# Blind

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|  | Durga is blind. She is the chief accountant at an insurance company that uses web-based documents and forms over a corporate intranet and like many other blind computer users, she does not read Braille.  Ilya uses a screen reader and mobile phone to access the web. Both her screen reader and her mobile phone accessibility features provide her with information regarding the device’s operating system, applications, and text content in a speech output form. |

Problems when navigating a site:

* Missing alternative text for images
* Missing form input labels
* Empty links
* Empty buttons
* Missing document language

Tools and Techniques

* Screen reader (Perception)
* Text-to-speech (Perception)
* Transcripts (Perception)
* Consistency and predictability (Interaction)
* Descriptive titles, headings, and labels (Interaction)
* Helpful error and success messages (Interaction)
* Keyboard navigation (Interaction)
* Skip links (Interaction)

Assistive technologies: Screen reader, Refreshable Braille Device  
Simulation exercise: Use actual screen reader to sign-up flow with display off.

# Dyslexic

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|  | Ishaan is a middle school student with attention deficit hyperactivity disorder with dyslexia. Although he has substantial difficulty reading, he particularly enjoys his literature class.  Ishaan’s school recently started using online digital textbooks. Ishaan was initially worried about using this new format, but with the use of text-to-speech software that highlights the text on the screen as it reads it aloud, he has found that he can focus on the content more easily instead of struggling over every word. |

Navigation problems:

* Large blocks of heavy text
* Advertisements and moving content that is very distracting
* Force users to remember things like previous step or sometimes label as placeholder text
* No autocompletion, auto suggestions

Tools and Techniques

* Captions (Perception)
* Screen reader (Perception)
* Text-to-speech (Perception)
* Pop-up and animations blockers (Presentation)
* Spelling and grammar tools (input)
* Consistency and predictability (Interaction)
* Helpful error and success messages (Interaction)
* Keyword search (Interaction)
* Multiple navigation mechanisms (Interaction)

Assistive technologies: Screen reader  
Simulation exercise: Use mirror to draw a straw, use dyslexic simulator chrome extension

# Mobility

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|  | Laila is a university student from New York with cerebral palsy. She is a very talented student at Delhi University, a writer, composer and a singer. She uses her motorized wheelchair for commuting.  When using a computer, she uses switches and track ball mouse as she can’t hold a mouse. She also occasionally uses voice recognition software. |

Navigation problems

* Clicking on small links buttons and radio elements
* Cluttered interactive elements
* Mouse only interactive elements like drag and drop
* Lot of scrolling and typing
* Session timing out before completing a task

Assistive technologies: Jellybean switch, Track Ball mouse, Camera mouse   
  
Simulation exercise:   
Play a game with switch.

Use track ball mouse in scrolling and left and right click

Use head mouse to type something and navigate

# Senior Citizen with low vision, hand tremor, and mild short-term memory loss

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|  | Yun is an 85-year-old with reduced vision, hand-tremor, and mild memory loss; common age-related impairments for someone her age. Yun regularly browses the web reading news sites. In recent years she also started using social media to stay in touch with her family and friends. She maintains her own blog where she posts articles on art history and other topics she enjoys. |

Navigation Problems

Reading small text and clicking on small links and form elements

Text does not reflow when it is enlarged and forced to scroll back and forth to read the enlarged content, which means she easily loses track of his place

Captcha images look so distorted even when enlarged

Assistive Technologies: Special mouse and ergonomic keyboard, web browser that saves thumbnails of frequently visited sites

Simulation exercise: Goggles, shaky mouse, Set large font size and browse

# Color Blind

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|  | Zach has a common color blindness called Protanopia (red deficiencies). This  means that reds look more like beiges and green can look like reds. The brightness of red, orange and yellow is also reduced which makes driving difficult. Zach can generally use the web without any problems, until he comes  across a site that uses color for navigation and links- in these instances he finds it difficult to know what to click and so either asks Alex or gets frustrated and  doesn’t use the site again. |

Navigation problems

* Low color contrasts
* Small font size
* Using color alone to convey meaning

Simulation exercise: Disability simulator, optilex