

# **Citizens' Accessibility Status in An Emerging MIL City**

**October 24 -25, 2018**

**Kaunas, Lithuania**

**Olunifesi SURAJ (PhD)**

Senior Lecturer, Department of Mass Communication,  
University of Lagos, Lagos, Nigeria

+234 8023982413; [olunifesi@gmail.com](mailto:olunifesi@gmail.com)

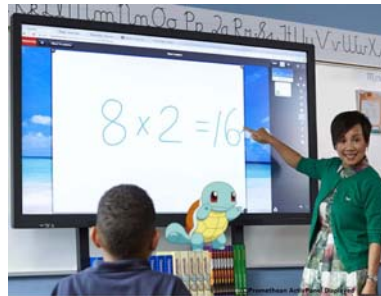
# Accessibility = Inclusiveness

"The power of the web is in its universality. Access by everyone regardless of disability is an essential aspect."

- Sir Tim Berners-Lee

- ICT is a powerful equalizer of abilities, empowering persons with disabilities to fulfill their potential, dreams and ambitions
- otherwise ICTs will be introducing new barriers for persons with disabilities

# Lack of ICT accessibility could become a barrier to access content, media, public services and event the job market = inequality



# Non-inclusive Internet regime = unachievable SDGs goals by 2030



## **Context** (World Bank and World Health Organisation report 2011)

- The concept of disability encompasses a wide range of human conditions, and poverty and disability are deeply interrelated in a complex vicious circle.
- Estimates indicate that there are about 1 billion people with disabilities around the world
- Three out of every four of them (80%) are living in the developing world
- only 5% of adults with disabilities are literate while
- more than 98% of Children with Disabilities have no access to preparatory and elementary education.
- Half are of working age, Half are women
- The highest incidence and prevalence of disabilities occurs in poor areas
- Estimated 25 million of the population in Nigeria are PwDs (highest in NE and lowest in SW)

## Accessibility in relations to a MIL City

Accessibility is a measure of extent a product or service can be used by person with disability as easily as used by person without disability.

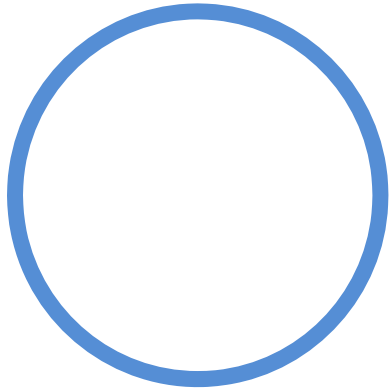
If a blind person can use all functions of airline kiosk just as easily as a sighted person, kiosk said to be fully accessible to blind people (Inclusiveness).

A person who uses a wheelchair might find the same kiosk difficult or impossible to reach. It's then described as partially accessible or inaccessible to wheelchair user (Cultural integration).

If a person can read an internet content in its own local language irrespective of whatever language the document were originally written (Multilingualism).

# **Accessibility = Inclusiveness = Equality**

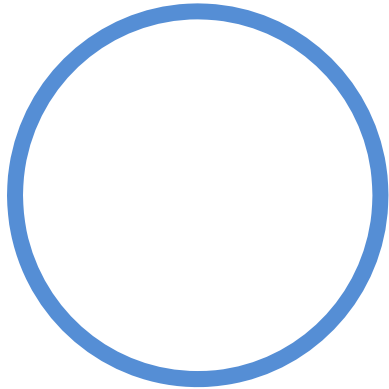
1. Give disabled people a powerful tool in their battle to gain employment
2. Increase disabled people's skills, confidence, and self-esteem
3. Integrate disabled people socially and economically into their communities;
4. Reduce physical or functional barriers and enlarge scope of activities available to disabled persons



# What are we talking about?

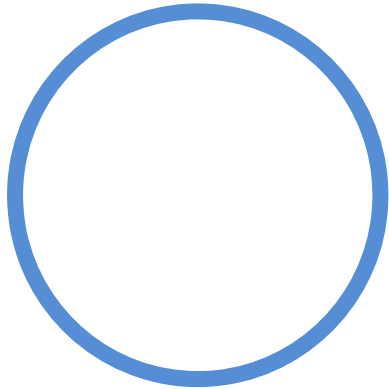
- A **MIL City**...gives access to **information** and **communication** through technologies (ICTs) and other means to enhance livability, workability, and sustainability....MIL cities should be something that citizens can collectively “**tune**” into. They should be **interactive, adaptive, and flexible**.
- **Accessible technology...Usable by anyone**, regardless of age or ability. Makes it **easier to see, hear, & use** all ICT devices. **Personalize** experience to meet own unique needs & preferences irrespective of age, status, citizens, nationalities, ethnic, gender, race and level of disabilities.





