International Telecommunication Union

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

FG AVA TR

Version 1.0
(10/2013)

Focus Group on Audiovisual
Media Accessibility

Technical Report

Part 10: Draft recommended requirements of TV receiver for closed signing

FOREWORD

The procedures for establishment of focus groups are defined in Recommendation ITU-T A.7. The ITU-T Focus Group on Audiovisual Media Accessibility (FG AVA) was proposed by ITU-T Study Group 16 for creation in-between TSAG meetings and it was established on 22 May 2011. The Focus Group was successfully concluded in October 2013.

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Summary

This Technical Report of FG AVA was prepared by Working Group C "Visual signing and sign language". It outlines the draft recommended requirements of the TV receiver for closed signing that FG AVA had foreseen as a future work item for ITU-T Study Group 16 (SG16) "Multimedia" and ITU-R SG6 "Broadcasting service".

Introduction

The ITU-T Focus Group on Audiovisual media Accessibility (FG AVA) agreed to recommend the following requirements for closed signing. This document lists some technical functions and parameters of a TV receiver required to realize closed signing service in broadcasting.

1.   Assumptions

Below are the assumptions that a TV receiver is required to realize in closed signing service in broadcasting:

1.   The main programme video and the video of the sign language interpreter are sent separately to a TV receiver.

2.   Computer graphics (CG) of sign language interpreter may be used instead of a video of a real interpreter.

3.   CG may be either sent from the broadcaster or synthesized at the receiver side, and this is done according to the sequence of codes sent from the broadcaster.

2.   Functions and parameters related to visual appearance of a signer in the TV receiver

The following is a list of the functions and parameters which are related to the visual appearance of a signer, as they should be created and adjusted in the TV receiver:

1.   A function to synthesize the main programme video and that of the sign language interpreter into one display screen and to switch the appearance of the interpreter on or off should be installed in a TV receiver.

       This function ensures the so-called "closed signing" service.

2.   The size of the interpreter in the display screen should be modifiable by the remote control.

       This function ensures deaf viewers can select the size of the sign language interpreter for its good visibility or to fit to their preference.

3.   The position of the sign language interpreter in the display screen may be modifiable to fit the viewers' preference.

       It should be noted, however, that the interpreter sometimes refers to the main programme or makes visual cues relating to the main image, and actions of reference or visual cue may depend on the positional relation between the interpreter and the main video on the screen.

4.   When synthesizing the main video and the interpreter's video, the area of important information in the main video should not be covered by the interpreter's video.

       A typical solution is to reduce the size of the main video and mount it onto a window in the interpreter's video.

3.   Functions and parameters related to synchronization of a signer video with the main programme in the TV receiver

The following is a list of the functions and parameters which are related to the synchronization of a signer video with the main programme as they should be in the TV receiver:

1.   The start timing of the signer's video should be adjusted to a specific timing of the main video such as time stamp.

This ensures, for example, the signer's video can be triggered at the beginning of each news items of a news programme.

2. The length of the signer's video should be adjusted into a specific value by changing its play speed.

    The length of spoken sentence and the sign language of the same meaning do not necessarily coincide. This function ensures that even a long sign video would not run over the end of the main video.

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