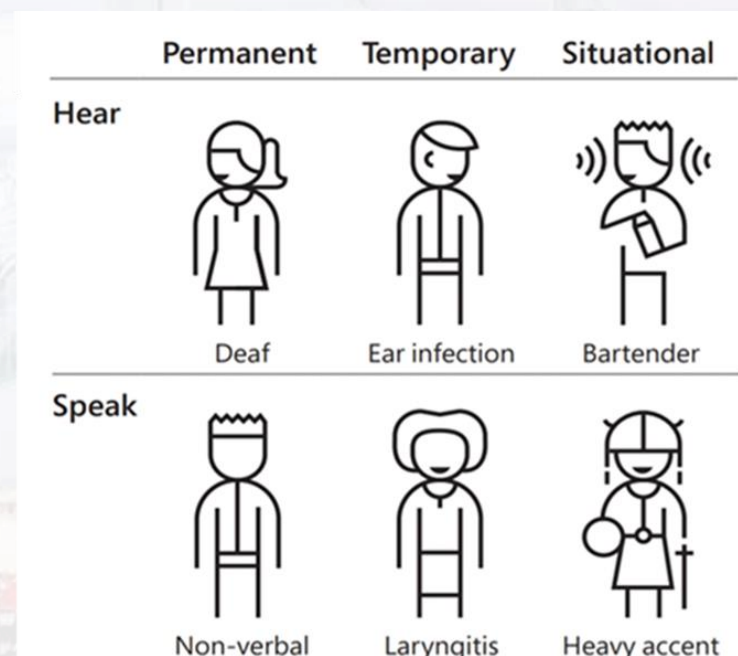
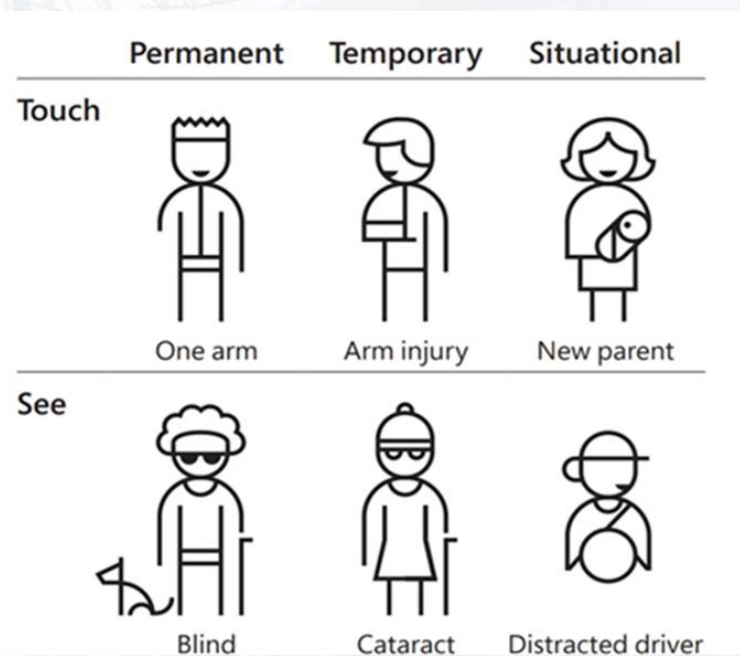


Who can participate?



## Reframing concept of '*Disability*'

by considering the widest range of human abilities and experiences in our designs we're able to identify potential barriers, and create design solutions accessible to all users.



Source, Microsoft, Inclusive Design Toolkit

# Standards & Guidance



HM Government

The Building Regulations 2010

**Access to and use of buildings**

**M**

APPROVED DOCUMENT

**Volume 1: Dwellings**  
 M4(1) Category 1: Visible dwellings  
 M4(2) Category 2: Accessible and adaptable dwellings  
 M4(3) Category 3: Wheelchair user dwellings

2015 edition incorporating 2016 amendments – for use in England\*

Approved Document M, Building Regulations, 2016

BSI Standards Publication

**Design of an accessible and inclusive built environment**

Part 2: Buildings – Code of practice

bsi.

