Question 26/16 – Accessibility to multimedia systems and services

(Continuation of Question 26/16)

1 Motivation

The capability to handle different information media and control actions varies within wide boundaries amongst users of telecommunication and multimedia services. The variation may come from age-related functional limitations, disabilities, or other natural causes. With the ageing populations in large parts of the world, many users will have sensory and motor limitations. It is important to meet this wide variety in capabilities in the original design of telecommunication services and systems, so that an increasing number of users can make use of the mainstream telecommunication services. Legislation in many countries is also beginning to follow the trend of requiring universal design, as defined by the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD), in all forms of communication services and devices, as well as Sustainable Development Goals (SDGs).

Multimedia systems and services have great potential to provide valuable and accessible information in a way that the individual user can control, if care is taken from the beginning in universal design of these services and systems, making them accessible to as many users as possible.

The accessibility activities in Study Group 16 and its predecessors have created the following documents:

– ITU-T V.18 for real time text telephony;
– ITU-T T.140 as the general presentation protocol for real time text conversation;
– ITU-T T.134 for real time text conversation in T.120 data conferencing environments;
– Annex G to ITU-T H.323 for real time text conversation in H.323 packet multimedia environment;
– Annex L to ITU-T H.324 for real time text conversation in low bit-rate multimedia applications;
– ITU-T F.703 – Multimedia conversation service description. Includes definitions of the accessible conversational services, i.e., total conversation;
– H-series Supplement 1 – Application profile – Sign language and lip-reading real-time conversation using low bit-rate video communication;
– ITU-T F.790 – Telecommunications accessibility guidelines for older persons and persons with disabilities;
– ITU-T F.791 – Accessibility terms and definitions;
– ITU-T H.702 – Accessibility profiles for IPTV systems;
– ITU-T F.930 – Multimedia relay services;
– ITU-T F.921 – Audio-based indoor and outdoor network navigation system for persons with vision impairment;
– ITU-T F.922 – Requirements of information service system for visually impaired persons;
– ITU-T Technical Paper FSTP-AM – Guidelines for accessible meetings;
– ITU-T Technical Paper FSTP-ACC-RemPart – Guidelines for supporting remote participation in meetings for all;
– ITU-T Technical Paper FSTP-TACL – Telecommunications accessibility checklist;
– ITU-T Technical Paper FSTP-WebVRI – Guidelines on Web-based remote sign language interpretation (VRI).

Complemented by a number of additions to other Recommendations, the total conversation concept was founded for conversation in video, text and voice as an accessible superset of video telephony, text telephony and voice telephony.

The task of this Question is to engage in standardization activities leading to services and systems that apply the universal design concept.

Consideration should be given to services in new generation networks with fixed as well as mobile features.

The group also has a task to promote and enhance accessibility as a normal part of ITU work.

2   Study items

Study items to be considered include, but are not limited to:

–   clauses on accessibility issues in relevant Recommendations, declaring how inclusive design is achieved, as requested by ITU Plenipotentiary Conference Resolution 175 (rev. Busan 2014) and by the UNCRPD and SDGs;

–   support for wide performance limits in production, perception and control of each medium in communication services to allow for maximum usability in accordance with the principles of universal design. Specifically, study profiling of the latest video coding standards to fulfil sign language and lip-reading needs at very low bit rates and in error prone environments;

–   study potential accessibility benefits offered by emerging technologies, such as independent living, home automation, communication between smart things, cloud-based service and smart homes;

–   specification of interfaces on communication equipment to allow various forms of user interface equipment to be attached in order to enable session and device control and media handling by persons with varying capabilities and preferences;
NOTE – Examples of what the interfaces should support include: talking menus, keyboards, pointing devices, listening and viewing devices, Braille and voice call control, text conversation input and output;

–   multimedia services including mechanisms for transformation between different media forms of the same content in order to adapt to the capabilities and preferences of end users. Such mechanisms may be automatic, for example text-to-speech, or performed by people, for example sign language interpretation;

–   mechanisms for user selectable media, including its production, storage, transport, presentation and logical linking;

