Joint ITU - AICTO Workshop on "Interoperability of IPTV in the Arab region"

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ITU-T IPTV for Accessibility -- IPTV as an Inclusive Technology--

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Topics

- IPTV as a bridge for Digital Divide
- Accessibility vs. Vulnerability
- Examples of Accessible UI on IPTV
- Conclusion

IPTV as a bridge for Digital Divide

- Human Interface is the Key for Accessibility
- Human Interface Persists
  - E.g: Keyboard
- TV as a Universal Human Interface that helps people acceptable to Information and Opportunity

Human Interface Persists

- Typewriter Keyboard is the ancestor of the present-day Windows PC and Blackberry

- For a new technology to be accepted, Human Interface should be modeled after accepted models

- Human-friendly interface is necessary for Acceptable device
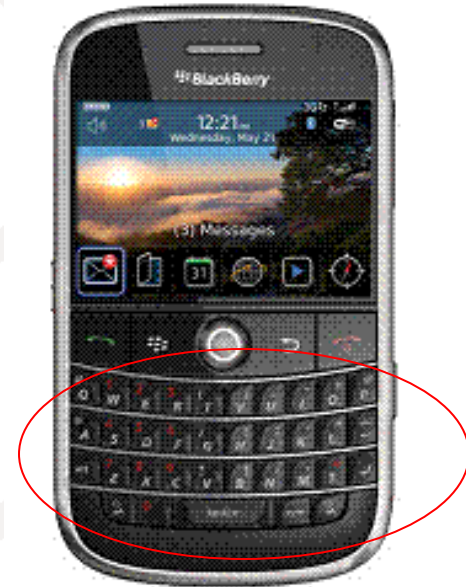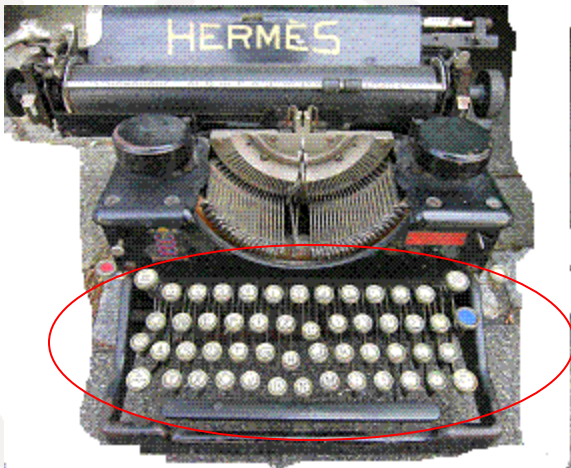
TV set as Universal Interface

- Since its introduction, familiar to both Young and Old

- Accessible to a wide range of population, without special training

- It is the universal user interface for various services
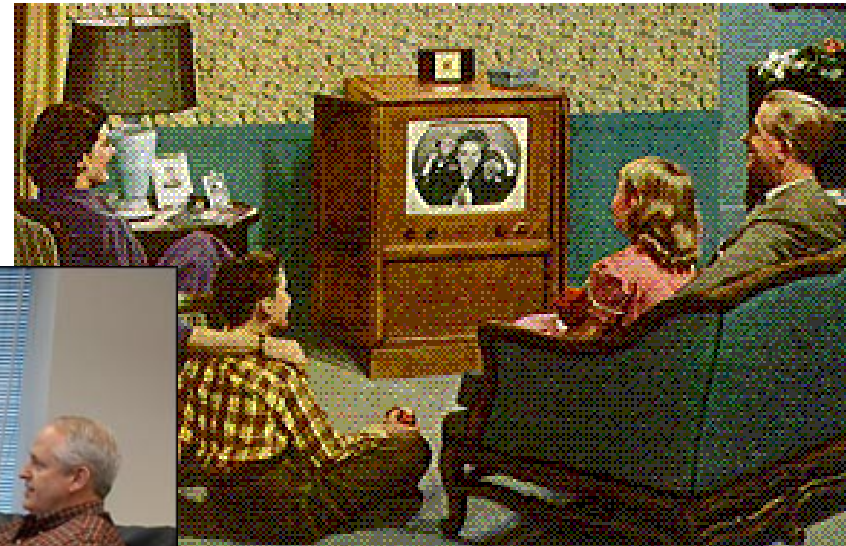
IPTV as Accessible UI for all

