# Developing Accessible Digital Resources

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## Overview and Slides

Session Slides on Github: https://akashdeepbansal.github.io/ncert22/

- What is accessibility?
- What are the ways to develop accessible digital resources?
- How to convert existing resources into accessible digital resources?

## Broad Categories of Disability

- Blind or low vision
- Deaf or hard of hearing
- Intellectual and developmental disabilities
- Learning disabilities
- Motor disabilities

Disclaimer: Though I will try my best to cover all categories of disability. But I have more experience in Blindness and Low Vision.

## What is Accessibility?

- People with disabilities use assistive technologies (ATs) to work on computer independently (e.g. a screen reader that reads out everything on a screen)
- While assistive technologies provide a lot of control, they require certain information to be exposed to them by developers and content creators
- Accessibility refers to compatibility with these assistive technologies and the availability of the crucial information required by ATs to do their job

## Principles of Accessibility (WCAG)

- Perceivable: Users must be able to perceive the information being presented i.e. it cannot be invisible to all of their senses.
- Operable: Users must be able to operate the interface and the interface cannot require interaction that a user cannot perform.
- Understandable: Users must be able to understand the information as well as the operation of the user interface.
- Robust: Users must be able to access the content as technologies advance.

Example Site

## Types of Digital Content

- Documents (Book, Notes, Slides, etc.)
- Multimedia (Video/Audio)
- Applications (Web/Mobile)

In this session, we will be covering Documents and Multimedia only.

## Document Accessibility

- Use only unicode fonts
- Simple (not stylish) font style
- Uncluttered material
- Use images only for pictures, not for tables or text
- Use image descriptions
- Provide alternative access to media content
- Make interactive content accessible
- Mark table headers instead of making them bold
- Logical reading order (e.g., Logical heading order)

## Logical Heading Order

- h1: heading
- h2: sub-heading
- h2: sub-heading
- h1: heading
- h3: subsub-heading

Last heading tag is wrong....

## Demo with MS Office

Word

- Headings and sub-headings
- Equations

- Pictures and Alt-text
- Tables

PowerPoint

- Reading order

## Multimedia (Video) Accessibility
- High contrast if presentation is used
- Bigger font size
- Captioning
- Indian Sign Language (ISL)
- Simple (not stylish) font style
- Uncluttered material
- Unicode font
- Audio description
- Share slides with students before the start of the lecture
    - Blind: Can read with screen reader
    - Low-vision: High-contrast and/or Magnification
- Give indication when changing the slide

## Existing Resource to Accessible Digital Resource
- Printed Document
    - Scan
    - OCR (Optical Character Recognition)
- Digital (PDF/Image)
    - OCR
- Multimedia
    - Caption
    - Text Extraction

Rectify errors and run through Accessibility Checker

## Demo through I-Stem

I-Stem: portal.istemai.com <br><br><br> Feel free to use any application whichever you find more suitable as per your documents.

## Thank You!!!!

In case you have any feedback/suggestion or need any help, please contact me through akashdeep@inclusivestem.org