

# **Accessible Digital Content**

By Dr Bharti Kaushik

# NEED AND SCOPE

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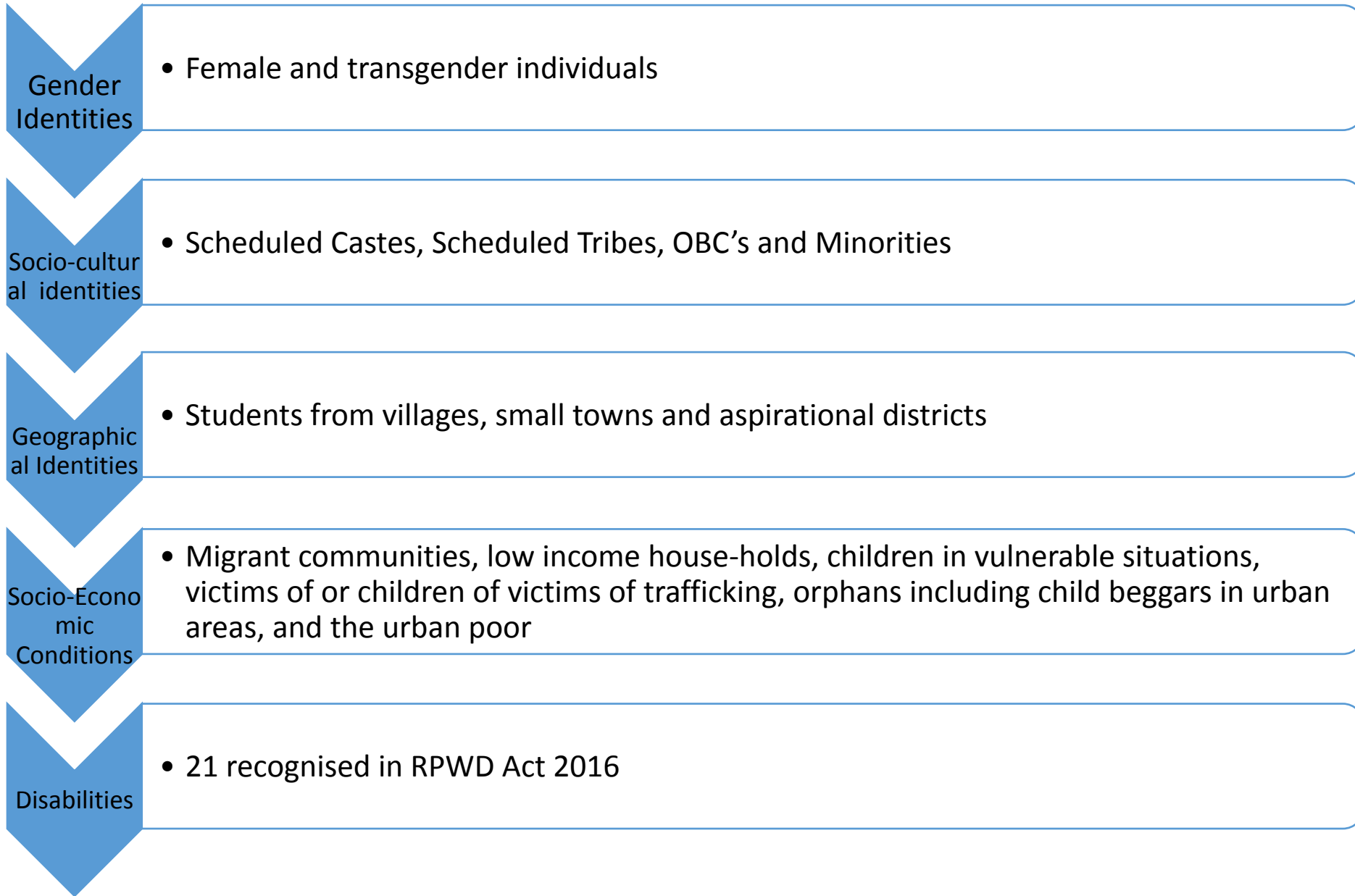
- Reduce Drop out rates due to lack of resources
- Accommodate Diversity in learning styles
- Promote Inclusion