- IPTV, with full bi-directionality and the UI of a TV, can become a good vehicle for Accessibility

- But any "IPTV" cannot be as dependable

Accessibility vs. Vulnerability

- As things become more accessible, people become more vulnerable
- Security and control becomes an important issue
- This is true especially for the elderly and people with difficulties

Accessibility vs. Vulnerability

- Consumer frauds often target the elderly or disabled

  http://www.chicagobusinesslitigationlawyerblog.com/2010/01/consumer_fraud_increasingly_ta.html

- Accessible consumer devices, such as connected TV, can make certain classes of people more vulnerable

Danger of Internet-based On-line service

- **April 2011, Sony's PlayStation Network was** attacked by computer hackers. **Sony Online Entertainment** was also breached

- the number of hacked accounts having now been increased to 101.6 million.

- The hacked personal data included customer names, addresses, e-mail addresses, gender, birth dates, phone numbers, log-in names, and hashed passwords.

- Cost to Sony is estimated up to **$32 billion** in terms of total costs involved in dealing with the consequences of losing control of customer data

Managed IPTV for Accessible Services

- **Importance of Managed Service**

Accessibility in ITU-T IPTV

- ITU-T F.790 (Telecommunications accessibility guidelines for older persons and persons with disabilities) provides the framework for accessibility

- ITU-T FSTP-TACL (Telecommunications Accessibility Checklist) provides the check-list for Accessibility features.

- ITU-T Y.1901 (IPTV Requirements) specifies detailed requirements on accessibility features and universal design

- ITU-T H.750 (Metadata for IPTV) also has "Public Interest metadata" which includes accessibility related features.

- ITU-T H.721 (IPTV Terminal Devices) recommends "Public services" such as closed-captioning, subtitles, audio description and sign language interpretation according to the above checklist.

Examples of Accessible UI on IPTV -- IPTV as an Inclusive Technology--

IPTV Interactive Shopping

- **Japanet Takata**, 3rd largest TV shopping channel in Japan, has an interactive shopping channel on Hikari TV Platform

Enhanced e-book on IPTV

- Many publications are already being made with Digital technology.

- Automatically converting data made by DTP (Desk-Top Publishing) Software can make "Enhanced e-book" on IPTV

