



International Telecommunication Union
International Multimedia Telecommunications Consortium



Accessibility in New Emerging Networks and Services

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ITU-T Q.26/16 Accessibility to Multimedia

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- o There has been efforts since long to create telecommunications services for people who cannot use voice telephony.
- o Picture:
Robert Weitbrecht
Andrew Saks
James C Marsters
with the first successful deaf telecommunications system.
- o Just as Alexander Graham Bell's telephone, it is in principle still in operation today.
- o Development moves on. New opportunities are created. User's needs to communicate remains.



Time for an accessible replacement of the voice telephone

- o The voice telephone system is inaccessible to many users
- o Video and text additions urgently needed, maintaining global interoperability
- o Possible now through implementation of the Total Conversation standards in new networks and systems: fixed, wireless and mobile.
- o Let us migrate to accessible telecom systems for all.
- o Result: Increased markets, increased user satisfaction, fulfilled policy goals.

- Text with real-time conversational flow is an often needed component in human interaction
- Often intermixed with Instant Messaging that is important but does not give full feeling of contact

User A	User B
Because then you get a live conversation suitable for a real time call.	Why do you need real-time text transmission? Yes, I see, I can read your thoughts at the moment you express them. No waiting. Good!

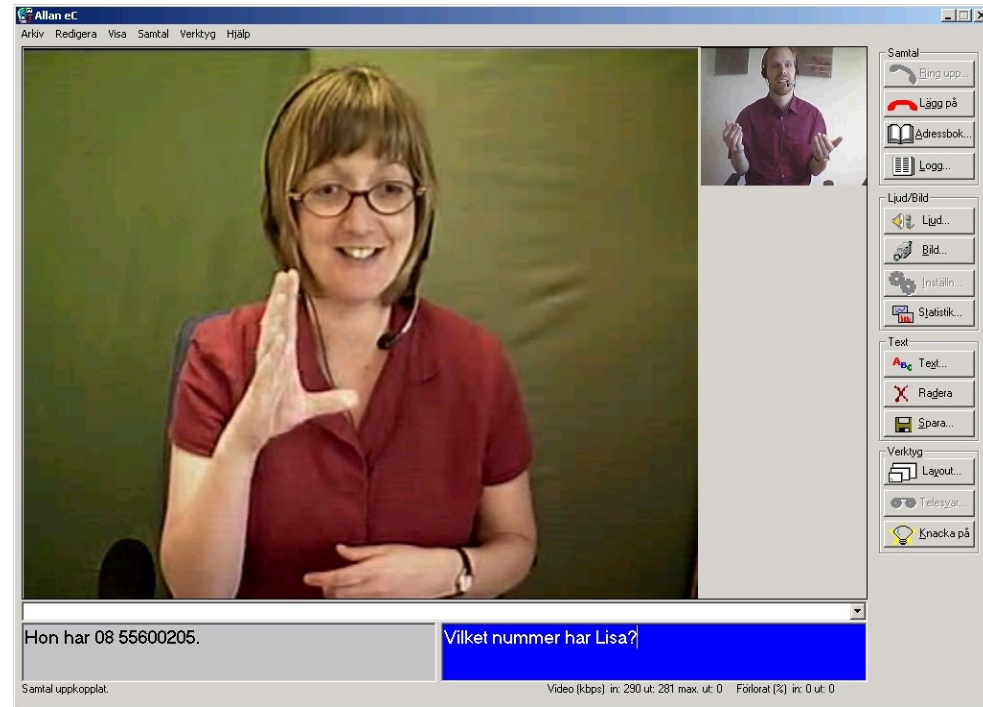


Example of a Total Conversation user interface



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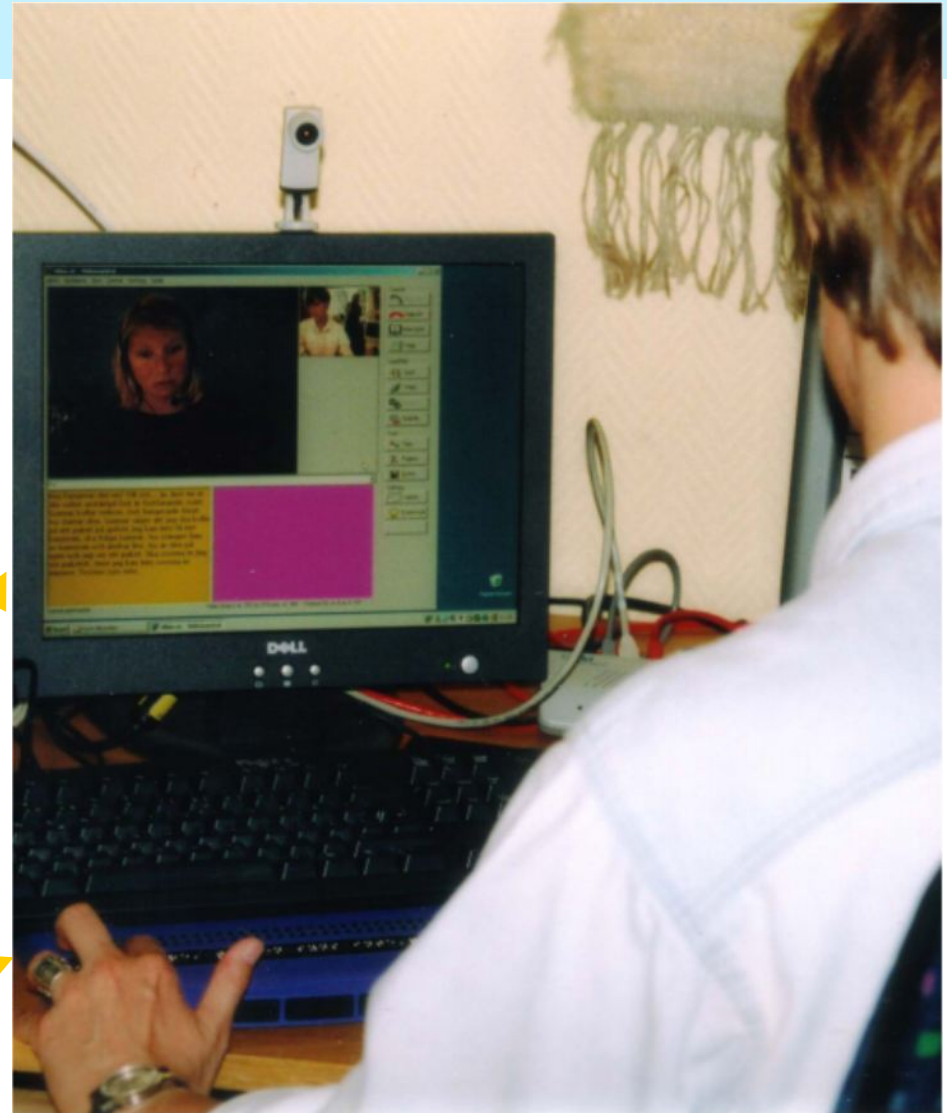
- o Video, text and voice: standardised
- o Simple extension of the videophone concept
- o Service standardised in ITU-T F.700, F.703, F.724
- o Fulfills a large variety of user needs



Example with deaf-blind user

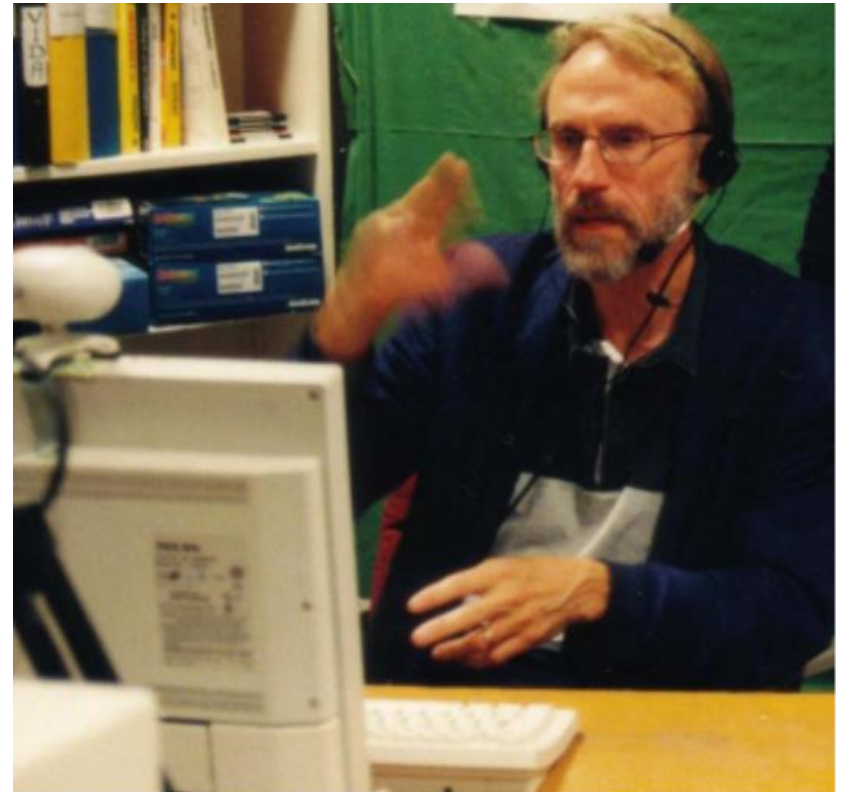
- In this case:
 - Sign language from the deaf-blind user
 - Text back, displayed on braille display
- Many other combinations possible

