



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement n: 761999



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

Report on Intermediate tests: Ethical Requests, Methodology and Results

EasyTV Project

H2020. ICT-19-2017 Media and content convergence. – IA Innovation action.

Grant Agreement n°: 761999

Start date of project: 1 Oct. 2017

Duration: 30 months

Document. ref.: 6.2

Disclaimer

This document contains material, which is the copyright of certain EasyTV contractors, and may not be reproduced or copied without permission. All EasyTV consortium partners have agreed to the full publication of this document. The commercial use of any information contained in this document may require a license from the proprietor of that information. The reproduction of this document or of parts of it requires an agreement with the proprietor of that information. The document must be referenced if is used in a publication.

The EasyTV Consortium consists of the following partners:

	Partner Name	Short name	Country
1	Universidad Politécnica de Madrid	UPM	ES
2	Engineering Ingegneria Informatica S.P.A.	ENG	IT
3	Centre for Research and Technology Hellas/Information Technologies Institute	CERTH	GR
4	Mediavoice SRL	MV	IT
5	Universitat Autònoma Barcelona	UAB	ES
6	Corporació Catalana de Mitjans Audiovisuals SA	CCMA	ES
7	ARX.NET SA	ARX	GR
8	Fundación Confederación Nacional Sordos España para la supresión de barreras de comunicación	FCNSE	ES
9	Unione Italiana dei ciechi e degli ipovedenti	UICI	IT

PROGRAMME NAME:	H2020. ICT-19-2017 Media and content convergence - IA Innovation action
PROJECT NUMBER:	761999
PROJECT TITLE:	EASYTV
RESPONSIBLE UNIT:	UAB
INVOLVED UNITS:	UAB, ENG, CERTH, MV, CCMA, UICI, FCNSE, ARX, UPM
DOCUMENT NUMBER:	D 6.2
DOCUMENT TITLE:	Preliminary set of docs for ethical requests, data protection and consent information
WORK-PACKAGE:	WP6
DELIVERABLE TYPE:	REPORT
CONTRACTUAL DATE OF DELIVERY:	M18 (Due to Intermediate Testing in M18 it was considered important to delay this deliverable two months to collect all the information arising for these tests)
LAST UPDATE:	24 April 2019
DISTRIBUTION LEVEL:	PU

Distribution level:**PU** = *Public***RE** = *Restricted to a group of the specified Consortium***PP** = *Restricted to other program participants (including Commission Services)***CO** = *Confidential, only for members of the LASIE Consortium (including the Commission Services)*

Document History

VERSION	DATE	STATUS	AUTHORS, REVIEWER	DESCRIPTION
v.1	07/03/2019	Draft	Daniel Segura, Irene Tor, Sara Rovira, Pilar Orero (UAB)	Table of Contents definition and document structure
v.2	21/03/2019	Draft	Daniel Segura, Irene Tor, Sara Rovira (UAB)	First draft
v.3	9/04/2019	Draft	Daniel Segura, Irene Tor, Sara Rovira (UAB)	Second draft
v.4	11/04/2019	Draft	Pilar Orero (UAB)	Final version
v.5	22/04/2019	Draft	Stavros Skourtis (ARX), Maria Poveda (UPM)	Revised version
v.6	26/4/2019	Final	Daniel Segura, Irene Tor, Sara Rovira, Pilar Orero (UAB)	Final revised version

Definitions, Acronyms and Abbreviations

ACRONYMS / ABBREVIATIONS	DESCRIPTION
NPS	Net Promoter Score
SUS	System Usability Scale
UI	User Interface
SL	Sign Language
TTS	Text-to-speech
ONCE	Organización Nacional de Ciegos Españoles
GDPR	General Data Protection Regulation
HbbTV	Hybrid Broadcast Broadband TV

Table of Contents

1. INTRODUCTION	16
2. INFORMATION FOR THE INTERMEDIATE TESTING PHASE.....	16
2.1. Services to be tested.....	17
2.2. Questionnaires	19
2.2.1. Demographics.....	19
2.2.2. System Usability Scale (SUS)	19
2.2.3. Net Promoter Score (NPS)	20
2.2.4. Others	20
2.3. Workflow.....	21
2.3.1. Workflow for live intermediate tests	21
2.3.2. Workflow for online intermediate tests.....	22
3. ETHICAL ISSUES.....	22
3.1. Payment	22
3.2. Data protection	22
4. RESULTS OF THE INTERMEDIATE TESTS	23
4.1. Crowdsourcing platform (CERTH).....	23
4.1.1. Description of the informants' demographic profile.....	23
4.1.2. SUS results.....	24
4.1.3. NPS results.....	25
4.1.4. Qualitative comments made	27
4.1.5. Test conclusions	27
4.1.6. Actions to be taken for service improvement.....	27
4.2. Gesture recognition to send commands to TV (CERTH)	27
4.2.1. Description of the informants' demographic profile:.....	27
4.2.2. SUS results.....	28
4.2.3. NPS results.....	29
4.2.4. Qualitative comments made	30
4.2.5. Test conclusions	31
4.2.6. Actions to be taken for service improvement.....	31
4.3. Sign Language Capturing Module (CERTH).....	31
4.3.1. Description of the informants' demographic profile:.....	31
4.3.2. SUS results.....	32
4.3.3. NPS results.....	33
4.3.4. Qualitative comments made	34
4.3.5. Test conclusions	34
4.3.6. Actions to be taken for service improvement.....	35

4.4.	3D Signing Avatar (CERTH).....	35
4.4.1.	Description of the informants' demographic profile:.....	35
4.4.2.	SUS results.....	36
4.4.3.	NPS results.....	36
4.4.4.	Qualitative comments made	37
4.4.5.	Test conclusions	38
4.4.6.	Actions to be taken for service improvement.....	38
4.5.	Text detection (UPM).....	38
4.5.1.	Description of the informants' demographic profile.....	38
4.5.2.	SUS results.....	39
4.5.3.	NPS results.....	40
4.5.4.	Qualitative comments made	41
4.5.5.	Test conclusions	42
4.5.6.	Actions to be taken for service improvement.....	42
4.6.	Subtitles customization (UPM)	42
4.6.1.	Description of the informants' demographic profile.....	42
4.6.2.	SUS results.....	43
4.6.3.	NPS results.....	44
4.6.4.	Qualitative comments made	45
4.6.5.	Test conclusions	46
4.6.6.	Actions to be taken for service improvement.....	46
4.7.	Face detection (UPM)	46
4.7.1.	Description of the informants' demographic profile.....	46
4.7.2.	SUS results.....	47
4.7.3.	NPS results.....	48
4.7.4.	Qualitative comments made	49
4.7.5.	Test conclusions	50
4.7.6.	Actions to be taken for service improvement.....	50
4.8.	Custom magnification (UPM)	50
4.8.1.	Description of the informants' demographic profile.....	50
4.8.2.	SUS results.....	51
4.8.3.	NPS results.....	52
4.8.4.	Qualitative comments made	53
4.8.5.	Test conclusions	54
4.8.6.	Actions to be taken for service improvement.....	54
4.9.	Character detection (UPM).....	54
4.9.1.	Description of the informants' demographic profile.....	54
4.9.2.	SUS results.....	55
4.9.3.	NPS results.....	56
4.9.4.	Qualitative comments made	57
4.9.5.	Test conclusions	57
4.9.6.	Actions to be taken for service improvement.....	57

4.10.	Screen reader (CCMA)	57
4.10.1.	Description of the informants' demographic profile	58
4.10.2.	SUS results	59
4.10.3.	NPS results	60
4.10.4.	Qualitative comments made	61
4.10.5.	Test conclusions	61
4.10.6.	Actions to be taken for service improvement	62
4.11.	Colour-blind subtitles (CCMA)	62
4.11.1.	Description of the informants' demographic profile	62
4.11.2.	SUS results	63
4.11.3.	NPS results	65
4.11.4.	Qualitative comments made	66
4.11.5.	Test conclusions	66
4.11.6.	Actions to be taken for service improvement	66
4.12.	Speech platform	67
4.12.1.	Live tests results (CCMA)	67
4.12.2.	Live tests results (MV)	71
4.12.3.	Online test results (MV)	75
5.	CONCLUSIONS	82
6.	REFERENCES	84
7.	ANNEXES	84
7.1.	Test information sheet and consent form in English	84
7.2.	Test information sheet and consent form in Spanish	85
7.3.	Test information sheet and consent form in Catalan	86
7.4.	Test information sheet and consent form in Greek	86
7.5.	Test information sheet and consent form in Italian	87
7.6.	Test information sheet and consent form in Greek SL (snapshots of clips)	88
7.7.	Test information sheet and consent form in Spanish SL (snapshots of clips)	89
7.8.	Questionnaire in English	90
7.9.	Questionnaire in Spanish	92
7.10.	Questionnaire in Catalan	94
7.11.	Questionnaire in Greek	96
7.12.	Questionnaire in Italian	98
7.13.	Questionnaire in Greek Sign Language (snapshots of clips)	100
7.14.	Questionnaire in Spanish Sign Language (snapshots of clips)	101
7.15.	Test raw data (UPM)	102
7.16.	Test raw data (CERTH)	115
7.17.	Test raw data (CCMA)	125
7.18.	Test raw data (MV)	130
7.19.	Template for intermediate tests report	132