# INCLUSIVE EDUCATION

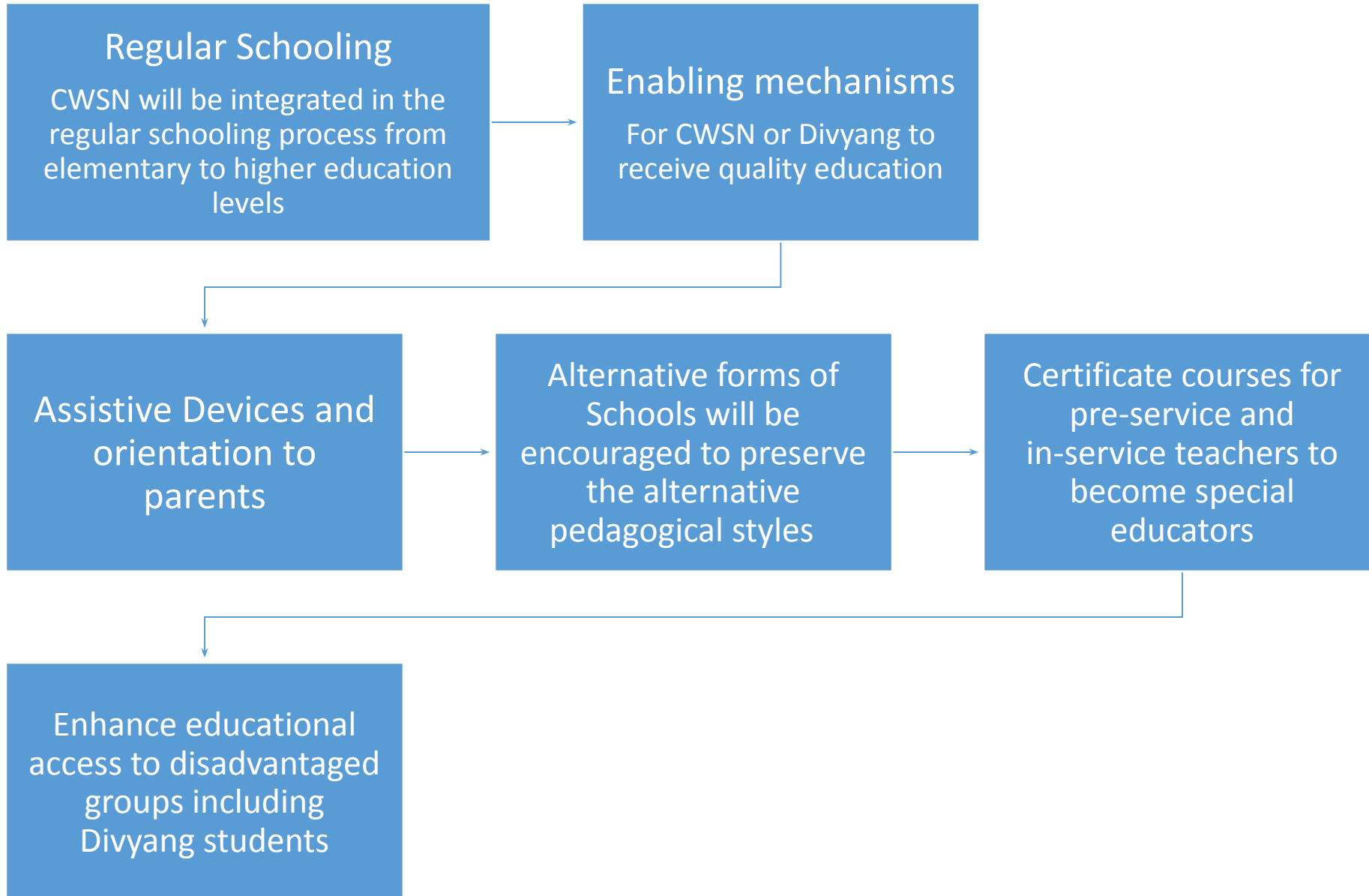
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- means a system of education wherein students with and without disability learn together and the system of teaching and learning is suitably adapted to meet the learning needs of different types of students with disabilities.

# SEDG'S RECOGNIZED IN NEP2020



# SUPPORTING CWSN



# ACCESSIBLE E-CONTENT

Means any content which ensures/enables that a person with disability---

- has the opportunity to acquire the **same information, engage in the same interactions,** and **enjoy the same services** as a person without a disability in an equally effective and equally integrated manner, with substantially equivalent ease of use.
- must be able to obtain the information as **fully, equally, and independently** as a person without a disability.
- is able to use technology with **comparable ease**

Electronic content (e-content) refers to the content, information delivered over network based electronic devices, or that is made available using computer network such as internet.

# EXAMPLE: MATHEMATICS

## Bigger - Smaller

Tick(✓) the bigger.



Tick(✓) the smaller.