# Should we be concerned by global trends?

- The world is **urbanizing**. 50% of people live in cities today. That will grow to **70%** by 2050.
- The **Internet of Things** is advancing. **50 billion devices** will be connected to the internet by 2020. Up from 10 billion in 2012 and just 200 million in 2000.
- Today, persons with disabilities are **largely excluded** from the global shift to greater reliance on technology
- Smart cities are **booming**. The value of the global smart cities technology market will be more than **\$1.5 trillion** by 2020
- Technology investments by smart cities will either **narrow the digital divide** for the 1 billion persons with disabilities worldwide **or worsen it**.

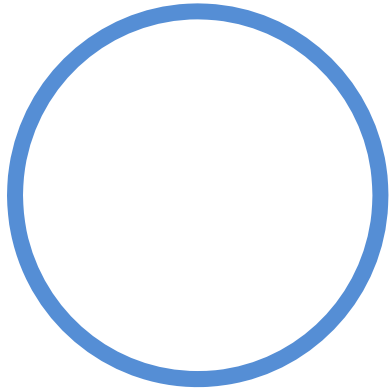


# How accessible is the world today?\*

## Does your country have...

- Screen readers available in main national language? **56%** Minority languages? **21%**
- TTS on smart phones & tablets in main national language? **70%** Minority languages? **23%**
- Government websites that are accessible? **40%**
- Accessible web among top 10 commercial & media websites? **18%**
- Public libraries providing e-Book services **34%**
- Data available to public about digital access by Persons with Disabilities **12%**

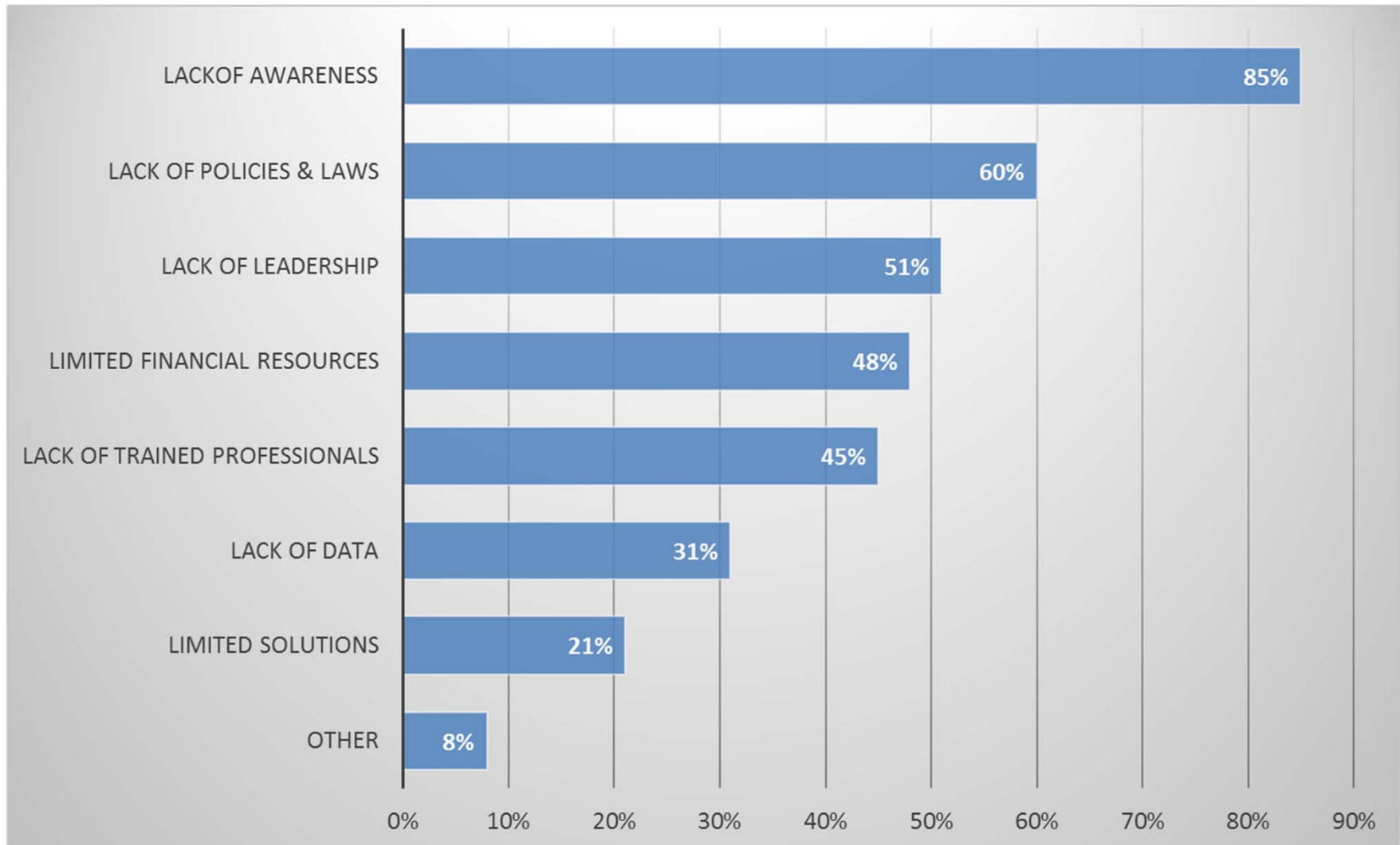
\* from G3ict  
2016 CRPD  
Progress  
Report