7.20. Images, video and recording consent in Catalan	133
7.21. Image, videos and recording consent in English.....	135
7.22. Photos and other graphic documents	136
7.23. New ethics certificate	141

List of Figures

Fig. 1 First screen of the EasyTV intermediate tests' platform	17
Fig. 2 NPS grade scale.....	20
Fig. 3 Demographic Info - Education Level (Crowdsourcing platform)	24
Fig. 4 Demographic Info – Disabilities (Crowdsourcing platform).....	24
Fig. 5 Individual SUS scores (Crowdsourcing platform)	25
Fig. 6 Chart of NPS data (Crowdsourcing platform)	26
Fig. 7 Education level (Gesture Remote Controller).....	28
Fig. 8 Chart graph of SUS scores (Gesture Remote Controller)	29
Fig. 9 NPS user classification (Gesture Remote Controller)	30
Fig. 10 Demographic info- Education level (Signer3D)	31
Fig. 11 Demographic info – Disabilities (Signer3D)	32
Fig. 12 Chart graph of SUS scores (Signer3D)	33
Fig. 13 NPS user classification (Signer3D)	34
Fig. 14 Education level (Signing Avatar).....	35
Fig. 15 Disabilities (Signing Avatar).....	35
Fig. 16 Chart graph of SUS scores (Signing Avatar)	36
Fig. 17 NPS user classification (Signing Avatar)	37
Fig. 18 Education level (text detection online tests)	39
Fig. 19 Disabilities (text detection online tests)	39
Fig. 20 Chart graph of SUS scores (text detection online tests).....	40
Fig. 21 NPS user classification (text detection online tests).....	41
Fig. 22 Education level (subtitles customization online tests)	43
Fig. 23 Disabilities (subtitles customization online tests).....	43
Fig. 24 Chart graph of SUS scores (subtitles customization online tests).....	44
Fig. 25 NPS user classification (subtitles customization online tests)	45
Fig. 26 Education level (face magnification online tests).....	47
Fig. 27 Disabilities (face magnification online tests).....	47
Fig. 28 Chart graph of SUS scores (face magnification online tests)	48
Fig. 29 NPS user classification (face magnification online tests)	49
Fig. 30 Education level (custom magnification online tests).....	50
Fig. 31 Disabilities (custom magnification online tests)	51
Fig. 32 Chart graph of SUS scores (custom magnification online tests)	52
Fig. 33 NPS user classification (custom magnification online tests)	53
Fig. 34 Education level (character recognition online tests)	54
Fig. 35 Disabilities (character recognition online tests)	55
Fig. 36 Chart graph of SUS scores (character recognition online tests)	55

Fig. 37 NPS user classification (character recognition online tests).....	56
Fig. 38 Education Level (Screen reader).....	58
Fig. 39 Disabilities (Screen reader).....	58
Fig. 40 Age (Screen reader).....	58
Fig. 41 Chart graph of SUS scores (Screen reader).....	60
Fig. 42 Chart of NPS data (Screen reader).....	61
Fig. 43 Education Level (colour-blind subtitles).....	63
Fig. 44 Disabilities (colour-blind subtitles).....	63
Fig. 45 Age (colour-blind subtitles).....	63
Fig. 46 Chart graph of SUS scores (colour-blind subtitles).....	65
Fig. 47 Chart of NPS data (colour-blind subtitles).....	66
Fig. 48 Education Level (speech platform live test by CCMA).....	67
Fig. 49 Disabilities (speech platform live test by CCMA).....	68
Fig. 50 Age (speech platform live test by CCMA).....	68
Fig. 51 Chart graph of SUS scores (speech platform live test by CCMA).....	69
Fig. 52 Education level (Speech platform, live - Italian).....	72
Fig. 53 Disabilities (Speech platform, live - Italian).....	72
Fig. 54 Age (Speech platform, live - Italian).....	72
Fig. 55 Chart graph of SUS scores (Speech platform, live - Italian).....	73
Fig. 56 NPS data (Speech platform, live - Italian).....	74
Fig. 57 Education level (Speech platform, online - Italian).....	76
Fig. 58 Disabilities (Speech platform, online - Italian).....	77
Fig. 59 Age (Speech platform, online - Italian).....	77
Fig. 60 Chart graph of SUS scores (Speech platform, online - Italian).....	79
Fig. 61 Chart of NPS data (Speech platform, online - Italian).....	81
Fig. 62 Information and consent form in Greek Sign Language (1).....	88
Fig. 63 Information and consent form in Greek Sign Language (2).....	89
Fig. 64 Information and consent form in Spanish Sign Language (1).....	89
Fig. 65 Information and consent form in Spanish Sign Language (2).....	90
Fig. 66 Questionnaire in Greek Sign Language (1).....	100
Fig. 67 Questionnaire in Greek Sign Language (2).....	100
Fig. 68 Questionnaire in Spanish Sign Language (1).....	101
Fig. 69 Questionnaire in Spanish Sign Language (2).....	101
Fig. 70 Screen reader test session (1).....	136
Fig. 71 Screen reader test session (2).....	136
Fig. 72 Screen reader test session (3).....	136
Fig. 73 Screen reader test session (4).....	137
Fig. 74 Colorblind subtitles test session (1).....	137
Fig. 75 Colorblind subtitles test session (2).....	137
Fig. 76 Colorblind subtitles test session (3).....	138

Fig. 77 Colorblind subtitles test session (4).....138

Fig. 78 Colorblind subtitles test session (5).....138

Fig. 79 Speech platform test session (1).....139

Fig. 80 Speech platform test session (2).....139

Fig. 81 Intermediate tests in the Centre of Greek Sign Language (1).....140

Fig. 82 Intermediate tests in the Centre of Greek Sign Language (2).....140

List of Tables

Table 1 Intermediate tests details	18
Table 2 SUS responses and scores (Crowdsourcing platform)	25
Table 3 NPS Individual scores (Crowdsourcing platform)	26
Table 4 NPS score calculation (Crowdsourcing platform)	26
Table 5 Main qualitative comments (Crowdsourcing platform)	27
Table 6 SUS responses and scores (Gesture Remote Controller)	29
Table 7 NPS individual scores (Gesture Remote Controller)	29
Table 8 NPS score calculation (Gesture Remote Controller)	30
Table 9 Main qualitative comments (Gesture Remote Controller)	30
Table 10 SUS responses and scores (Signer3D)	32
Table 11 NPS individual scores (Signer3D)	33
Table 12 NPS score calculation (Signer3D)	33
Table 13 Main qualitative comments (Signer3D)	34
Table 14 SUS responses (Signing Avatar)	36
Table 15 NPS individual scores (Signing Avatar)	37
Table 16 NPS score calculation (Signing Avatar)	37
Table 17 Qualitative comments (Signing avatar)	38
Table 18 SUS responses and scores (text detection online tests)	40
Table 19 NPS individual scores (text detection online tests)	40
Table 20 NPS score calculation (text detection online tests)	41
Table 21 Main qualitative comments (text detection online tests)	42
Table 22 SUS responses and scores (subtitles customization online tests)	44
Table 23 NPS individual scores (subtitles customization online tests)	45
Table 24 NPS score calculation (subtitles customization online tests)	45
Table 25 Main qualitative comments (subtitles customization online tests)	46
Table 26 SUS responses and scores (face magnification online tests)	48
Table 27 NPS individual scores (face magnification online tests)	48
Table 28 NPS score calculation (face magnification online tests)	49
Table 29 Main qualitative comments (face magnification online tests)	50
Table 30 SUS responses and scores (custom magnification online tests)	51
Table 31 NPS individual scores (custom magnification online tests)	52
Table 32 NPS score calculation (custom magnification online tests)	53
Table 33 Main qualitative comments (custom magnification online tests)	54
Table 34 SUS responses and scores (character recognition online tests)	55
Table 35 NPS individual scores (character recognition online tests)	56
Table 36 NPS score calculation (character recognition online tests)	56
Table 37 Main qualitative comments (character recognition online tests)	57

Table 38 SUS responses (Screen reader).....	59
Table 39 SUS scores (Screen reader).....	59
Table 40 NPS individual scores and comments (Screen reader).....	60
Table 41 NPS score calculation (Screen reader).....	60
Table 42 Table of comments (Screen reader).....	61
Table 43 SUS responses (colour-blind subtitles).....	64
Table 44 SUS scores (colour-blind subtitles).....	64
Table 45 NPS individual scores and comments (colour-blind subtitles)	65
Table 46 NPS score calculation (colour-blind subtitles).....	65
Table 47 Table of comments (colour-blind subtitles).....	66
Table 48 SUS responses (speech platform live test by CCMA)	69
Table 49 SUS scores (speech platform live test by CCMA)	69
Table 50 NPS scores and comments (speech platform live test by CCMA).....	70
Table 51 NPS score (speech platform live test by CCMA)	70
Table 52 Qualitative comments (speech platform live test by CCMA).....	71
Table 53 SUS responses and scores (Speech platform, live - Italian).....	73
Table 54 NPS individual scores and comments (Speech platform, live - Italian).....	74
Table 55 NPS score calculation (Speech platform, live - Italian).....	74
Table 56 Comments (Speech platform, live - Italian).....	75
Table 57 SUS responses and scores (Speech platform, online - Italian)	78
Table 58 NPS Individual scores and comments (Speech platform, online - Italian)	80
Table 59 NPS score calculation (Speech platform, online - Italian).....	81
Table 60 Comments (Speech platform, online - Italian).....	82
Table 61 Summary of the intermediate tests results.....	83

Executive Summary

Following the request made by the reviewers during the first review, held in Brussels in November 2018, the project EasyTV took on board intermediate testing. The aim was for users to give their opinion on the services being developed.

