Easing the access of Europeans with disabilities to converging media and content
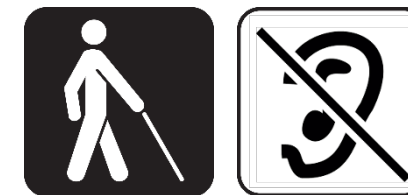
Pilar Orero

LEADME WINTER TRAINING SCHOOL 2020

Partners

- **9 partners (Spain, Italy and Greece)**

Technical partners

End users

EASY TV

EasyTV: Easing the access of Europeans with disabilities to converging media and content

Service Environment

	Improved Access services to enrich visual and audio experience based on image adaptation and audio description
	User centered hiper personalise services to access content.
	Multilanguage accessibility through subtitles and Sign Language
	Universal interaction through speech technologies, gesture or sight.
	HbbTV (2.0.1) and secondary screens

Audio Description and audio subtitling

This service provides different solutions for helping blind and low sighted people for accessing the multimedia content. In particular, it will comprise two different services:

- Automatic descriptive narratives: this service will be able to provide additional information about a content derived from the related metadata. Moreover, this service will be also in charge of analysis the video content in order to detect textual information and to extract it in order to give the users some contextual data that may help them to have a more complete experience. This will be done by a OCR service.

- Automatic voice synthesis of subtitles: this service will be in charge of providing audio information obtained from the subtitles files. As in the previous one, this service will make use of a OCR solution to enable spoken subtitles for burned-in video subtitles, or simply by parsing them if they are provided in a standard protocol.

Clean Audio

This service helps to improve the intelligibility of access services by providing a two way process solution: on the one hand, this service will process the audio information on the server side in order to generate two different sources, one with the main audio information like the voices, and another one for the rest of the audio content. On the other hand, the user will be able to select, in the user side, what channel he/she wants to hear, providing also a tool for making different equalization.

Universal Remote Control

This service will enable a universal and accessible interaction between users and TV through the recognition of different users' gestures, gaze estimation and speech recognition (voice control).

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Image enhancement

This service will be focused on the processing of an image for obtaining a more suitable bespoke service, adapting it to the requirements of the user, especially when this user has impaired-vision. This will include different functionalities such as:

- Improving the presentation of subtitles and sign language video, in a customizable or an automated manner.
- Magnifying the image, through custom or automated selection.

Crowdsourcing platform

This service will allow the creation and management of a new sign language framework in which users.

It will be able to upload and collect sign language content, as well as to check their correctness.

Realistic avatar for sign language presentation

This service will include:

- the generation of automated realistic avatar for sign language content, combining head and hands movements for a closer experience.
- allow multilingualism by making use of the ontology created for the project, which will link same concepts in different languages.
- will also allow to add new sign language representations through crowdsourcing by making use of a real-time hand and face motion capture solution.

Automated translations among different sign languages

This service will help the annotation of sign language captures and to translate original sentences in other languages by means of a multilingual ontology that can be populated through the crowdsourcing platform.

Subtitling translation

This service will allow the production of subtitles with tools to automate translation to different languages and human monitoring and improving through a crowdsourcing platform.

Hyper personalised access

This service will be focused on enabling automated services' personalisation and interface adaptation according to users' profile and context information. This will also include matchmaking for personalised DASH streaming services.

EASY TV

Aplicación HbbTV 2.0.1
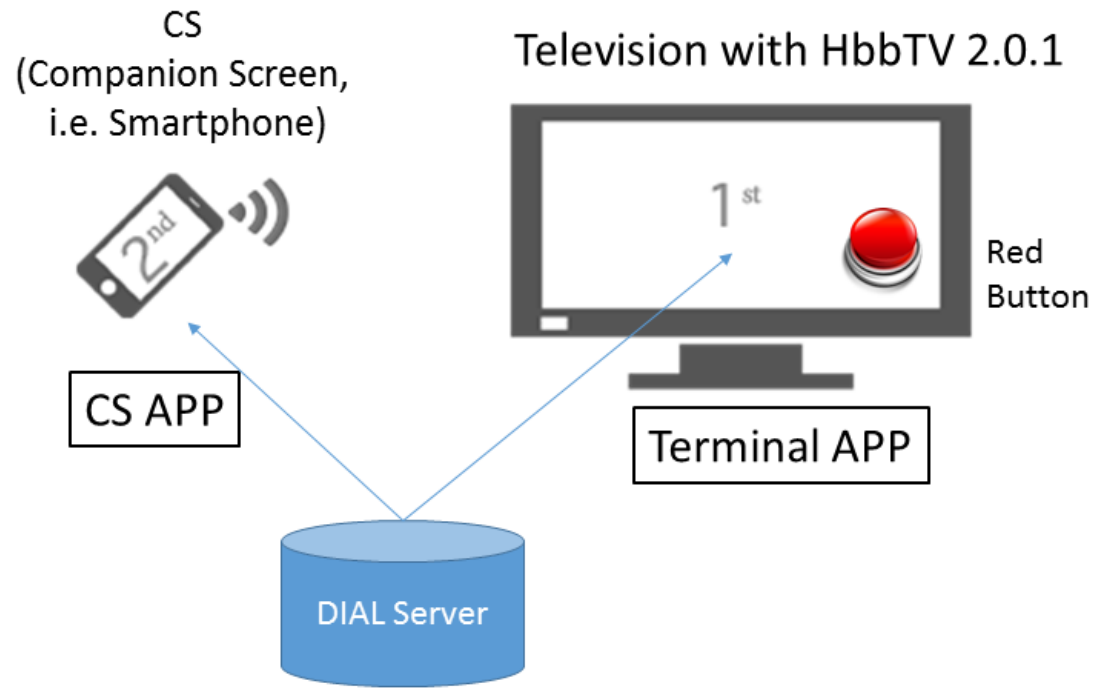
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