Received text
Braille
display



Example of usability for hard-of-hearing

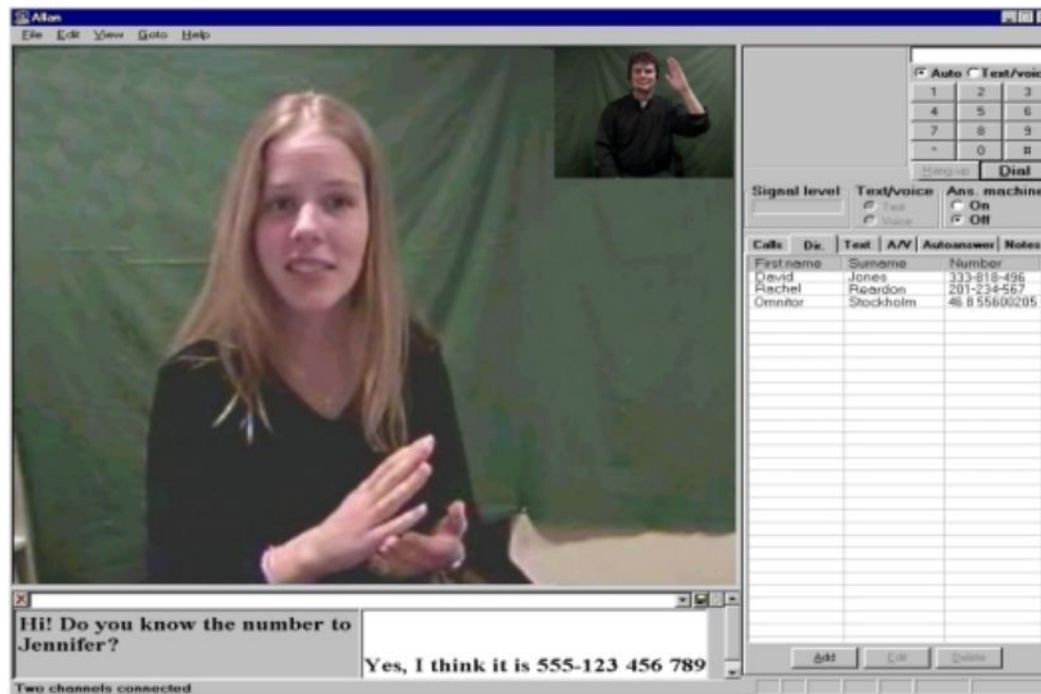
- Video for lip-reading and acknowledgement
 - Voice for the main conversation
 - Text when stuck
-
- Move to text for the main conversation when the situation calls for it





- Video for agreement, enhanced understanding, feelings, showing things.
- Voice to the speech impaired user for the main conversation
- Voice from the speech impaired user as far as feasible
- Text as fallback when stuck