This deliverable presents the methodology used and the results gathered during the intermediate tests, as well as the changes made to the previous **ethical requests, data protection and consent information (D9.1)** due to new tests and conditions.

1. INTRODUCTION

Intermediate tests were not planned initially when the EasyTV project was approved. During the first review of EasyTV held in Brussels in November 2018, the reviewers suggested the project should incorporate this new step in order to make it more user-centric. The services targeted at end users were then selected and a demo was prepared so that test informants could evaluate their usability and give their opinion on the maturity of the proposed development. Services were tested in different languages both to reflect the multilingualism that characterises the project and to assess the pertinence of the services developed regardless the geographical and cultural background of end users.

This deliverable aims at presenting all the information regarding the methodology and results of the intermediate tests, including services tested, questionnaires delivered, and any new ethical consideration not covered by previous deliverables. The results obtained for each test carried out and the final conclusions drawn are also offered.

2. INFORMATION FOR THE INTERMEDIATE TESTING PHASE

This section offers the information regarding the intermediate tests carried out during March 2019. Despite the high number of services to be tested, a common questionnaire was designed, which was approved by all partners and translated into English (see [annex 7.1](#) and [7.8](#)) Spanish ([7.2](#) and [7.9](#)), Catalan ([7.3](#) and [7.10](#)), Greek ([7.4](#) and [7.11](#)), Italian ([7.5](#) and [7.12](#)), Greek Sign Language ([7.6](#) and [7.13](#)) and Spanish Sign Language ([7.7](#) and [7.14](#)). All the questionnaires were introduced in the testing platform created by CERTH (<https://easytvproject.eu/questionnaire#/form/services>) (Fig. 1). This platform allowed informants to take part in the test regardless both online or live face to face. The platform first presented a list of all the services available for testing. Users had to choose the one they were testing and then select their language. After making these two choices, users were informed about the test and asked for their consent. Then, they were asked to specify the modality of the test they were taking (either online or live face to face). In case they did it online, they had to watch a demonstration video of the service, while people participating in live tests had to follow the instructions from the expert leading the activity. In both cases, users finished by answering a questionnaire that was common to all services tested.

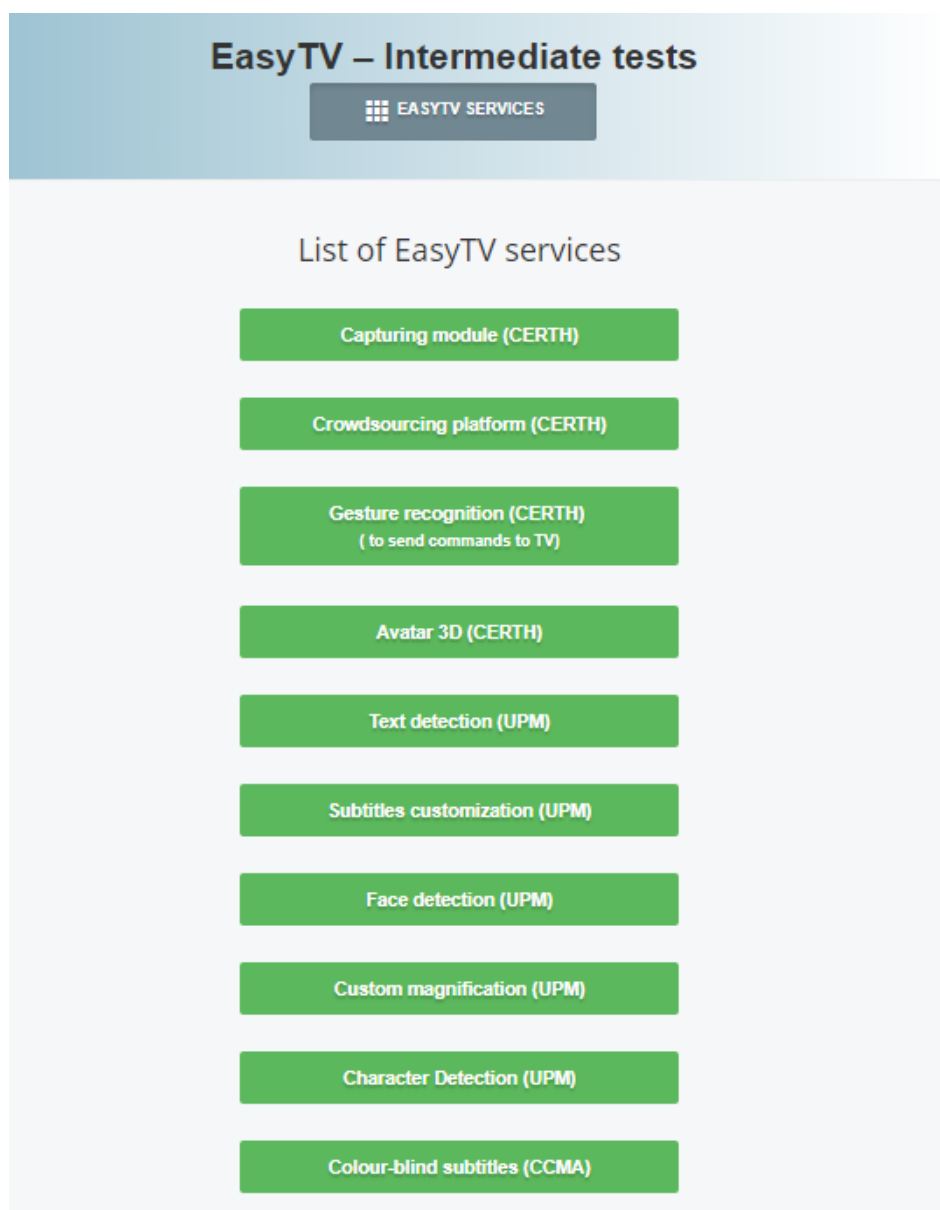


Fig. 1 First screen of the EasyTV intermediate tests' platform

The following subsections specify which services were chosen to be tested, how they were tested (test modality and language), what kind of questions were included in the intermediate test questionnaire and the workflow that all partners followed for the testing sessions.

2.1. Services to be tested

A total of 12 services were tested in this phase, which were the following:

1. **Capturing module:** this service consists in a technology that captures the user's body movement, face expression and handshapes and translates them into data that can be used to animate a 3D skeleton.
2. **Crowdsourcing platform:** this service is an online collaborative working platform in which several users interact to produce sign language interpreting.
3. **Gesture recognition remote control:** this service uses the same motion capture technology of the capturing module to remotely control the TV using different predefined hand movements.
4. **3D signing avatar:** using the data produced with the capturing module, this service creates a 3D avatar animation that can perform sign language interpreting.

5. **Text detection:** this service detects any text on screen and converts it into a subtitle which can, if needed, be read as an audio subtitle.
6. **Subtitles customization:** by using this service, the user can change the subtitle parameters, such as font, colour, size, in order to increase their readability.
7. **Face detection:** this service detects faces in the image being broadcast. This can be used to magnify that area of the screen, to allow for lip reading, for example.
8. **Custom magnification:** by using this service, the user can magnify the area of the screen they wish, which allows people with sight loss to see it better.
9. **Character detection:** this service detects any character that enters the image and informs the user about it.
10. **Colour-blind subtitles:** this service consists of two colour palettes specially designed to be seen by those with colour perceptions alterations.
11. **Screen reader:** this service detects text in the user interface and converts it into audio, so people with sight loss can listen to it, instead of reading it.
12. **Speech platform:** this service is a speech recognition system that lets users control the tv using simple voice commands.

The services, the partners in charge of developing them, the test modality and the language in which the test was performed are summarized in Table 1.

Partner	Service and test modality	Language involved
CERTH	Capturing module (online + live face to face)	Greek Sign Language, Spanish Sign Language
	Crowdsourcing platform (live face to face)	Greek Sign Language, Spanish Sign Language
	Gesture recognition control (live face to face)	The technology is non-language dependant, but the tests were conducted in Greek
	3D signing avatar (live face to face)	Greek Sign Language, Spanish Sign Language
UPM	Text detection (online)	English, Spanish and Italian
	Subtitles customization (online)	English, Spanish and Italian
	Face detection (online)	English, Spanish and Italian
	Custom magnification (online)	English, Spanish and Italian
	Character detection (online)	English, Spanish and Italian
CCMA	Colour-blind subtitles (live face to face)	Catalan
	Screen reader (live face to face)	Catalan
MV	Speech platform (online + live face to face)	Italian and Catalan (live only)

Table 1 Intermediate tests details

2.2. Questionnaires

It was decided by all partners that all the users participating in the intermediate tests would share the same questionnaire, so it would be easier to compare results. This decision was taken after the first project review, in which reviewers suggested not to separate users by disabilities, since one technology could be useful for more than a group. For example, audio subtitles, although initially thought as a service for people with sight loss, could be interesting for deaf people as well, since they can act as clean audio. The sections contained in the questionnaire informants were presented with were as follows.