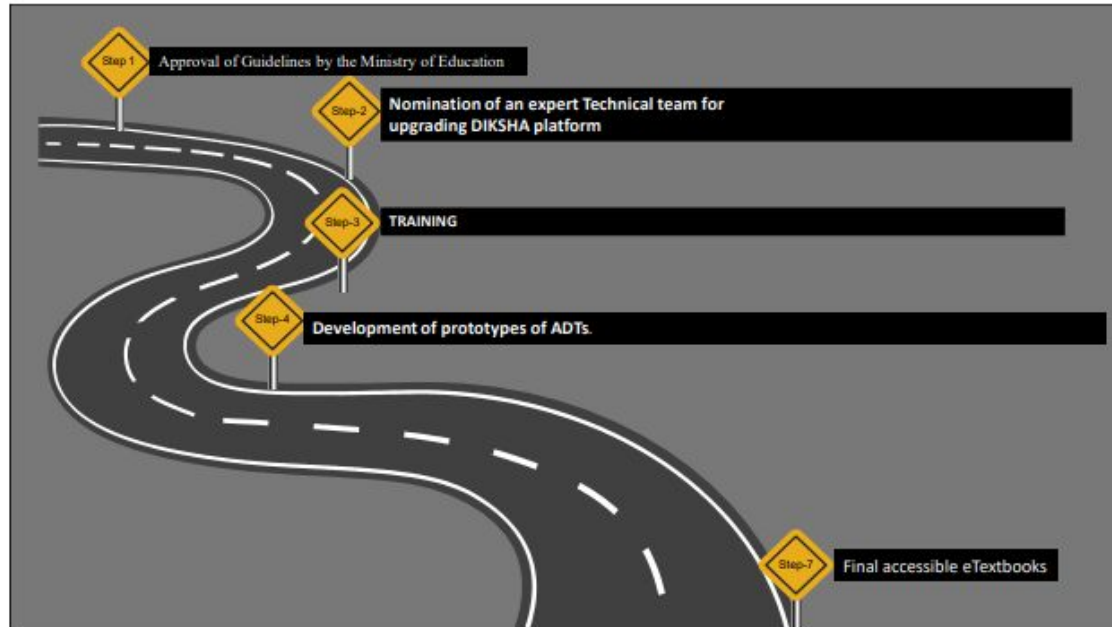


Tick(✓) the smaller tyre.



# GUIDELINES e-Content

## 11.3 Implementation Road map



## Guidelines for the Development of e-Content for Children with Disabilities



Developed  
by  
Sub-Committee of Experts  
Constituted by the Ministry of Education  
Government of India  
March 2021



# ACCESSIBLE

## Web

- Means a PwD can also perceive, understand, navigate, interact and contribute to the web

## Digital World

- Technology Products, Devices and services are usable and comprehensible

## Material

- PwD can navigate, perceive and understand content that takes into account the Physical, Visual, Audio, Neurological, and Cognitive disability.

# Recommendations by E-content guidelines for CWSN

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- **It needs to be ensured that all websites, mobile may be checked for compliance with GIGW accessibility Guidelines.**
- **There is a need to obtain Website Quality Certification from STQC or any other Govt approved agency.**
- **Under PM VidyaDaan, experts, teachers, individuals and organizations are being encouraged to upload content on DIKSHA.**
- **It is recommended that before uploading content, its quality and accessibility is validated.**

# **Recommendations to Develop E-Content**

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- **All text must be available in a logical reading order**
- **Provide complete navigation**
- **Create meaningful structure wherever possible**
- **Use image descriptions**
- **Include page numbers**
- **Define the language(s)**
- **Use MathML**
- **Provide alternative access to media content**
- **Make interactive content accessible**
- **Use only Unicode fonts**

# DAISY

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**Digital Accessible Information System (DAISY) is an open standard published by the National Information Standards Organization (NISO) and maintained by the DAISY Consortium for people with print disabilities. DAISY has wide international support with features for multimedia, navigation and synchronization. It is considered the best accessibility standard for audio books.**

# DAISY VS AUDIOBOOK

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## DAISY

- Can fit into one CD
- Skip content as per convenience: Chapter to Chapter; Page to Page
- Index helps reach the content directly
- Uses bookmarks
- Device remembers where one left off

## AUDIOBOOK

- Requires multiple CDs
- Skip entire track only
- Index does not aid movement across tracks
- Doesn't use bookmarks
- Does not remember

# ACCESSIBLE DIGITAL CONTENT DEVELOPED BY NCERT

- <https://diksha.gov.in/>
- Class I-V books: 500+ ISL videos and Audiobooks
- ISL Dictionary: 10,000 words
- 500 academic terms in ISL

