Is Design for All Realistic?

Building National Public Inclusive Infrastructures

on our way to a
Global Public Inclusive Infrastructure

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The Problem

- There are between 500 million and a billion people throughout the world with disabilities

- and a greater number who cannot read due to literacy problems.

- In addition, many more people are living longer - and with the baby boom we soon will have an increasing portion of our population that is elderly.

- Many of these people cannot access information and communication technologies, as their peers can, because they require a special interface of some type and cannot afford it

The Problem cont'd

- Lack of access to ICT is no longer an option

- Too integral in our education and employment environments – not to mention daily living.

- Even governments now use ICT for information, training, and services for their citizens.

Can we design for all?

- Not possible to create one interface that is usable by all
  - No truly universal designs. Usable by all.
  - Some things make it easier for one but harder for another.

- Key is flexibility – the ability to either:
  1. Have the interface be flexible enough, or
  2. Allow an alternate interface to be used

- But there are limits on flexibility companies can build into their mainstream products
  -   and companies do not want alternate interfaces

Current Adaptive Interface model won't scale

- Currently
  - Serving about 15-20% of those who need access technologies with effective access for today's mainstream technologies.
  - Not serving low incidence well.
  - Not serving cognitive, language, and learning disabilities well.
  - Not serving aging well.
  - Government can't fund everyone to get good AT – and it isn't there to fund.

Proposition

- It is time to stop working around the edges and an on separate pieces ask our countries (public and private sectors) to invest on a major sustained level in building a **free public inclusive information and telecommunication infrastructure**

- Build access directly into the Internet and ICT infrastructure – as national commitment(s)

- To allow ALL to access these critical (ICT) resources without regard to personal resources or connections

- Need UD/D4A for ICT that doesn't depend on regulating industry to support alone

Tried other approaches

- We have tried asking users to pay for it
  - but the cost for effective adaptive technologies is now too high for many or most.   For many it is equal to their living expenses for a month or even a year.

- We have tried to pay for individual adaptive technologies through the government
  - but we only end up paying for some – leaving many or most without –
  - and it only addresses some of the interfaces they encounter.

- We tried legislating companies to pay for it –
  - but we don't enforce it (so it is not a level playing field for those that try)
  - and companies can only address some of the interface adaptations needed in their mainstream products. They can only address some disabilities practically.

Redefine Accessibility

- New AT / UD balance
  - UD where possible
  - AT where not - or for higher performance

- Will affect AT industry
  - Like introducing Public Schools would in a country with only private schools
  - But it MAY not reduce AT sales net
  - It can be done in a way to support and expand AT Industry – though it will be different. (Machiavelli)

- Only way to reach the other 80% (or more)

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Redefine Accessibility cont'd

- Need soon for ubiquity

- Only way to address elder access?

- Only way to really get access for all disabilities into developing countries?

- Smaller Investment than others that have been made – with large potential payoff

What is proposed

- To ensure that people experiencing disabilities, literacy problems, or the effects of aging have at least basic access and can use all of the information, services and communities available on or through the Internet via computers and mobile technologies.

- By building the ability to vary the interface to match user abilities into the information and communication infrastructure,

  - so that people can access information and communication using an interface that matches their abilities,   -   without having to buy or pay extra because the default interface is not usable by them.

Start with the Internet

- It is easier to start in this service rich environment

- The Internet is a model for where all information and communication technology is headed.

- It is also possible to emulate individual devices within the Internet environment making it possible to provide parallel functionality in an accessible manner

National Public Inclusive Infrastructures

- Free Public access features allowing basic access

- Not as 'add-ons' but as access features that can be invoked anytime, anywhere, on any device.

- Same infrastructure supports commercial AT that goes beyond basic – also on anytime, anywhere basis

- Chained National Public Inclusive Infrastructures create a Global Public Inclusive Infrastructure.

What would it look like?

- People with disabilities – or literacy problem – that can't read text on screen

- Senior who can't see or hear well

- A Worker needing special high efficiency access to software at work

- Child from a poorer neighborhood

- Person with cognitive disability (USB)

- Country with little AT available in their language

- Person who can't afford to stay online

At a time in future when computers are in everything

NPII and GPII - in Stages

1. Collections of individual solutions (packages)

    - Sustainable?

    - Supportable?

2. Create common core components and infrastructure on which all the access features and services are built

    - Allows mix and match

    - Allows easier creation of new or better features

    - Allows easier localization of full set of access features in different countries

3. Evolve ICT to separate function and interface

What would be involved?

- Development
- Distribution
- Security
- Maintenance
- User Support
- Awareness

What would it cost?

- Cost up front to establish?

- How long to establish?

- What cost to maintain and evolve?

- Cost would be much less than the total of our current individual funding – but what?

The world is building out its infrastructure

- This is the time to take the initiative

- If we don't do it now will we ever? Will it be possible?

- Can we continue long term going from project to project with no sustained funding?

  - Cost in terms of lost personnel?

  - Cost in duplicated or restarted efforts?

  - Ability to keep or attract talent with an uncertain future?

- National Public Inclusive Infrastructures
  – tied together to form a
  Global Public Inclusive Infrastructure

  is the only way to serve any significant portion of those who need access

  with the funding our societies will/can devote to this over time.

Thank You