2.2.1. Demographics

Only two questions integrated the demographics section of the questionnaire so that it would fit all the tests:

1. Highest level of studies reached:

- ☐ Lower than primary education
- ☐ Primary education
- ☐ Secondary education
- ☐ Advanced vocational education
- ☐ First cycle university education (diploma, degree or graduate studies)
- ☐ Second cycle university education (master, postgraduate or doctoral studies)
- ☐ Prefer not to tell

2. How would you define yourself? (more than one could be selected)

- ☐ Sight loss
- ☐ Blind
- ☐ 65+
- ☐ Hearing loss
- ☐ I'm deaf or hard of hearing, and I prefer to use sign language on my everyday life
- ☐ I'm deaf or hard of hearing, and I prefer to use oral language on my everyday life
- ☐ Prefer not to tell
- ☐ Other (please, indicate):

In both questions, users were given the choice of not answering in case they did not feel comfortable with giving personal information. Also, the second question aimed at avoiding the usual approach of focusing only on blind or deaf users by giving more options and even by offering users the opportunity to define themselves the way they thought to be most appropriate.

2.2.2. System Usability Scale (SUS)

The SUS is amongst the most popular usability testing tools due to its many advantages, such as its brevity and robustness, as well as it being free of charge (Katsanos *et al.*, 2012: 302; Bangor *et al.*, 2008). Despite its simplicity, Tullis and Stetson (2004) noted that the SUS yielded very reliable results across sample sizes. It has also been successfully applied to a wide range of devices and systems (learning management systems, landline telephones, non-web graphical user interfaces, automated telephone interfaces, web-based interfaces, to name a few), which proves its flexibility and lack of dependence towards the system under study. It was designed by John Brooke and it consists of just ten questions, half of which are positive statements, while the rest are negative. These questions are alternated and presented in a fixed standardised order. Informants need to express how much they agree with the proposed statements selecting one of the five options available, ranging from “strongly disagree” to “strongly agree”. Final scores for the SUS can range from 0 to 100, where higher scores indicate better usability. Based on research, a SUS score above a 68 would be considered above average and anything below 68 is considered below average.

Since the number of informants in this test were quite low, a final SUS score was not obtained in this intermediate stage of the project. Instead, it will be calculated for the final tests. Yet, the statements suggested by the SUS were still used to test the usability of the services developed.

1. I think that I would like to use this service frequently
2. I found the service unnecessarily complex
3. I thought the service was easy to use
4. I think that I would need the support of a technical person to be able to use this service
5. I found the various functions in this service were well integrated
6. I thought there was too much inconsistency in this service
7. I would imagine that most people would learn to use this service very quickly
8. I found the service very cumbersome to use
9. I felt very confident using the service
10. I needed to learn a lot of things before I could get going with this service

2.2.3. Net Promoter Score (NPS)

Net Promoter Score was also included in the questionnaire. This score is calculated based on responses to a single question: “How likely would you recommend our company/ product/ service to a friend or colleague?”. Respondents are asked to rate their response in a 0 to 10 scale, in which 0 means “definitely not” and 10 means “I would recommend it for sure”. Those who respond with a score of 9 to 10 are called “promoters”; those who respond with a score of 0 to 6 are labelled as “detractors”; and those responding from 7 to 8 are considered “passives”.

NPS calculation is done using the NPS formula that calculates the overall score by subtracting the percentage of detractors from the percentage of promoters. Passives can be ignored in the calculation. Once the score is calculated, the NPS grade scale can be consulted to see how each service can be classified as (Fig. 2).

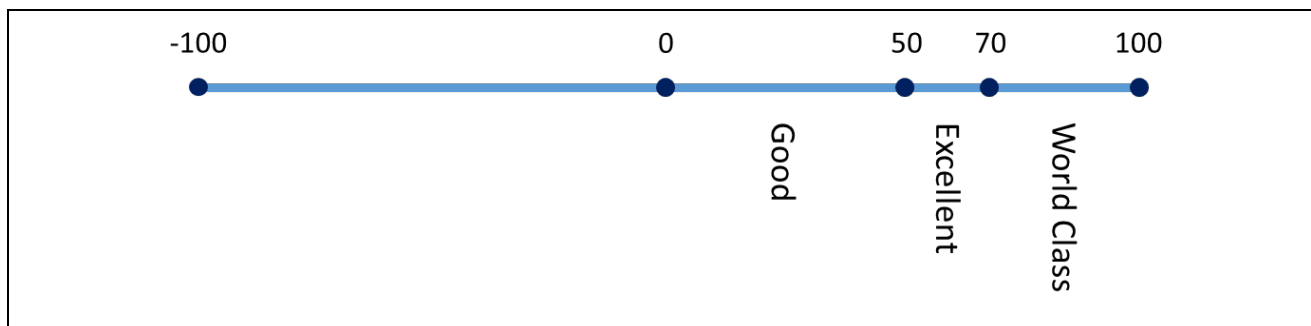


Fig. 2 NPS grade scale

In the EasyTV intermediate tests, this question was followed by an open-ended question in which informants were asked to justify their score.

2.2.4. Others

Apart from the demographic questions, the questions based on the SUS questionnaire and the NPS, the following four more questions were added:

1. Did you know about or have you ever used this kind of service before? If so, which one?
2. Do you think we should continue researching and developing on this area of TV service?
 - ☐ Yes
 - ☐ No
 - ☐ Prefer not to tell
3. If you would like to suggest any new functionality or improvement, you can do it now.

4. Is there anything you would like to add?

The first question was considered to be important because previous experience with similar technology could have an impact on the results. Informants were given some space to write in case they wanted to share the type of technology they had experience with.

The second question asked informants if they thought that researching that service was worth it. The addition of this question was required by the reviewing committee in the first annual review. Its main goal was to know if the services being developed in the project were relevant enough to keep working on them. The question was compulsory, but allowed the informants to choose a “prefer not to tell” option besides the usual “yes” or “no”.

The third of these additional questions allowed informants to suggest new functionalities or modifications that they considered could be added to the service to improve it. It was a non-compulsory open-ended question.

Finally, at the end of the questionnaire, another open-ended question was added. This one let informants make any other comments that they considered to be valuable to our project. That space could also be used to add information about the informant’s demographic profile that was not reflected in the first two questions or inform the developers about issues that were not necessarily usability-related.

2.3. Workflow

Partners were asked to follow two types of workflows to make sure that everybody carried out the tests in the same way. There were two possible test modalities: live face to face and online. The next subsections reproduce the steps that were recommended for each one.

2.3.1. Workflow for live intermediate tests

The workflow for live face to face tests was as follows:

- Stage 1: Welcome users + Introduction

In case of face to face testing, partners had to make sure the atmosphere was comfortable for the participants, with an adequate room arrangement and a proper internet connection. During the introduction, partners were asked to welcome informants and inform them about the test (for example, what exactly they would be testing) and the protocol.

- Stage 2: Users were paired with a computer/tablet

Partners needed to provide a computer/tablet already connected to the EasyTV testing platform. Users selected the service they would be testing and their preferred language. Partners assisted them at this point.

- Stage 3: Users read online information sheet + consent form

Partners offered informants with sight loss either to use a screen reader or read the consent form and information sheet aloud to them. Partners made sure informants consented taking part in the test by selecting ‘yes’ on the consent form before proceeding.

- Stage 4. Users interacted with the service

Each partner had to write down the tasks users were asked to perform during the live face to face test. These instructions are included in the report each partner sent to WP6 leader (UAB) by the end of the intermediate testing phase.

- Stage 5. Users answered the questionnaire for each service tested

After interacting with the service, users went back to their computer/tablet and answered the questionnaire online in their own language.

- Stage 6. Farewell and thanks

- Stage 7: Each partner analysed the results of its own questionnaires
- Stage 8: Partners filled in the intermediate tests template for each service as a summary of the results together with future lines of action and sent it back to UAB by April 5th 2019.

2.3.2. Workflow for online intermediate tests

The workflow for online tests was as follows.

- Stage 1: Users were contacted and briefed

Users were contacted via email by user associations and briefly informed about the aim of the project and the service they would be testing. The email also provided the link of the EasyTV testing platform. Users were told to just follow the steps indicated in the platform and they were also informed about the deadline to complete the test.

- Stage 2: Users entered the EasyTV testing platform, read the information and consent form and, if willing to take part in the test, proceeded watching the video and answered the questions.
- Stage 3: Each partner analysed its own questionnaires after the deadline proposed to users.
- Stage 4: Partners filled in the intermediate tests template for each service as a summary of the results together with future lines of action and sent it back to UAB by April 5th 2019.

3. ETHICAL ISSUES

Deliverable 9 (D.9, M6) included all the ethical issues that the EasyTV project had taken into consideration so far. Since almost all the information included in that deliverable still applies, and for the sake of brevity, following only the latest changes regarding data protection regulations are presented.