Example from between deaf users

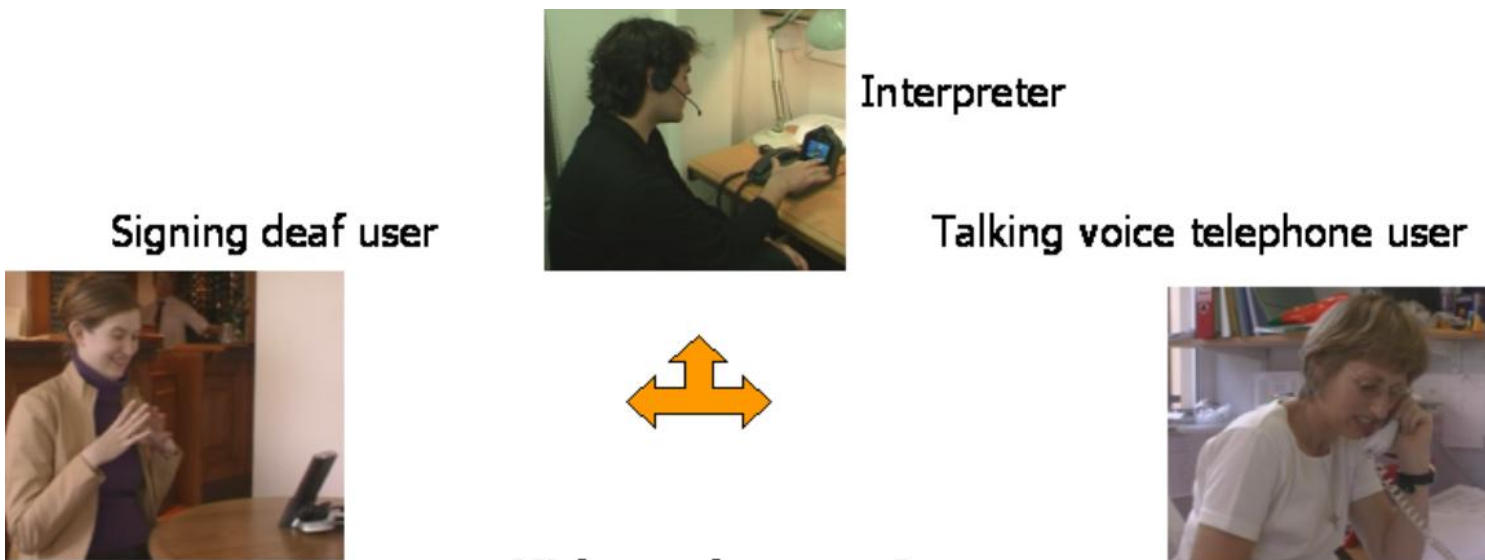


- Video for sign language for main conversation
- Text important for addresses, numbers, detailed instructions etc.

- Video for acknowledgement, recognition, showing things, feelings
- Text for main conversation
- More value the more widespread it is



Value added service Video relay service



Signing deaf user



Interpreter

Talking voice telephone user



Video relay service

- rapid access to interpreter anywhere
- equal opportunities to participation in society
- The text part needed for phone numbers etc

Good for all – accessibility features add value to mainstream services

- Video for feelings, acknowledgement etc
- Voice for the main dialogue
- Text for addresses, language problems, noise compensation

...