The screenshot displays the Diksha website interface. At the top, there is a header with the Indian flag, the text 'भारत सरकार | Government of India', and utility links for 'Skip to Main Content', 'Accessibility Corner', and 'Site Map'. Below this is a navigation bar with icons for 'Home', 'Dashboard', 'About', 'Get App', and 'Contribute', along with a language selector set to 'English'. The main content area features the Diksha logo and tagline 'DIGITAL INFRASTRUCTURE FOR KNOWLEDGE SHARING', followed by a description of the initiative and a prominent 'EXPLORE DIKSHA' button. A secondary section for NCERT content is also visible. On the right, a large banner titled 'Education For All' shows various educational scenes. Below the banner are tabs for 'Usage metrics', 'Contribution metrics', and 'Course metrics'. The 'Usage metrics' section is active, showing a 'Download Report' link and a 'Last updated: 31-Oct-2022' timestamp, with a note to '\*Click on a state/UT for more details'.

# ACCESSIBLE DIGITAL CONTENT DEVELOPED BY NCERT

Priya: <https://ncert.nic.in/pdf/publication/otherpublications/pawe1.pdf>



# DECODING ASSISTIVE TECHNOLOGIES (AT)

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- Any tech solution that helps in day to day activities
  - Is it AT?
    - If there is NO digital technology involved ?
    - AT and AET are same or different?
  - AT is human rights obligation
    - As a right, ensure the availability of high-quality, affordable assistive products , because they are recognized as the first crucial and mediating step towards equal opportunities
- United Nations Convention on the Rights of Persons with Disabilities (UNCRPD)



# WHO IS IT FOR ?

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- **Older people**
- **People with non-communicable diseases such as diabetes and stroke**
- **People with mental health conditions**
- **People with gradual functional decline**
- **People with disabilities**
- **People with language concerns**
- **People with communication challenges**
- **People from disadvantaged sections or sedg's**

# FINDING RIGHT AT ?

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- **Target specific skill**
- **Assistive technology should be chosen based on specific need and not on disability labels .Each assistive technology is designed with a specific objectives ,therefore choosing the right technology for right purpose is necessary.**

# PRINCIPLES OF AT

- **5A&QI - Availability, Accessibility, Affordability, Adaptability, Acceptability ; Quality and Interoperability**



# TIME FOR HANDS ON LEARNING : AT APPS

S.No.	Name of Application	Key Features	Disability	Free Version	Paid Version
1.	TapTapSee	Click Picture and it will describe the object in front of you. Choose voiceover option in your phone to allow speaking the object.	Blind	Free	-
2.	Cash Reader	Say aloud the cash in front of you (different currency options available)	Blind	Free for 5, 10 and 20 Rupees Or 14 day free trial for Paid version	299 per year 2599 for lifetime
3.	Be My Eyes	Link Volunteers and Blind people above 17 years of age Place the phone in front, call a volunteer and they will tell you what is there in front of you	Blind	Free	-
4.	PetraleX	Amplify sound for better hearing	Partially Deaf	7 days free	1149/month 4,899/month
5.	Transparent Note	Use both screen and notes at the same time Helpful where closed captions are not available like video lecture	Deaf	Free	Better user compatibility for laptop/pc/ mac(Paid)
6.	Laptop accessibility feature (i5, Windows 10)	Voiceover, stylus, highlight, attach it to a braille keyboard for easy typing	Deaf/blind (Stylus is helpful for handicapped)	Free	-
7.	Microsoft edge	Read out aloud pdfs/word doc	Blind	Free	-
8.	Wheel Map	Finds wheelchair accessible places for food, shopping, entertainment, healthcare etc.	Locomotive Disability	Free	-
9.	HandTalk	Converts audio to sign language	Deaf	Free	-

# IMPLEMENTATION POINTS

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- **Set up enabling Units/Cells**
- **Collaborate Establish partnerships**
- **Organize training and sensitization**
- **Accommodate Needs not on the basis of equality but on the basis of equity**