3.1. Payment

In this phase it was agreed that UICI would pay the Spanish National Association of the Blind (Organización Nacional de Ciegos Españoles, ONCE) so that they would cooperate with user recruitment. It was also specified that their collaboration was needed in order to avoid project partners gathering users' personal data. Both CCMA and MV paid users' transportation from their homes to the testing venue. This amendment was approved by UAB's Ethics Committee and they highlighted that the payment had to be justified with each participant's transport receipt. The new ethics certificate is in [annex 7.30](#).

3.2. Data protection

In May 2018 the "Regulation 2016/679 — protection of natural persons with regard to the processing of personal data and the free movement of such data" (GDPR) came into effect. This regulation substitutes the previous one from 1995, hence the EasyTV project having to take into consideration the new rights provided for European citizens. This new regulation aims at EU citizens better controlling their personal data. Some of the key points raised by the GDPR are the following:

- easier access to their data: including providing more information on how that data is processed and ensuring that that information is available in a clear and understandable way;
- clearer data process;
- a clearer right to erasure: when an individual no longer wants their data to be processed and there is no legitimate reason to keep it, the data will be deleted;
- right to know when their personal data has been hacked: companies and organisations will have to inform individuals promptly of serious data breaches.

This new data management regulation was complied with by:

- Selecting a data protection officer. In this case it was Dr Pilar Orero from UAB.
- Making sure users gave their informed consent so that their data was processed for a specific purpose. Both the information and the consent were delivered in accessible ways whenever the informants required so.
- Making sure users could stop the test and withdraw their consent at any time without being subject to negative consequences.
- Making sure the only personal data asked for was that indispensable for more accurate analysis of the results i.e., their educational level and the impairment they suffer from (data minimisation and anonymity).
- Making sure the information that users were presented with was understandable and clear enough.
- Granting informants the new rights recognized in this new directive, i.e., right to transparency of information, right of erasure, right of limitation and right to portability.
- By specifying how long their data would be stored for.

Also, two partners (CCMA and CETH) declared their intention to take pictures of the informants during the tests. For this reason, an image and video recording consent form was drafted in Catalan and English, so the informants could show their agreement to this matter. The form can be found in annex [7.20](#) and [7.21](#). The photos are included in annex [7.22](#).

4. RESULTS OF THE INTERMEDIATE TESTS

All the tests, both on-line and live face to face, were carried out during the last week of March 2019. The results are presented in this section. In principle, the results for each service include the data gathered in both test modalities. When substantial differences were found among them, the results obtained in the online and live tests are presented separately.

4.1. Crowdsourcing platform (CETH)

This test took place in UPM, Madrid, and in the Centre of Greek Sign Language, Thessaloniki, on March 21st and 29th and April 1st and 3rd. Eleven users, both from Spain and Greece, were recruited by FCNSE to participate in the tests, which were conducted in Spanish and Greek Sign Language, respectively.

The informants were asked to interact with the online platform by registering as a new member to the platform, logging in and checking the pending crowdsourcing tasks and fulfilling a task by using the appropriate files.

The test had an approximate duration of 15 minutes.

4.1.1. Description of the informants' demographic profile

In this section, the demographic data collected during intermediate tests is reported for the 11 informants (i.e., 5 Greek SL and 6 Spanish SL users).

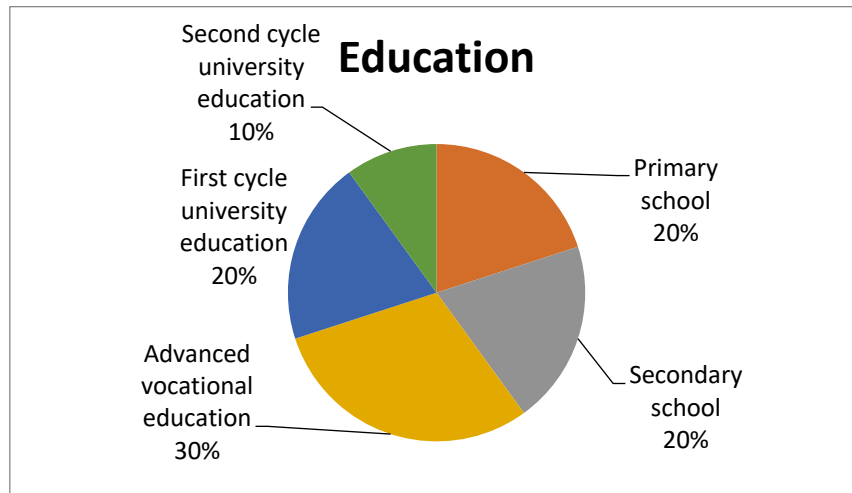


Fig. 3 Demographic Info - Education Level (Crowdsourcing platform)

Regarding the demographic profile of the informants, Fig. 3 shows the percentages of the informants' educational level. We can conclude that 60% of the informants had a higher than "Advanced vocational education level", while 20% of the informants had attended only primary school.

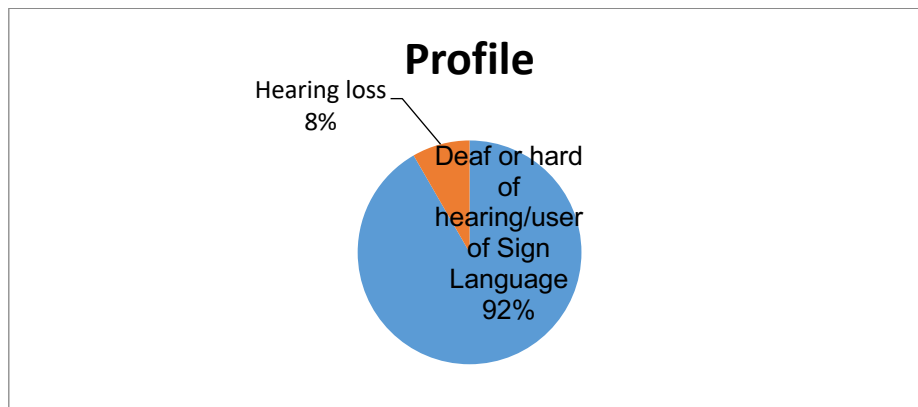


Fig. 4 Demographic Info – Disabilities (Crowdsourcing platform)

Regarding the disability demographics of our informants, it should be noted that our purpose was to include users with good command of a sign language. As a result, all informants had a certain type of hearing loss that made them users of sign language.

4.1.2. SUS results

In this section we present the results of the SUS questionnaire that the informants of the intermediate live testing completed after their interaction with the EasyTV Crowdsourcing platform.

Initially, the users were informed about the scope of the platform and how it's going to be part of the pipeline of the whole system. Afterwards, an expert instructed the users to sign up by providing basic information (i.e., email, language, etc.) and subsequently participate by fulfilling a pending task.

This step had the prerequisite that the platform's user had completed a session with the capturing module and has produced the required files.

At the end, a SUS questionnaire was answered, and comments were gathered from the

informants. The SUS results are presented in Table 2, while the individual SUS scores are shown in Fig. 5.

N.	Participant s	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Scales			
		I think that I would like to use this feature frequently.	I found the feature unnecessarily complex.	I thought the feature was easy to use.	I think that I would need the support of a technical person to be able to use this	I found the various functions in this feature were well integrated.	I thought there was too much inconsistency in this feature.	I would imagine that most people would learn to use this feature very quickly.	I found the feature very cumbersome to use.	I felt very confident using the feature.	I needed to learn a lot of things before I could get going with this feature.	Odd items	Even items	SUS score (/100)	Grade s
1	user 1	4	5	4	5	4	2	4	1	5	1	16	11	67.5	D
2	user 2	2	3	2	5	3	2	2	4	2	2	6	9	37.5	F
3	user 3	4	2	4	2	4	2	4	2	4	2	15	15	75	B
4	user 4	4	3	3	3	4	3	2	3	3	4	11	9	50	F
5	user 5	4	1	5	3	4	1	5	1	5	1	18	18	90	A
6	user 6	3	3	3	3	3	3	3	3	3	3	10	10	50	F
7	user 7	4	2	4	5	4	3	1	3	3	5	11	7	45	F
8	user 8	4	3	3	4	3	2	4	4	2	3	11	9	50	F
9	user 9	2	4	2	1	4	3	4	3	4	2	11	12	57.5	D
10	user 10	3	1	5	2	3	1	3	1	4	1	13	19	80	B
11	user 11	3	2	2	5	4	2	4	3	3	5	11	8	47.5	F
													Total Score	59.09	D

Table 2 SUS responses and scores (Crowdsourcing platform)