LIME content from a picture book:
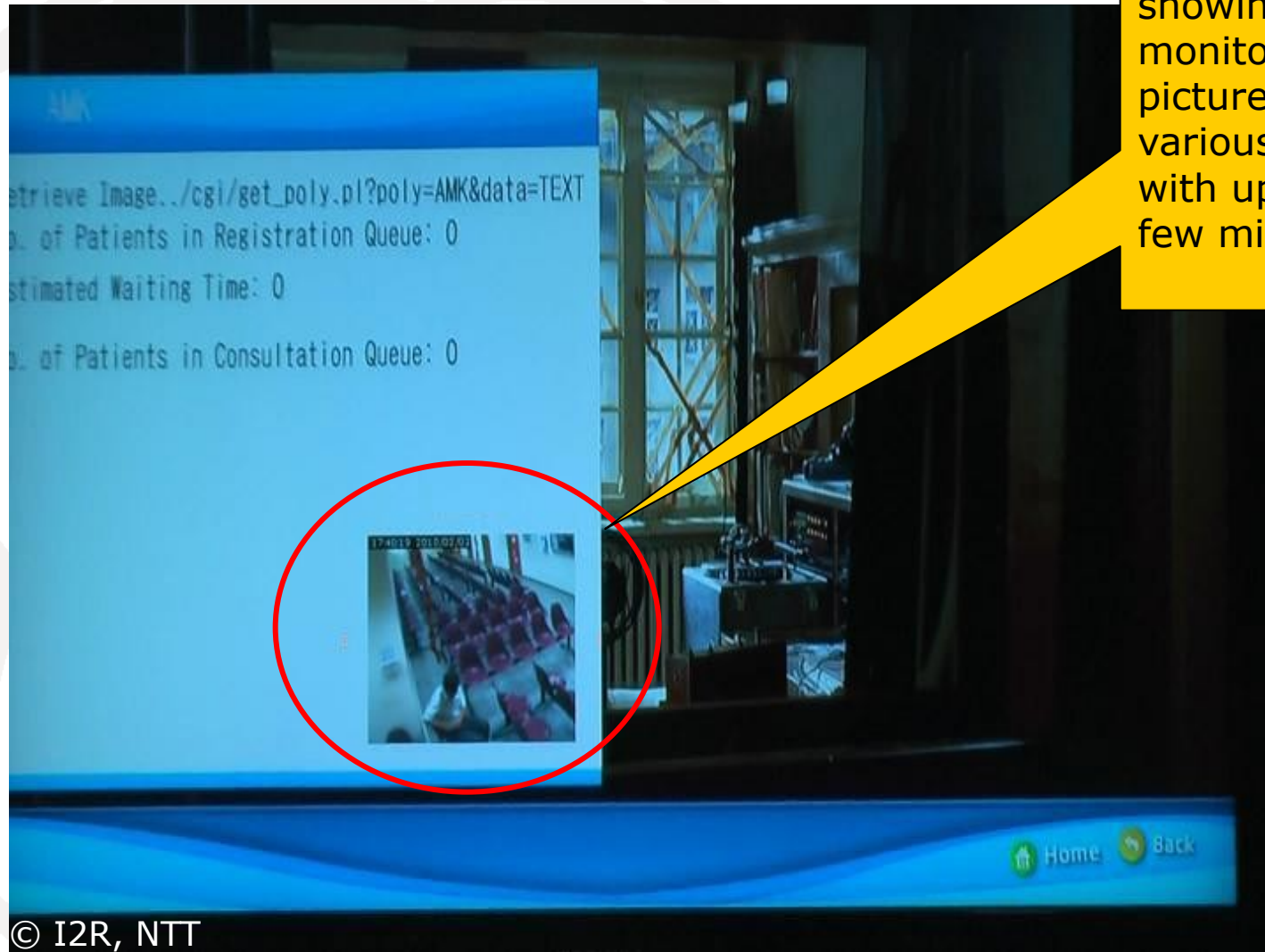-> Easy way to make an interactive content for e-learning

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© Dai Nippon Printing

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Disaster Report on IPTV

Clinics Watch:Monitor App on LIME

Widget showing the monitored picture of various Clinics, with updates a few minutes