BS 8300, Design of an accessible and inclusive built environment, 2018

**Inclusive Design Overlay to the RIBA Plan of Work**

bsi. RIBA Architecture.com

RIBA, Inclusive Design Overlay to the Plan of Work, 2023

Heathrow Accessible and Inclusive Airport Asset Standard

Document number: 10000-01-400-011-010-010  
 Date: 01/10/2021  
 Classification: Controlled Document  
 Author: Heathrow Property Services, Heathrow, Heathrow, Heathrow  
 Issue date: 20/10/2021  
 Version: 1.0

Heathrow Making every journey better

Heathrow Accessible and Inclusive Airport Asset Standard, 2021. Further information on this Standard is presented in Module 4



PAS 6463:2022

Design for the mind – Neurodiversity and the built environment – Guide

Transport for London BBC

Buro Happold Rodbo bsi.

ED&I strategy

Classification: Public

Our commitment to accessibility is driven by our overall vision – **To give passengers the best airport service in the world**

This vision underpinned by our values, and with a key driver being our Equality Diversity and Inclusion strategy we can drive improvements in Accessibility

And for our colleagues we strive to **Make Heathrow a great place to work** by creating accessible policies, processes and career opportunities to help colleagues thrive and grow their careers at Heathrow

Objective: To be an inclusive employer that represents the diversity of the local community at every level.

ED&I Drivers:

- Driving Sustainable Growth
- Creating Career Fulfillment
- Developing an Inclusive Organisation
- Applying our Colleague Voice

HEATHROW 2.0. CONNECTING PEOPLE AND PLANET

Heathrow

Terminal 2

**OPEN TO ALL:**  
Improving air travel for passengers who require support

REVEALING REALITY

# Inclusive design = good design



## Physical

- Handle designed to work just as well regardless of which hand the extinguisher is held in. This means it works for left handed people, but also those with a weaker arm or just people who pick it up in a different way.
- Handle more comfortable to grip.
- Hole in the 'pin' much bigger – easier & faster to use.

## Cognitive

- Clearer than the 'pin' needs to be removed.
- Possible to remove the pin when squeezing.

## Sensory

- Easier to visually identify the pin.



## Green Heron's Signature Tools

Hergonomic<sup>®</sup> tools are scientifically designed to work with women's bodies and build on our strengths. They function well, help prevent injuries and support good health. Discerning men appreciate our designs, too. And all tools are built to last, right here in the U.S.A.

Inclusive design guides



Human Interface Guidelines

Get in-depth information and UI resources for designing great apps that integrate seamlessly with Apple platforms.



Heathrow



# Design for diversity

## Designing for users with dyslexia



Do...	Don't...
<p>use images and diagrams to support text</p> 	<p>use large blocks of heavy text</p> 
<p>align text to the left and keep a consistent layout</p> 	<p>underline words, use italics or write in capitals</p> <p><i><u>DON'T DO THIS</u></i></p>
<p>consider producing materials in other formats (for example, audio or video)</p> 	<p>force users to remember things from previous pages - give reminders and prompts</p> 
<p>keep content short, clear and simple</p> 	<p>rely on accurate spelling - use autocorrect or provide suggestions</p> <p>dyslexia ✘ dsyle </p>
<p>let users change the contrast between background and text</p> 	<p>put too much information in one place</p> 

## Designing for users on the autistic spectrum



Do...	Don't...
<p>use simple colours</p> 	<p>use bright contrasting colours</p> 
<p>write in plain English</p> <p><b>Do this.</b></p>	<p>use figures of speech and idioms</p> 
<p>use simple sentences and bullets</p> 	<p>create a wall of text</p> 
<p>make buttons descriptive</p> <p>Attach files</p>	<p>make buttons vague and unpredictable</p> <p>Click here!</p>
<p>build simple and consistent layouts</p> 	<p>build complex and cluttered layouts</p> 