# Are Smart Cities accessible today?

- **>250 experts** worldwide on smart cities and Accessibility experts say **NO**.
- Less than ½ of experts, **just 44%**, know of a smart city project with an **explicit focus** on ICT accessibility.
- Global experts see **no clear link** between ICT accessibility standards and smart cities programs worldwide. **Just 18%** know of smart cities that use accessibility standards.
- **Only 20%** of CRPD states parties have policies for accessible smart cities and they are only **minimally implementing** them
- Smart cities are **failing** persons with disabilities according to **60%** of global experts.

# Biggest barriers to ICT accessibility in Smart Cities



# Issue: Accessibility Barriers Limit the e-Participation of Persons with Disabilities

- ICT barriers affect persons living with sensorial, mental, intellectual and physical disabilities including the elderly
- For instance:
  - A television program or emergency announcement may not be signed or captioned for a deaf person
  - A web site or government data base may not be accessible to a screen reader user
  - A bank ATM may be too high for a person in a wheel chair to operate its keyboard
  - A mobile phone may not offer alternative user interfaces for persons with dexterity issues, low vision or cognitive challenges
  - A computer program may not allow use of alternative input/output devices for persons with motor impairments

## Accessibility = Cultural & Communication issue

- One of the most important lessons we are learning in the area of ICTs is that accessibility is a **cultural practice**. Hence, we need to answer questions like:
- How do we design a mobile money service for people in rural Nigeria who've never had a bank account?
- How do we test ability of a mobile phone's address book for users in rural Lagos who've never had an address, much less an analog address book?
- How do we find right balance in designing accessible digital technologies and eSystems for local communities located in low resource and terrorist ravaged environments in the northern Nigeria ?
- How do we provide internet content for people with over 350 diverse cultures and languages in the same geographical location like Nigeria?

## Can “MIL Accessible Technology” help bridge the gap?

MIL have the potential to reduce discrimination and promote more opportunities to engage people with disabilities in all aspects of life

- Specialized software, e.g. sign language translation widgets or text-reading software
- Specialized vocational training to perform functions within abilities
- Specialized keyboards, e.g. Braille
- Braille printers
- conversion of local language to Braille
- Touch screens
- Customized workspace setup to fit a wheelchair



# What is Accessible Technology?

## UN Convention on the Rights of Persons with Disabilities (CRPD)

### Article 3 – General Principles

### Article 9 - Accessibility

“...enable persons with disabilities to live independently and participate fully in all aspects of life, ...ensure to persons with disabilities access, on an equal basis with others, to the physical environment, to transportation, to information and communications, including information and communications technologies & systems...”