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IPTV with a camera

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- IPTV with a help of external devices such as camera, weight scale, etc., can provide a wide range of services with Accessible UI
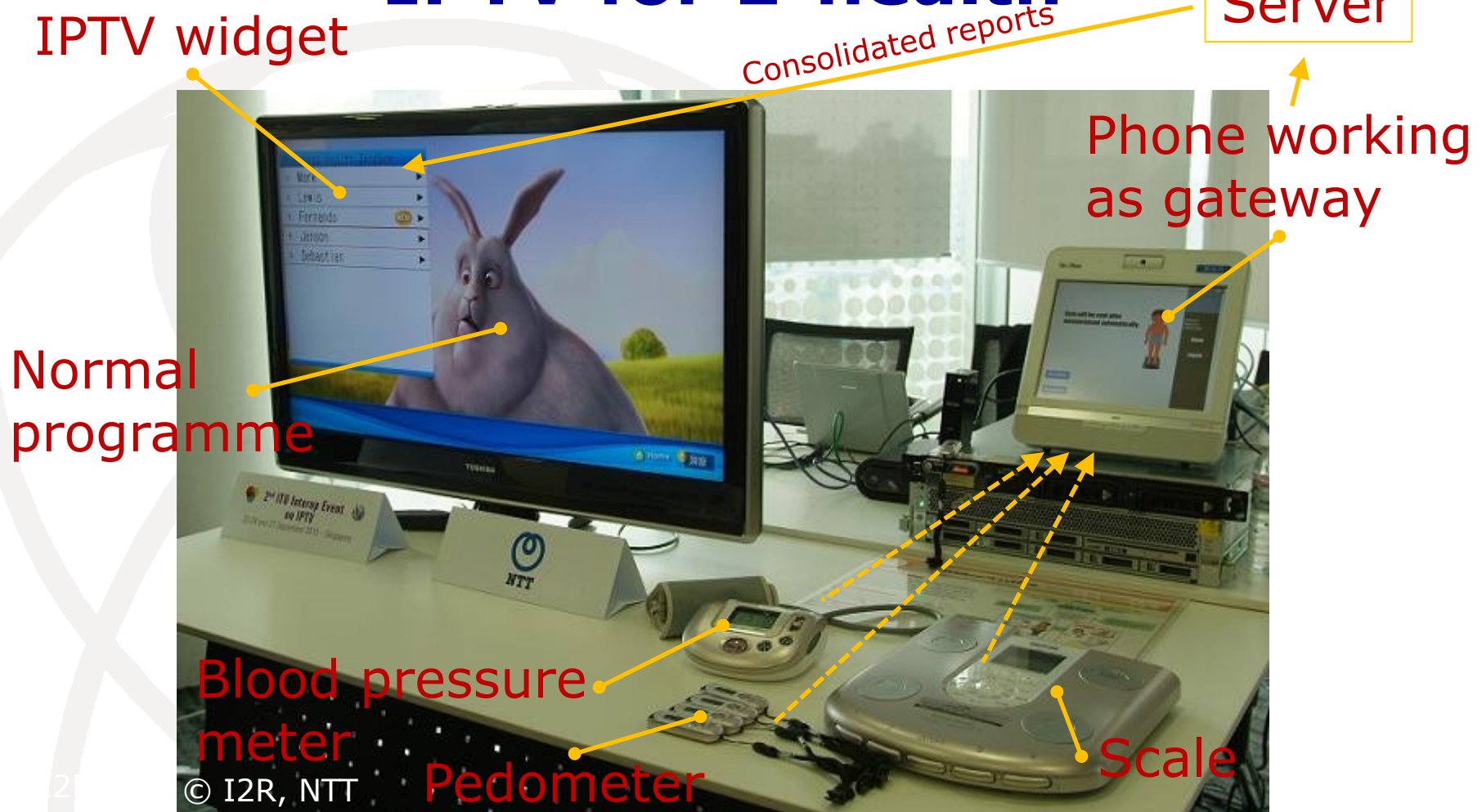
Person Recognition on IPTV

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Recommendation using Person Detection

IPTV for E-health

IPTV widget

Normal programme

Blood pressure meter

Pedometer

© I2R, NTT

Consolidated reports

Server

Phone working as gateway

Scale
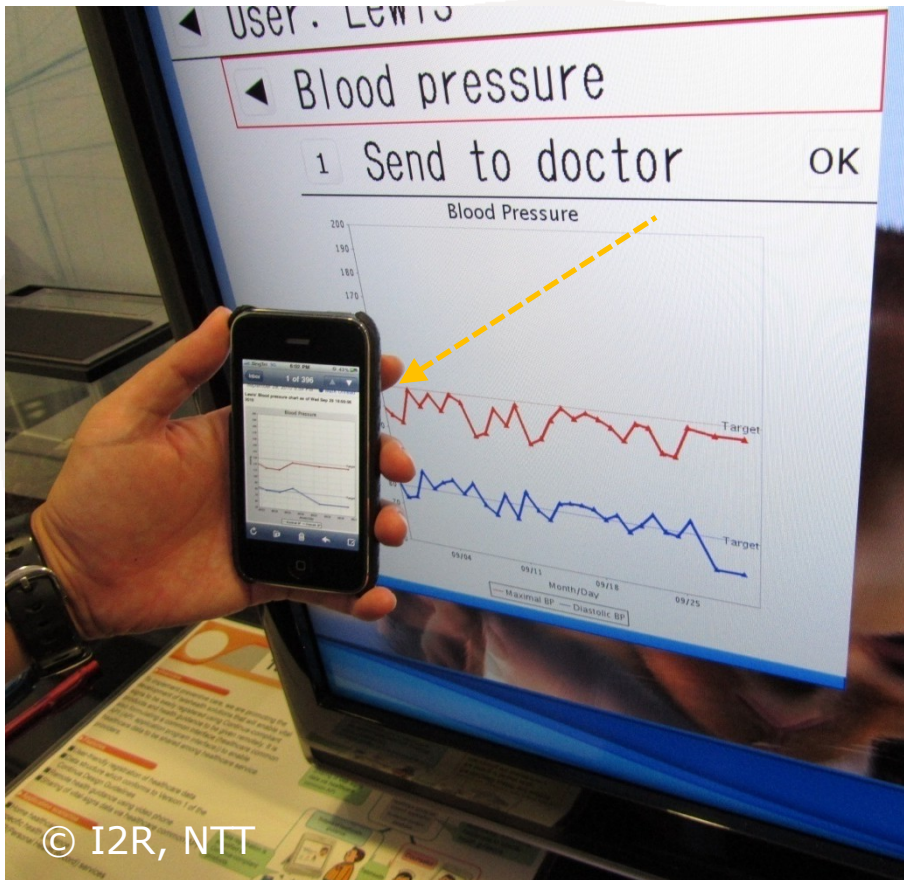
Widget implemented with LIME (ITU-T H.762) for e-health information collected from the user site, consolidated in the server backend and displayed on users' IPTV terminal device as a widget.