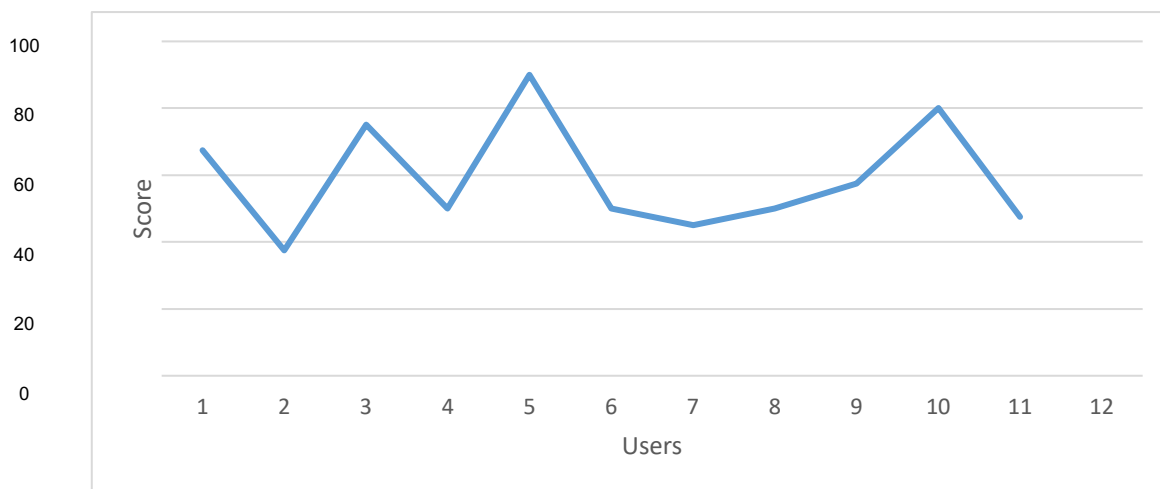


Fig. 5 Individual SUS scores (Crowdsourcing platform)

The overall SUS score for the Crowdsourcing platform was equal to 59.09 which is considered a 'OK/fair' result by looking at the SUS score scale, although slightly lower than the average score of 68. The corresponding SUS grade of the crowdsourcing platform is, therefore, D.

4.1.3. NPS results

Table 3 presents the NPS individual scores for each participant with respect to their interaction with the Crowdsourcing platform.

Response	Number	Percentage
1	7	8.97%
2	6	7.69%
3	8	10.26%
4	6	7.69%
5	9	11.54%
6	7	8.97%
7	5	6.41%
8	9	11.54%
9	6	7.69%
10	8	10.26%
11	7	8.97%
Total	78	100%

Table 3 NPS Individual scores (Crowdsourcing platform)

From Table 3, we can conclude that from the 11 informants, 2 of them can be classified as promoters by giving a score of 9, while 4 of them are classified as detractors by giving a score less than 7 to the Crowdsourcing platform. Table 4 and Fig. 6 show the distribution of the informants to the three user types as proposed by their NPS scores: promoters, neutrals and detractors.

Net Promoter Score Calculation		
	Number	Percentage
Promoters	2	18%
Neutrals	5	45%
Detractors	4	36%
Total	11	100%
Net Promoter Score		-18.2

Table 4 NPS score calculation (Crowdsourcing platform)

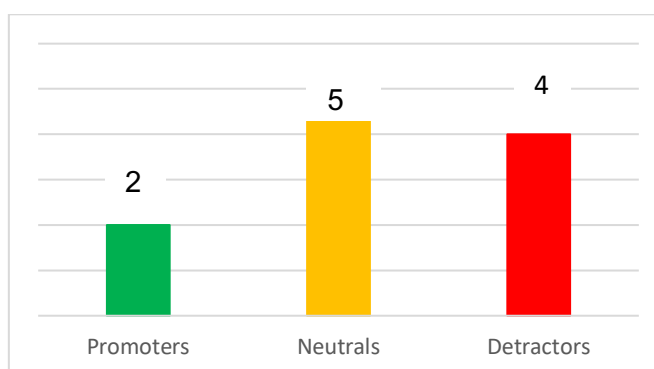


Fig. 6 Chart of NPS data (Crowdsourcing platform)

From the NPS results, we can conclude that the majority of users were neutral with respect to their acceptance of the crowdsourcing platform. As a result, improvements should be made, such as the integration of the platform with the rest of the EasyTV services and the better clarification of the advantages of such a platform in order to increase the number of promoters and decrease the number of detractors.

4.1.4. Qualitative comments made

Based on the online questionnaire, about 91% of the informants believed that research and development should be carried on this service. Furthermore, the main comments that were made with respect to the crowdsourcing platform are presented in Table 5 and concern the wider use of such a platform in more commercial areas.

No.	COMMENTS
1	It would be useful to have accessibility to information in the busy areas of airports, train stations, buses or in commercial areas

Table 5 Main qualitative comments (Crowdsourcing platform)

4.1.5. Test conclusions

The feedback from the informants during the live tests is going to be valuable and helpful towards upgrading aspects of the platform's usability in order to make it more appealing to an average non-expert user.

The results could be partially interpreted by the fact that the platform at this stage of integration (still not integrated with the 3D avatar and the multilingual ontology) is not straightforward to the user. However, a great benefit is that most users recognize the potential of such a service.

Moreover, according to the comments Greek users provided orally during the live tests, we can conclude that they believe that such a platform targeting to expand knowledge around sign languages seems interesting and helpful. However, they argue that there should be a clearer initiative for the users to participate and a better way to communicate to them the benefits of such a service.

4.1.6. Actions to be taken for service improvement

To summarize, the most important points that have been identified and should be corrected during next actions are:

- We should simplify the workflow a user has to follow in order to fulfil a task. This means that the required steps should start seamlessly upon the user's interaction with the 'Capturing module' in order to minimize the effort of fulfilling a crowdsourcing task.
- We should provide additional and more tangible ways that a user may benefit from the submitted multilingual SL content. This potential is reasonable for a multilingual platform that will seek to build a knowledge database by crowd participation. This is indicated by the fact that the users who answered the question "*Did you know or have you ever used this kind of service before?*" reported a service related to content sharing and online course. This means that the crowdsourcing platform is a concept that is currently not clearly presented. To this direction, the platform should offer more interactive ways to the user in order to gain from the future content and realize the benefits to participate in it.

4.2. Gesture recognition to send commands to TV (CERTH)

This test took place in the CERTH premises, Thessaloniki, from March 27th to 28th. Five users from Greece, participated in the tests, which were conducted in Greek.

The functionality of the Gesture Remote controller was demonstrated live and users were asked to repeat the process on their own. The test had an approximate duration of 15 minutes.

4.2.1. Description of the informants' demographic profile:

As far as the demographic profile of the informants is concerned, Fig. 7 shows the percentages based on users' educational level. As it can be seen, all informants had completed at least a

bachelor's degree in a university, while 60% of them had additional master or doctoral degrees.

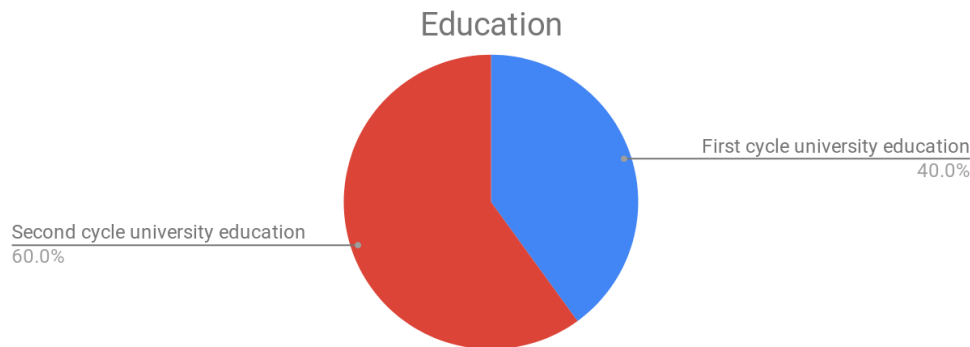


Fig. 7 Education level (Gesture Remote Controller)

Regarding users' profile, no user belonged to any disability group since the gesture remote controller does not require specific user profiles for testing. As a result, all users were selected from the IT area due to their expertise with software development that we believe is crucial in order to obtain valuable feedback for the gesture remote controller.

4.2.2. SUS results

Table 6 shows the results for the SUS questionnaire, while Fig. 8 presents a graph with the individual scores. As it can be seen, the overall score was 77.5, which can be considered as a really good result (higher than the average score of 68). Furthermore, there was only one score that was lower than the average (62.5), while the two best scores were equal to 85. These results show that there was a generally positive feedback towards the gesture remote controller.

No.	Participants	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Scales			
		I think that I would like to use this feature frequently.	I found the feature unnecessarily complex.	I thought the feature was easy to use.	I think that I would need the support of a technical person to be able to use this feature.	I found the various functions in this feature were well integrated.	I thought there was too much inconsistency in this feature.	I would imagine that most people would learn to use this feature very quickly.	I found the feature very cumbersome to use.	I felt very confident using the feature.	I needed to learn a lot of things before I could get going with this feature.	Odd items	Even items	SUS score (/100)	Grades
1	user 1	4	1	4	3	5	2	4	2	4	3	16	14	75	B
2	user 2	5	5	5	2	3	1	5	1	5	2	18	14	80	B
3	user 3	4	1	4	1	4	2	4	1	4	1	15	19	85	A
4	user 4	4	2	4	2	5	1	5	2	5	2	18	16	85	A
5	user 5	2	2	2	1	5	1	2	3	2	1	8	17	62.5	D

	Number	Percentage
Promoters	3	60%
Neutrals	1	20%
Detractors	1	20%
Total	5	100%
	Net Promoter Score	40

Table 8 NPS score calculation (Gesture Remote Controller)

Finally, Fig. 9 presents the classification of the users according to the three types defined in NPS: promoters, neutrals and detractors. One can observe that the majority of users were promoters. With additional improvements and refinements to the functionalities of the gesture remote controller, we can attempt to convert the other two users (i.e., neutral and detractor) towards more positive NPS scores.