–   specification of accessible services using wireless telecommunication technologies, and using wireless short-range technologies for provision of convenient accessible features on communications equipment;

–   mechanisms for interworking with mono-media services in an accessible way (e.g. text telephony and voice telephony);

–   maintenance of the total conversation concept, and its inclusion in any new multimedia conversation protocol;

–   study the requirements on multimedia metadata from an accessibility point of view to encourage universal design in this field;

–   study access to emergency services and early warning services by persons with disabilities and specific needs with a wide range of communication channels, e.g. text, sign language, and lip-reading supported speech, audio description, and braille;

–   study mechanisms for disability-inclusive disaster risk reduction.

3   Tasks

Tasks include, but are not limited to:

–   coordination with other ITU-R, ITU-T and ITU-D study groups for fulfilment of accessibility requirements in their Recommendations;

–   coordination with other SDOs for fulfilment of accessibility requirements in their specifications;

–   promotion of total conversation defined in ITU-T F.703 as a mainstream service;

–   promotion of the concept of universal design, as defined in the UNCRPD;

–   promotion of SDGs;

–   develop guidance for implementers of interfaces between communication devices and user interface devices;

–   contribute to the continued harmonization and maintenance of the real time text telephone service, for example when new technologies are specified for PSTN or IP transmission;

–   create guidelines for the design of IP terminal devices and IP communication systems for the inclusion of accessibility features including text conversation, video and alerting, and maintain interoperability with legacy text telephones;

–   develop Recommendations to improve accessibility to audiovisual media, such as IPTV systems;

–   assist in the development of guidelines for procurement of accessible systems, services and devices;

–   develop specification in support of total conversation for disabilities beyond the needs of the deaf;

–   develop guidance for implementers of relay systems for deaf, hard of hearing and speech-impaired users;

–   maintain the list of suitable accessibility terms and definitions;

–   maintain the documents under the responsibility of the Question (including ITU-T F.790-series, V.18; FSTP-TACL, FSTP-AM, FSTP-ACC-RemPart);

–   modification and/or extension of existing deliverables under ITU-T Study Group 16 responsibility to enable accessible systems (including ITU-T F.703 and H.702).

An up-to-date status of work under this Question is found in the SG16 work programme (https://www.itu.int/ITU-T/workprog/wp_search.aspx?sp=17&q=26/16).

4   Relationships

Recommendations

–   ITU-T F.700, G.722, G.722.2, G.729, G.769/Y.1242, G.799.1/Y.1451.1, H.300-series, H.248, H.264, H.265, H.17, H.700-series, V.150-series, T.140, Y.1901

Questions

–   All Questions of Study Group 16

Study groups

–   ITU-T SG9 on IP Cablecom

–   ITU-T SG12 on media quality

–   ITU-T SG13 on future networks

–   ITU-T SG15 on access networks, for inclusive design in communication services

–   ITU-T SG17 on privacy, security and child online protection

- ITU-T SG20 on IoT and smart cities & communities
- ITU-R WP5A, SG6
- ITU-D SG1 on access to telecommunication services for people with disabilities
- ITU-D SG2 on development and management of telecommunication services and networks and ICT applications

Other ITU bodies

- ITU-T JCA-AHF, IRG-AVA
- ITU-D special initiatives

Other bodies

- IETF in general, and specifically the MMUSIC, WebRTC and AVT groups
- 3GPP and 3GPP2 for mobile accessibility inclusion and co-ordination of text telephony and total conversation related issues
- ETSI, particularly TC HF (Human Factors)
- ISO/IEC JTC1 SC35 on accessibility and user interfaces
- IEC TC100 on assisted living
- W3C on Web accessibility
- Regional organizations such as the Asia Pacific Telecommunity
- G3ict (Global Initiative for Inclusive ICTs)
- Internet Governance Forum
- WHO
- WIPO
- Disability organizations including: World Federation of the Deaf (WFD), World Blind Union (WBU), International Federation of Hard of Hearing People (IFHOH) and Disabled People's International (DPI)