Accessible E-Health

© I2R, NTT

LIME app does:

- Obtain health data and shows it on TV
- Allows the user to send data to the doctor via e-mail
- TV screen displays reply from the doctor with his professional advice

- Such an application is extremely useful for patients with chronic ailments, such as diabetes.

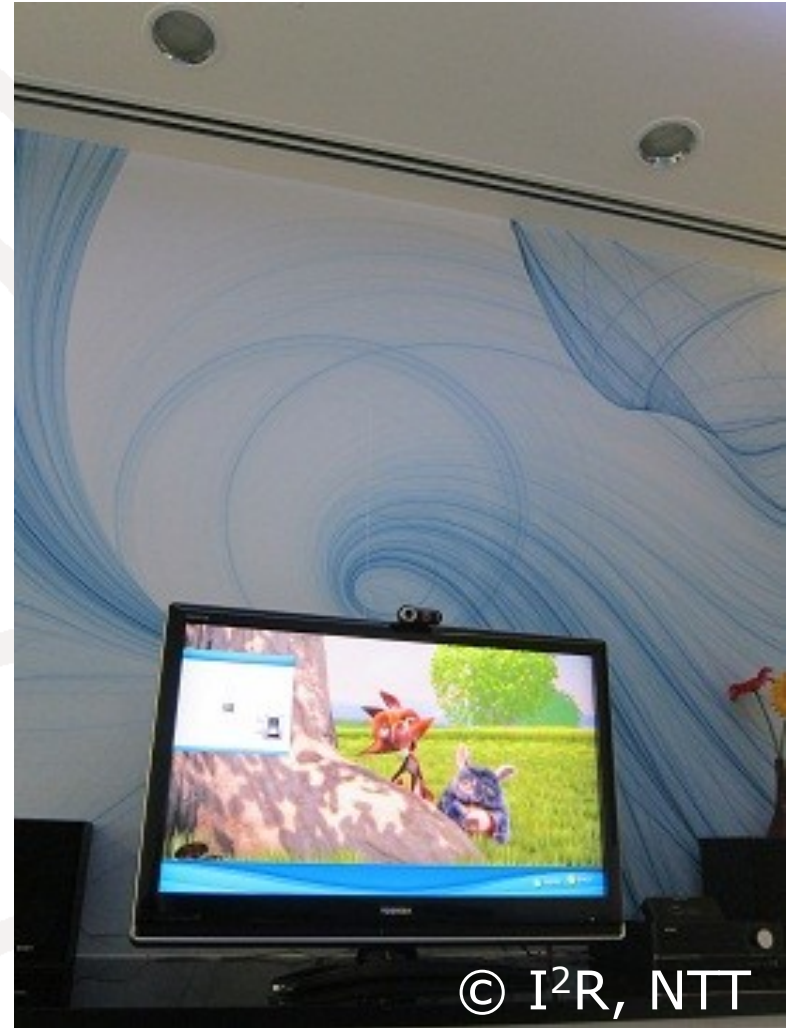# Remote Power Control on IPTV (1)

Remote Power Control on IPTV (2)

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Surveillance on IPTV
-- fall-detection --