**Usable by anyone, regardless of age or ability.**

Makes it easier to see, hear, & use all ICT devices.

Personalize experience to meet own unique needs & preferences

### ICT Accessibility Ecosystem

1. Features built into mainstream products
2. Assistive technologies
3. Interoperability



# Accessibility = Universality

- As inexpensive PCs and mobile phones flood global market, usability and user experience professionals encounter similar questions that challenge: our policy tools; assumptions about how people engage with digital technologies; and, how to design ICTs for accessibility for maximum set of specified users accommodated..which is basically *Universal Design*.
- Two prevailing definitions of Universal Design:
  - (1) *“The design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design.”* (Ron Mace, 1985); and
  - (2) *“The design for human diversity, social inclusion, and equality.”* (Design for All Europe, 2008).

The first, and most widely used, definition reflects its roots in disability rights movement. The second is more relevant to all citizens without ignoring people with disabilities. This is ICT accessibility for all.

**ICTs WHICH CONTRIBUTE  
TO IMPROVING PERSONS  
WITH DISABILITIES'  
ACCESS TO SOCIAL AND  
ECONOMIC ACTIVITIES\***



 **WEBSITES** #1

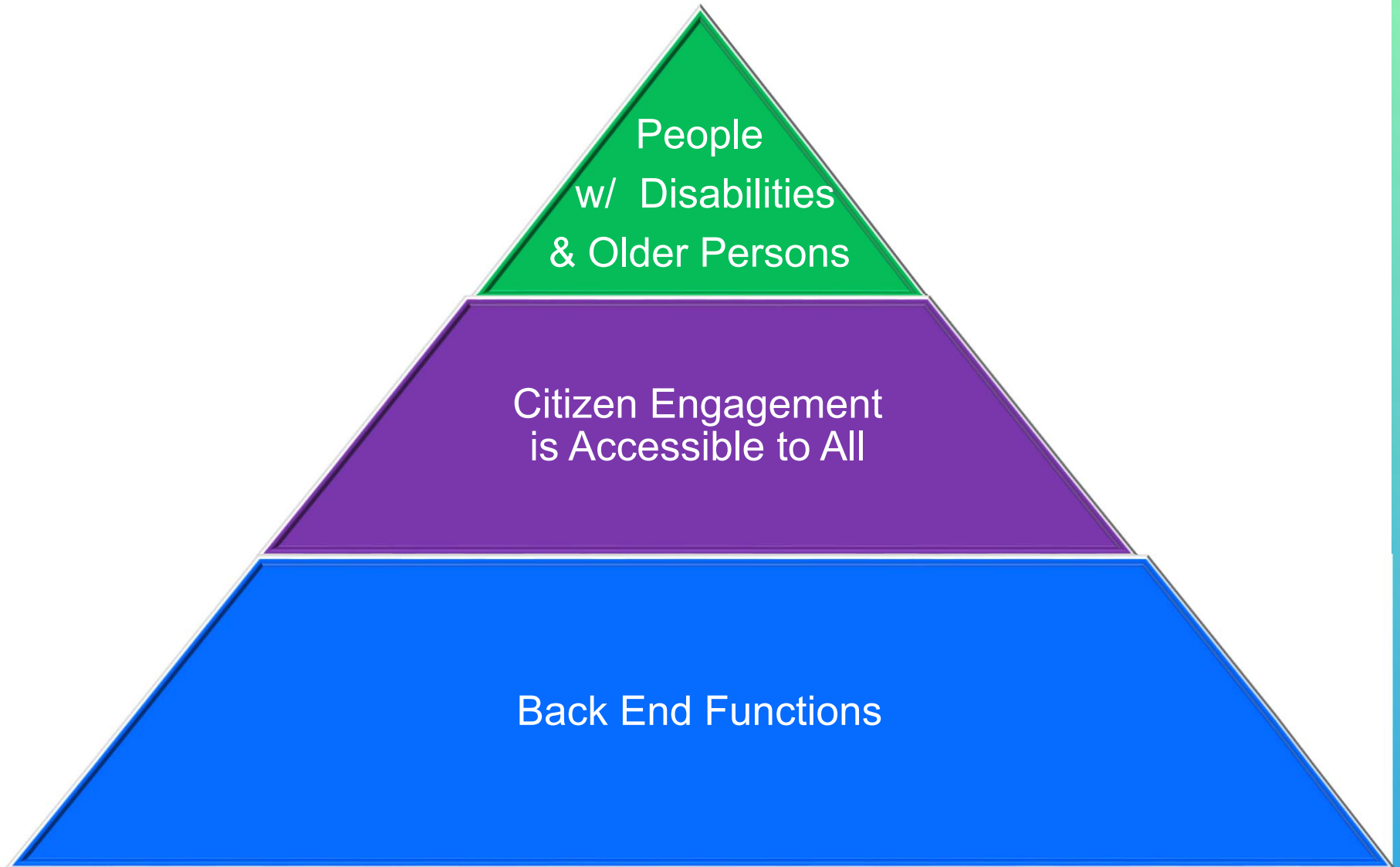
 **MOBILE  
DEVICE &  
SERVICES** #2

 **TV SET &  
SERVICES** #3

 **RADIO** #4

\* Healthcare, education, employment,  
independent living, government services,  
participation in political and public life.

# What are MIL City Solutions?



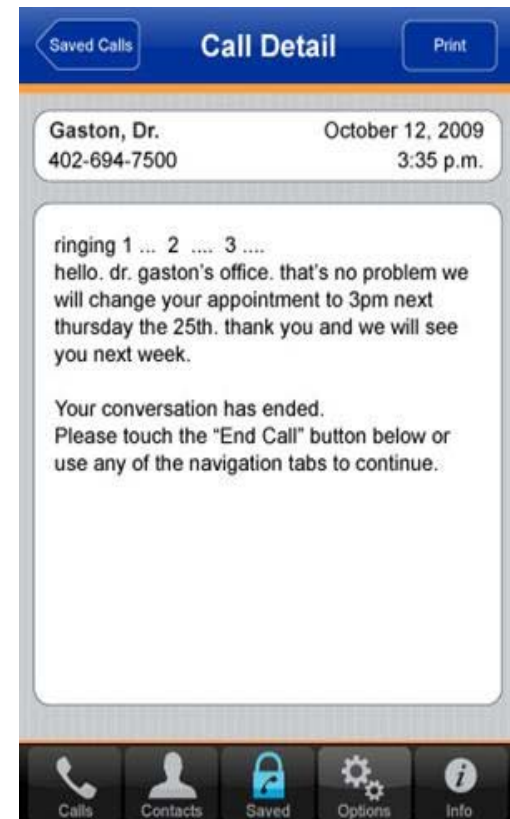
# Accessibility features for the blind and people with low vision

- Challenge: Cannot see screens, navigate websites, use touch screen keyboards, read electronic books and emails, etc
- Solutions:
  - Screen magnifiers
  - Screen readers for computers and mobile phones
    - Converts information into speech or Braille display
  - Gesture-based screen readers for touch screen tablets and phones
  - Tactile markers, tactile and/or audible feedback
  - Adjustable font sizes
  - Text to speech functionality



# Accessibility features for deaf and hard-of-hearing

- **Challenge:** Cannot hear callers or automated electronic messages, access emergency services
- **Solutions:**
  - Volume adjustment and speakers
  - Relay services
  - Video relay services
  - SMS and MMS
  - Visual or vibrating alerts
  - Call logs
  - Hearing aid compatibility
  - Video/TV captioning and signing