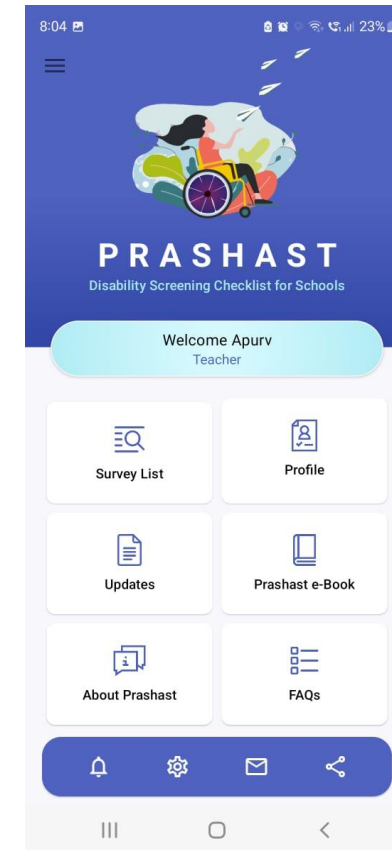
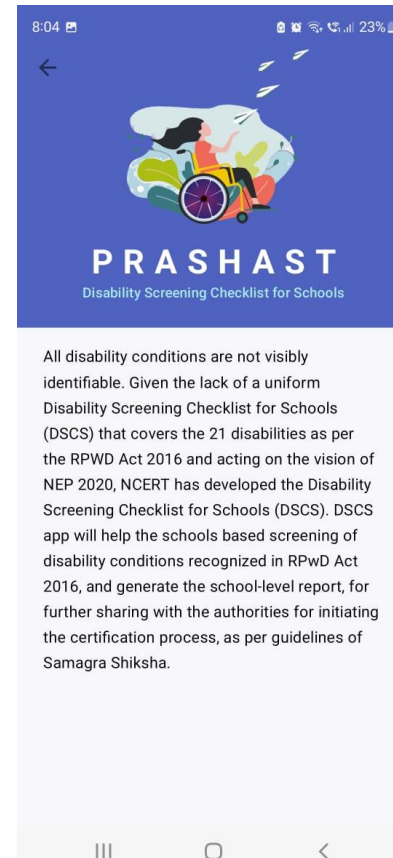
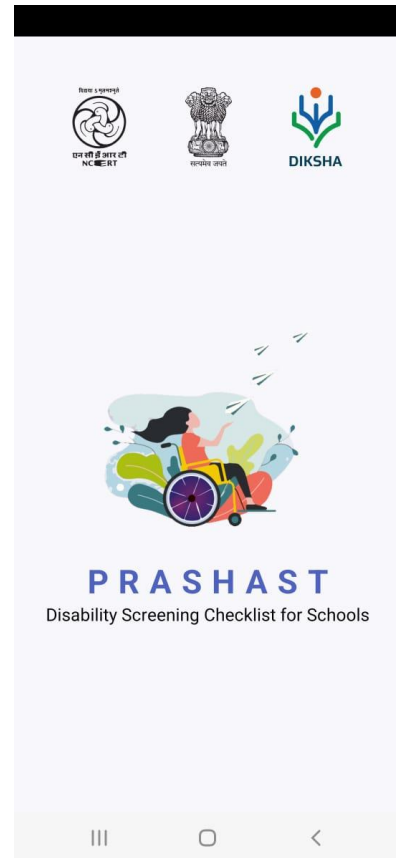
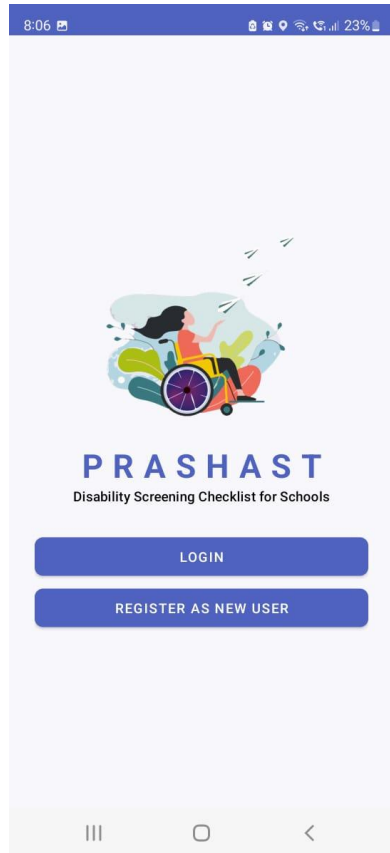
# **BARRIERS AND CHALLENGES**

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- **Lack of awareness (technophobia)**
- **Lack of appropriate legislation, policies and national programs**
- **Lack of services**
- **Lack of products**
- **Inaccessible Environments**
- **Lack of human resources**
- **Financial barriers**

# PRASHAST: DISABILITY SCREENING CHECKLIST FOR SCHOOLS

- [https://ncert.nic.in/pdf/DSCS\\_booklet.pdf](https://ncert.nic.in/pdf/DSCS_booklet.pdf)





Let's initiate a new Beginning ...

For most people, technology makes things easier. For people with disabilities, technology makes things possible.

Mary Pat Radabaugh