Surveillance on IPTV
-- fall-detection --

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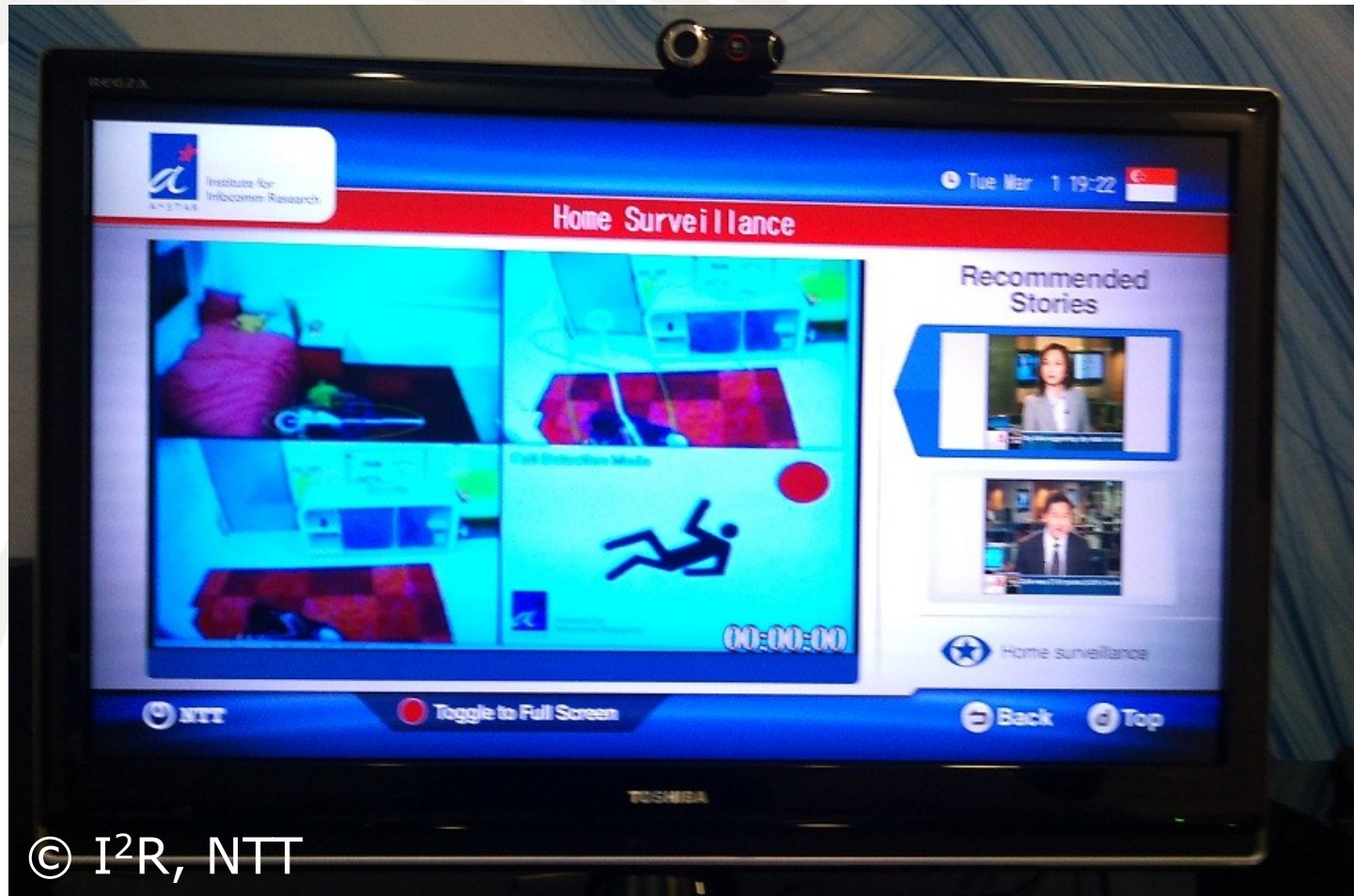
Conclusion

- IPTV can be a UI that bridges digital divide
- Standardized, Managed IPTV is important for Accessible UI
- There are already many ITU-T IPTV Applications and Use cases that provide Accessible UI to individuals.