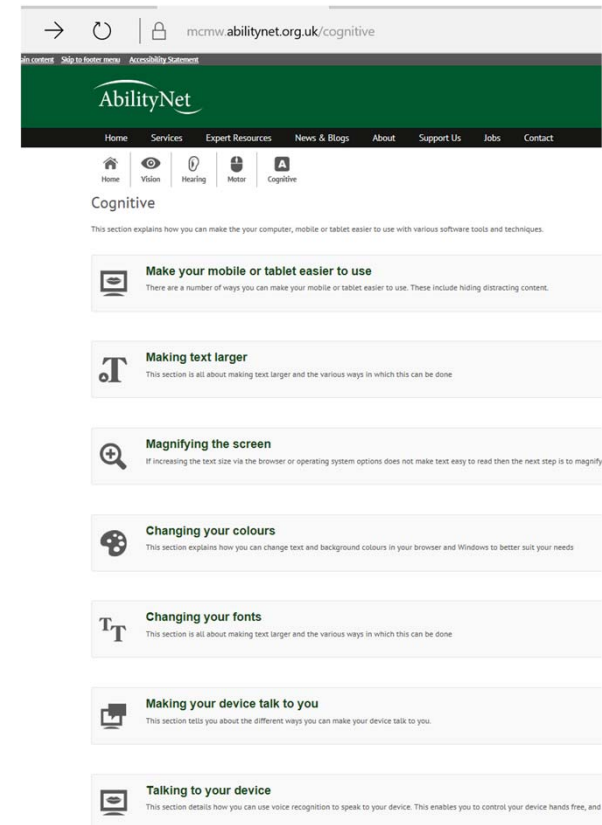
# Accessibility features for limited mobility

- **Challenge:** cannot use limbs, flex fingers, press or navigate buttons on a phone, or a mouse on a computer
- **Solutions:**
  - Voice recognition to activate voice commands for computers and cell phones
  - Auto text
  - Anti-shake apps
  - Adapted keyboards and mice
  - Alternate input devices



# Accessibility features for cognitive disabilities

- Challenge: Difficulty focusing on ICT tasks, like reading and typing
- Solutions:
  - Change font size and colors
  - Built in screen readers for on-screen text and some events
  - Keyboard adjustments to simplify typing, e.g. sticky keys, toggle keys, filter keys
  - Reduce on-screen visual distractions, e.g. remove background images, turn off animations, set how long dialog boxes stay open
  - Command device with voice
  - Have your device speak
  - Interact with your computer by touch



# Accessible

## VOTING SYSTEM COMPONENTS



[http://vote.sonoma-county.org/images/voting\\_system\\_components.jpg](http://vote.sonoma-county.org/images/voting_system_components.jpg)



# Public Access - Requirement Checklist

## STRATEGY, PLANNING, POLICIES, AND EVALUATION

- Are people with disabilities included in planning and evaluating public access facility products and services?

## PUBLIC ACCESS FACILITY STAFF TRAINING

- Are staff members familiar with the availability and use of accessible ICT features, assistive technology and alternate document formats?
- Have staff members received sensitivity training and training on use of ICTs by persons with disabilities?

## HARDWARE

- Is at least one large monitor available so that a larger amount of screen can be viewed while magnified?
- Is equipment marked with large-print and/or Braille labels?
- Do you provide alternate hardware to replace the standard mouse and/or keyboard (e.g., a trackball, joystick, mini-keyboard, one-handed keyboard)?

## SOFTWARE

- Do you provide special software that is beneficial to persons with disabilities (e.g., screen readers)?
- Do electronic resources, including web pages, adhere to accessibility guidelines or standards? (Refer to Web Accessibility Module)

# POLICY

Centre for Citizens with Disabilities, Cedar Seed Foundation, Association of Lawyers with Disabilities in Nigeria ; Centre for Disability Rights and Development, Voice of Disability Initiative, Deaf Resource Centre, Child Care Trust, National Association of the Blind, Hayat Foundation, Albino Foundation and the umbrella body, Joint National Associations of Persons with Disabilities.

- Nigeria signed and ratified the United Nations Convention on the Rights of Persons with Disabilities and its Optional Protocol on May 28, 2007 and October 27, 2008 respectively.
- Eight states including Lagos, Ekiti and Plateau have all passed the Disability bill
- Nigerian Disability Bill as passed by the National Assembly awaiting the President assent

# Closing remarks

- *“People with disabilities are also people with extraordinary talent. Yet, they are too often forgotten. When people with disabilities are denied opportunities, they are more likely to fall into poverty — and people living in conditions of poverty are more likely to develop disabilities. As long as societies exclude those with disabilities, they will not reach their full potential and the poor in particular will be denied opportunities that they deserve”* – Paul Wolfowitz, a former World Bank President.



**THE  
END**

thank you all!