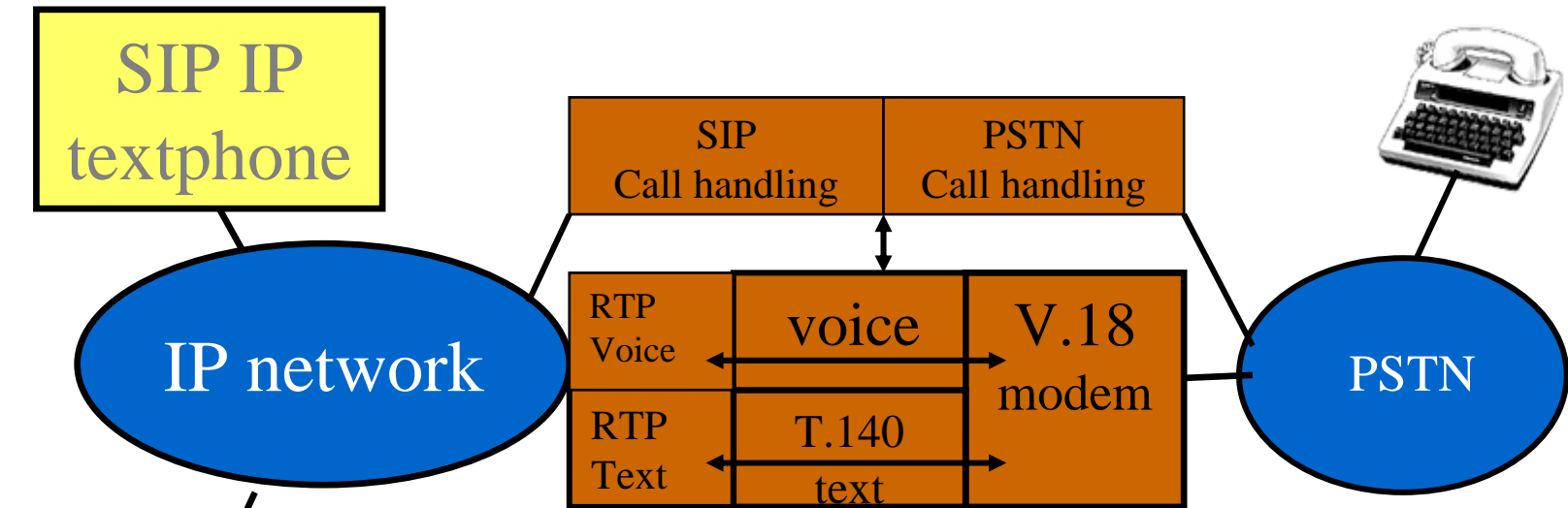
(picture from Yoshio Utsumi, General secretary of ITU, and Sylvia Petter, ITU trying Total Conversation demo in UN-days 2001)



Text telephony interoperability Gateway example

SIP IP Textphone

PSTN Textphone



Text capable gateway

SIP Total Conversation
 terminal



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Achievements in Accessibility standardisation for personal communication



From the text telephone to accessible mainstream multimedia

- Service definitions. F.700, F.703, F.724
- Harmonizing text telephone communication ITU-T V.18
- Common standard for Text Conversation presentation and coding - used in all real-time text applications: ITU-T T.140
- Text Conversation addition to all multimedia environments: T.120, H.320, H.323, H.324, IETF SIP, 3GPP 26.235, ETSI EG 202 320 "DUST"
- Total Conversation and Text telephony interoperability. Gateway H.248.2, V.151, V.152, ETSI EG 202 320
- Text transport in IP: RFC4103, RFC 4351



NGN and H.325 are fresh initiatives where accessibility can be included from the beginning.

Accessibility is now integrated in NGN scope and requirements with the following goals:

- Include real time text and video with voice in conversational services.
- Use only full motion video.
- Global interoperability of accessible calls



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Needs in NGN and future work (continued)



- o Add standardised external interfaces for user interface devices on all communication user equipment.
- o Make sure emergency services are accessible with alternate media: text and video.
- o Integrate relay services with convenient invocation methods for translating between media and modes
- o With mainstream availability these features will be attractive and popular for all.

- All standardisation work items and developments must consider accessibility
- o Accessibility for people with disabilities is a cross-sector science
 - o Influences at least 30% of Recommendations
 - o Good accessibility is only achievable by awareness and common goals
 - o A tool for common goals is an accessibility checklist for standardisers.



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Accessibility checklist



- Brief checklist intended to be used at many stages of a standardisation work item
- Proposal: Use it in the main standardisation process for NGN
- Spin - off proposal: Include in the main ITU standardisation process.
- Created in ITU-T Q.26/16. Ready for use

Checklist background:

1. Design systems for the widest possible range of capabilities of the user.
2. Make further adaptations possible to permit an even wider range of capabilities.
3. Add standardised interfaces for the connection of a wide range of user interface devices to cater for further needs.



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Accessibility checklist contents



Consider the following topics with
a wide selection of media

- ### Main topics in the Accessibility Checklist
- o Control of devices
 - o Control of services
 - o Media transport
 - o Media entry by the user
 - o Media presentation to the user
 - o Invocation of media translating services
 - o User profile management
 - o User profile usage

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- o The key to accessibility: Provide more media alternatives in a coordinated fashion.
- o NGN and H.325 are golden opportunities for accessibility enhancements
- o Implement accessibility as described in NGN Release 1 requirements and H.325 in global cooperation
- o Apply accessibility checklist to standardisation work items and development



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