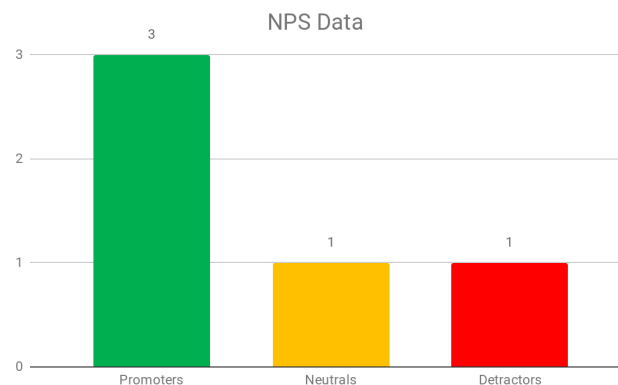


Fig. 9 NPS user classification (Gesture Remote Controller)

4.2.4. Qualitative comments made

The main qualitative comments provided by the users during the test are included in Table 9. The users praised the easiness of use, but there were also complaints about the accuracy and speed of some sub-functionalities of the gesture remote controller that need to be addressed.

No.	COMMENT
1	It seems easy and fast to use.
2	It is easy to use
3	It can be especially useful after future improvements to the accuracy and speed.

Table 9 Main qualitative comments (Gesture Remote Controller)

4.2.5. Test conclusions

Based on the obtained results, we can conclude that the users were positively inclined towards the gesture remote controller (SUS score of 77.5 is higher than the average of 68). The users liked usability of this module, but they pointed out some room for improvement. More specifically, we can improve some functionalities of the gesture remote controller in terms of speed and accuracy, while also introducing some additional functionalities that were requested by the users during the testing (i.e., better transition between gesture and cursor control modes and ability to change languages on gesture control mode). Regarding the NPS score, all the suggestions for improvement made by users should be implemented in order to increase the number of promoters and avoid the appearance of additional detractors.

4.2.6. Actions to be taken for service improvement

According to the comments received, there are two main measures of improvement for the gesture remote controller:

- We need to implement additional functionalities for better navigation in the gesture remote controller.
- We need to improve the accuracy and speed of some functionalities of the gesture remote controller.

4.3. Sign Language Capturing Module (CERTH)

This test took place in UPM, Madrid, and in the Centre of Greek Sign Language, Thessaloniki, on March 21st and April 1st and 2nd. Twelve users, both from Spain and Greece, were recruited by FCNSE to participate in the tests, which were conducted in Spanish Sign Language and Greek Sign Language.

The tests were conducted using face-to-face interaction. Initially, each user was given instructions about the functionalities of Signer3D and a short demonstration from the instructor followed in order to showcase the functionalities of the software. Finally, the user was asked to use the software for a single capturing session and record either another signer or himself/herself. The test had an approximate duration of 20 minutes.

4.3.1. Description of the informants' demographic profile:

With regards to the demographic profile of the participants, Fig. 10 shows the percentages based on users' educational level. As it can be seen, 84% of the informants had a university or vocational educational background.

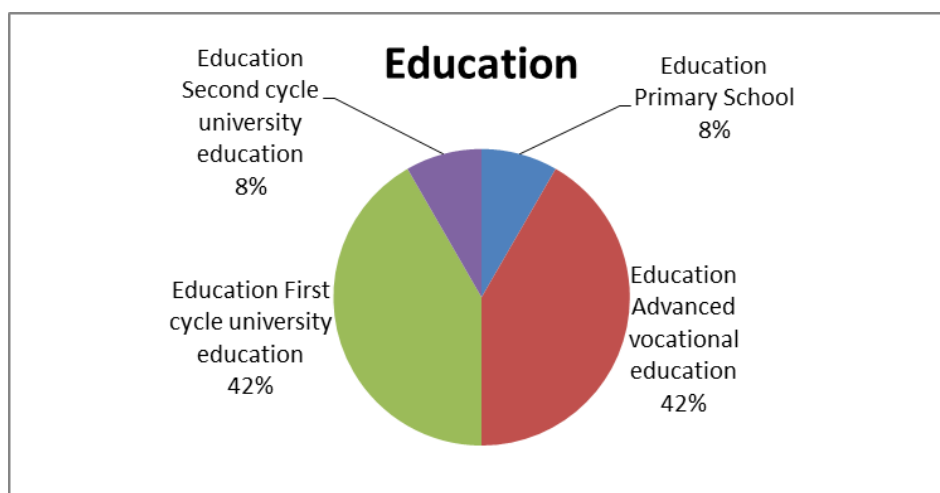


Fig. 10 Demographic info- Education level (Signer3D)

Regarding users' profile, Fig. 11 shows that most users were either deaf or hearing impaired.

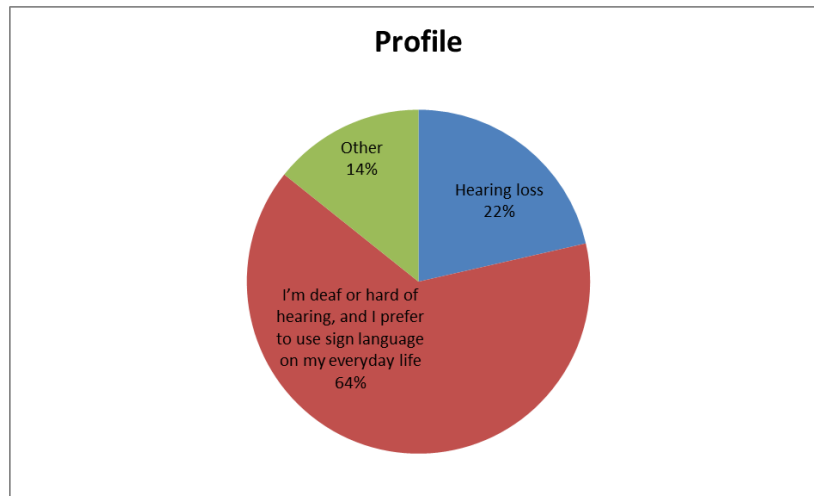


Fig. 11 Demographic info – Disabilities (Signer3D)

4.3.2. SUS results

Table 10 shows the results for the SUS questionnaire, while Fig. 12, presents a graph with the individual scores. The overall score was 57.92, which is considered a fair result, although below the average SUS score of 68. Nevertheless, results are distributed in all SUS categories, with four users reporting below average scores. The lowest score was 22.5 while the highest was 85.

ID.	Participants	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Scales			
		I think that I would like to use this feature frequently.	I found the feature unnecessarily complex.	I thought the feature was easy to use.	I think that I would need the support of a technical person to be able to use this feature.	I found the various functions in this feature were well integrated.	I thought there was too much inconsistency in this feature.	I would imagine that most people would learn to use this feature very quickly.	I found the feature very cumbersome to use.	I felt very confident using the feature.	I needed to learn a lot of things before I could get going with this feature.	Odd Items	Even Items	SUS score (/100)	Grades
1	user 1	4	3	4	4	5	1	3	1	5	4	16	12	70	B
2	user 2	3	3	3	5	3	2	2	3	3	4	9	8	42.5	F
3	user 3	4	2	4	2	4	2	4	2	4	2	15	15	75	B
4	user 4	5	5	5	5	4	1	5	4	4	4	18	6	60	D
5	user 5	4	4	3	2	5	2	4	4	4	4	15	9	60	D
6	user 6	1	5	1	3	1	4	3	2	5	2	6	9	37.5	F
7	user 7	1	5	1	3	1	5	3	2	1	3	2	7	22.5	F
8	user 8	1	5	1	3	1	4	3	2	5	2	6	9	37.5	F
9	user 9	3	1	5	1	4	1	4	1	3	1	14	20	85	A
10	user 10	2	2	5	2	4	2	4	2	4	1	14	16	75	B
11	user 11	4	2	3	1	3	4	4	3	4	1	13	14	67.5	D
12	user 12	4	2	4	4	3	2	3	2	4	3	13	12	62.5	D
Total Score														57.92	D

Table 10 SUS responses and scores (Signer3D)

