Developing Accessible Digital Resources

# Developing Accessible Digital Resources

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## Overview and Slides

[Session Slides on Github: https://akashdeepbansal.github.io/ncert22/](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](https://zorkow.github.io/COV885/exercises/form/form.html)

## 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](https://youtu.be/RP5z8DHpcnI?t=10)
* Pictures and Alt-text
* [Tables](https://www.youtube.com/watch?v=4xzdJoIsieg&ab_channel=StudyIQIAS)

PowerPoint

* [Reading order](https://www.youtube.com/watch?v=ar6MfnGJbk0&ab_channel=MicrosoftHelps)

## Multimedia (Video) Accessibility

* High contrast if presentation is used
* Bigger font size
* Captioning
* [Indian Sign Language (ISL)](https://youtu.be/SOA-of8wkTA?t=116)
* 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](https://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](mailto:akashdeep@inclusivestem.org)