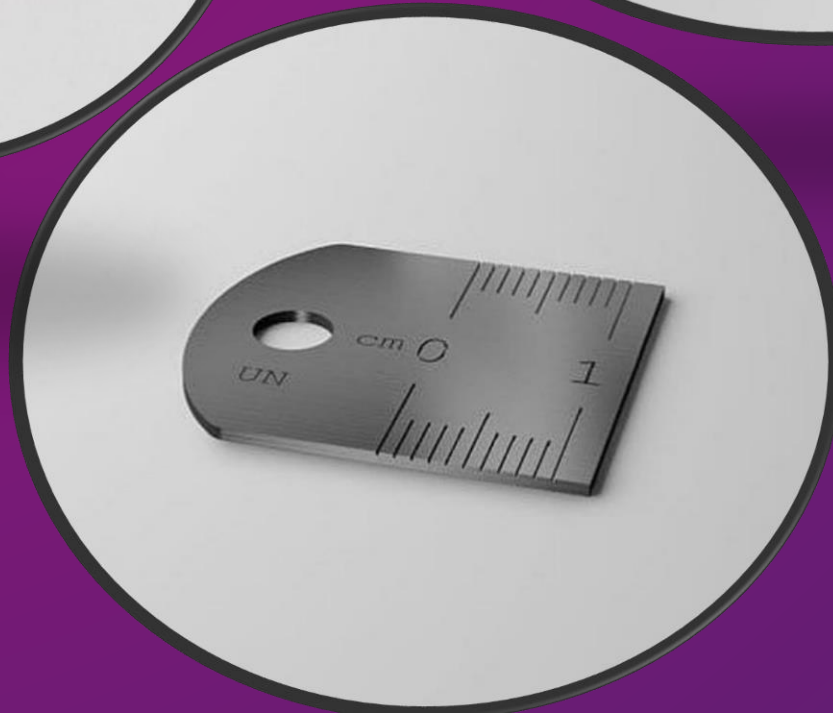
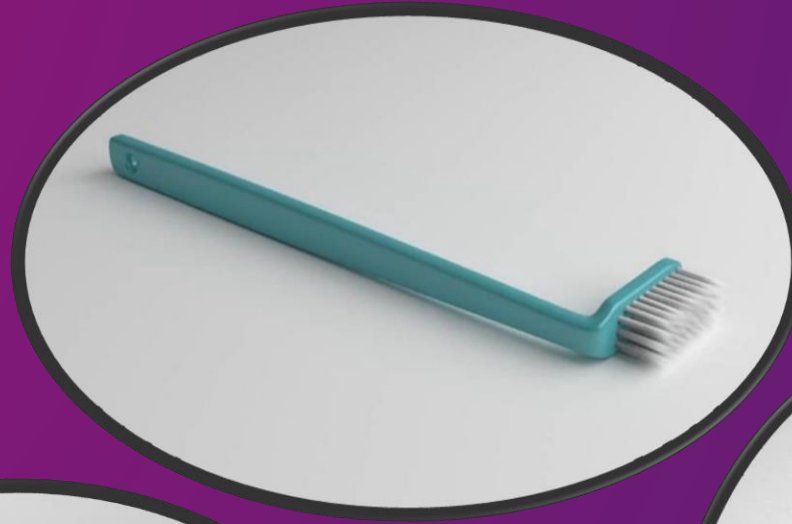
## Designing for users with anxiety



Do...	Don't...
<p>give users enough time to complete an action</p> 	<p>rush users or set impractical time limits</p> 
<p>explain what will happen after completing a service</p> 	<p>leave users confused about next steps or timeframes</p> 
<p>make important information clear</p> 	<p>leave users uncertain about the consequences of their actions</p> 
<p>give users the support they need to complete a service</p> 	<p>make support or help hard to access</p> 
<p>let users check their answers before they submit them</p> 	<p>leave users questioning what answers they gave</p> 

“The Uncomfortable” objects designed by Katerina Kamprani

<https://youtu.be/8sX9IEHWRJ8>



# Everyone is different, don't assume

'Norms' are determined by what is most commonly experienced by the majority of people, this gives us measures by which 'typical' behaviours and skills are established but **everyone is different**.



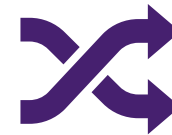
Be curious



Check for  
assumptions



Use accessibility  
checker



Make it flexible



Give safe space  
for feedback

## Some assumptions:

- Everyone knows what they need
- Everyone asks for help if they need help
- Everyone know how to ask for help
- Everyone knows who to ask for help
- Everyone knows where to go for help
- Everyone understands the language being used
- Everyone understands what you have said
- Everyone can read the words on the page

**Thank you for your Engagement**  
**Any questions?**

**Heathrow**  
*Making every journey better*

# IMPERIAL

## Provide feedback!

If you used this resource, please take the time to fill out this form to provide your feedback.

If you have any questions or require more information about the REET (Resources for Embedding EDI in Teaching) project, please contact the Project Lead using the following contact details:

**Chloe Agg** [c.agg@imperial.ac.uk](mailto:c.agg@imperial.ac.uk)

<https://forms.office.com/e/pHBZpniFvB>