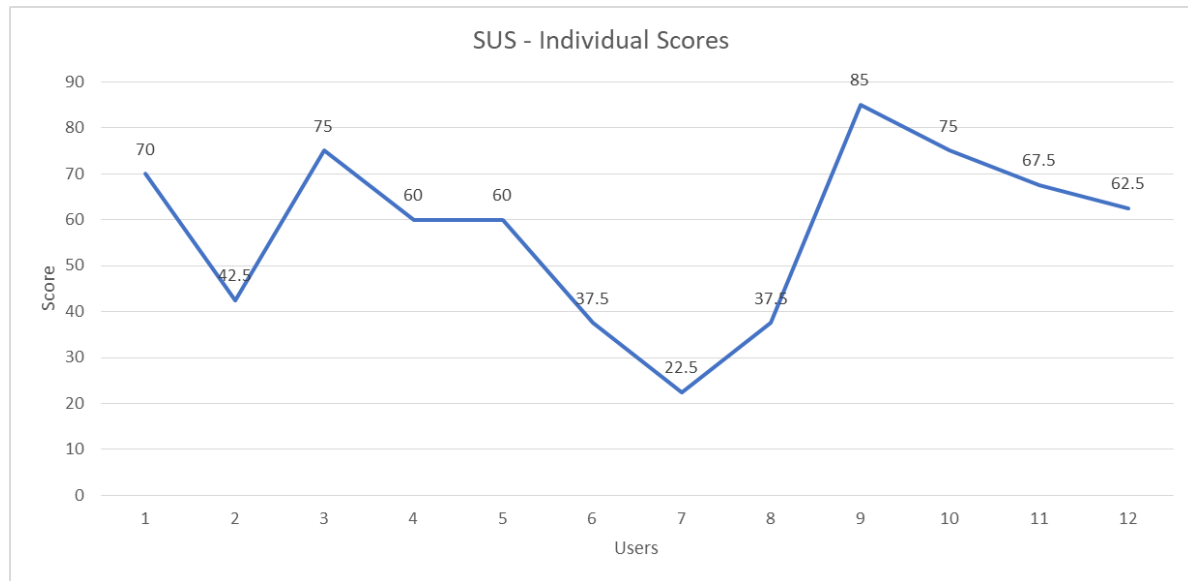


Fig. 12 Chart graph of SUS scores (Signer3D)

4.3.3. NPS results

The scores obtained for the NPS scale are included in Table 11. As it can be seen, there was only a single promoter, while most of the users were considered detractors. Furthermore, there were also five neutral users that provided scores in range 7-8.

Response	Number	Percentage
1	7	9.09%
2	6	7.79%
3	8	10.39%
4	10	12.99%
5	7	9.09%
6	5	6.49%
7	5	6.49%
8	5	6.49%
9	8	10.39%
10	3	3.90%
11	7	9.09%
12	6	7.79%
Total	77	100%

Table 11 NPS individual scores (Signer3D)

Table 12 and Fig. 13 show the distribution of the three types of users (i.e., promoters, neutrals, detractors) as they are defined by the NPS scale. Moreover, the Net Promoter Score of the Signer3D service is also presented.

	Number	Percentage
Promoters	1	8%
Neutrals	5	42%
Detractors	6	50%
Total	12	100%
Net Promoter Score		-41.7

Table 12 NPS score calculation (Signer3D)

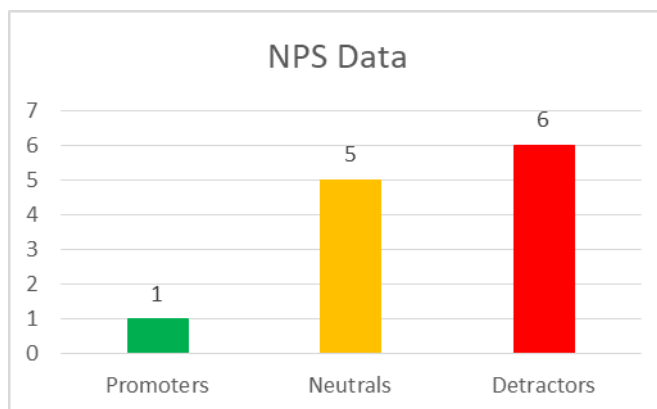


Fig. 13 NPS user classification (Signer3D)

From the NPS scores of the Signer3D service, we can conclude that it is imperative to take into account the user feedback in order to increase the number of promoters and suppress the number of detractors.

4.3.4. Qualitative comments made

The main qualitative comments provided by users during the intermediate test are included in Table 13. Some users found the application interesting, while others questioned the potential of the service for producing a realistic signing avatar.

No.	COMMENT
1	I like it.
2	It is interesting.
3	It seemed complex and I needed help.
4	I think the tool can be used but I do not think it can be used to get a good avatar.
5	Make the result of the video look like a person not like a doll made with stripes. The recording process should be done in fewer steps.
6	It may interest other users. I would use the tool to record signs, but I do not think it serves to make a good avatar.
7	I think it's good to learn new tools and I prefer to see more videos to evaluate. At the moment no, thank you.
8	Because there is no easy expression and "lip reading".
9	I would recommend it to people trained in LS with high level.

Table 13 Main qualitative comments (Signer3D)

4.3.5. Test conclusions

The intermediate tests revealed that most of the users were not satisfied with the preliminary version of Signer3D. Some of the negative comments concerned the complexity of using the service. Moreover, while the tests focused on the application usability, some comments were

reported for the quality of the realistic avatar. On the other hand, feedback also included positive comments stating that users found that using the service was interesting. Our next steps concern the modification of the UI to meet the requests of the users and also the generation of higher quality data for driving the EasyTV realistic signing avatar.

4.3.6. Actions to be taken for service improvement

According to the comments gathered, there are two main measures of improvement:

- We need to reduce the steps for the recording process (i.e., fewer UI buttons).
- We need to refine exported data in order to ensure acceptable and realistic avatar playback.

4.4. 3D Signing Avatar (CERTH)

This test took place online and live, from March 26th to 29th. Five users from Spain were recruited by FCNSE to participate in the tests, which were conducted in Spanish Sign Language.

The tasks consisted in watching a video with three sentences in Spanish Sign Language performed by the 3D avatar. The test had an approximate duration of 5 minutes.

4.4.1. Description of the informants' demographic profile:

Fig. 14 shows percentages based on users' educational level. As it can be seen there was a high level of education.

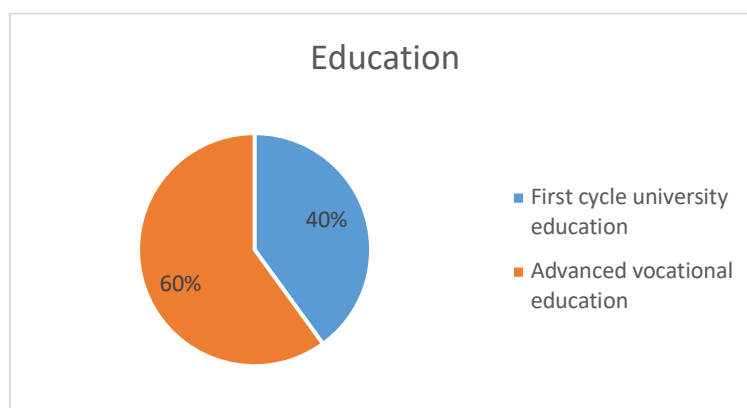


Fig. 14 Education level (Signing Avatar)

Regarding their profile, Fig. 15 shows that the majority of users suffered from hearing loss and only one person was older than 65.

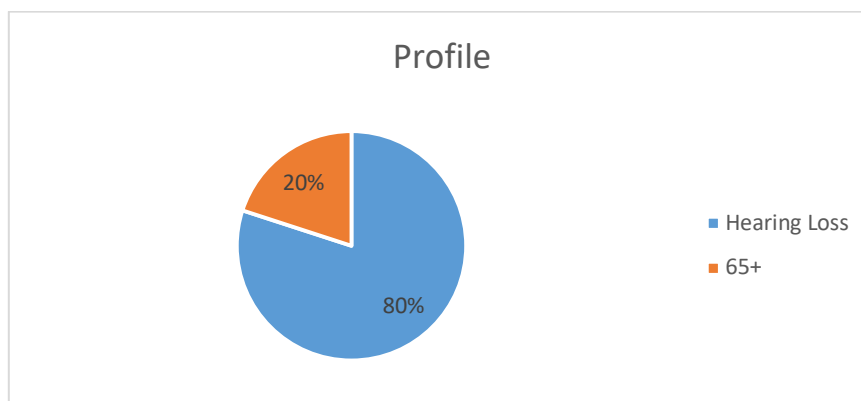


Fig. 15 Disabilities (Signing Avatar)

4.4.2. SUS results

Table 14 shows the results for the SUS questionnaire while Fig. 16 presents a graph with the individual scores. The overall score was 49.50, which was quite lower than average.

N.	Participants	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Scales			
		I think that I would like to use this feature frequently.	I found the feature unnecessarily complex.	I thought the feature was easy to use.	I think that I would need the support of a technical person to be able to use this feature.	I found the various functions in this feature were well integrated.	I thought there was too much inconsistency in this feature.	I would imagine that most people would learn to use this feature very quickly.	I found the feature very cumbersome to use.	I felt very confident using the feature.	I needed to learn a lot of things before I could get going with this feature.	Odd items	Even items	SUS score (/100)	Grades
1	user 1	1	5	1	1	1	5	1	5	1	1	0	8	20	F
2	user 2	1	1	1	1	3	5	5	5	5	1	10	12	55	D
3	user 3	1	1	1	1	1	5	2	1	3	1	3	16	47.5	F
4	user 4	4	1	5	1	5	1	5	1	5	1	19	20	97.5	A
5	user 5	1	5	1	1	2	5	3	5	1	1	3	8	27.5	F
													Total Score	49.50	F

Table 14 SUS responses (Signing Avatar)

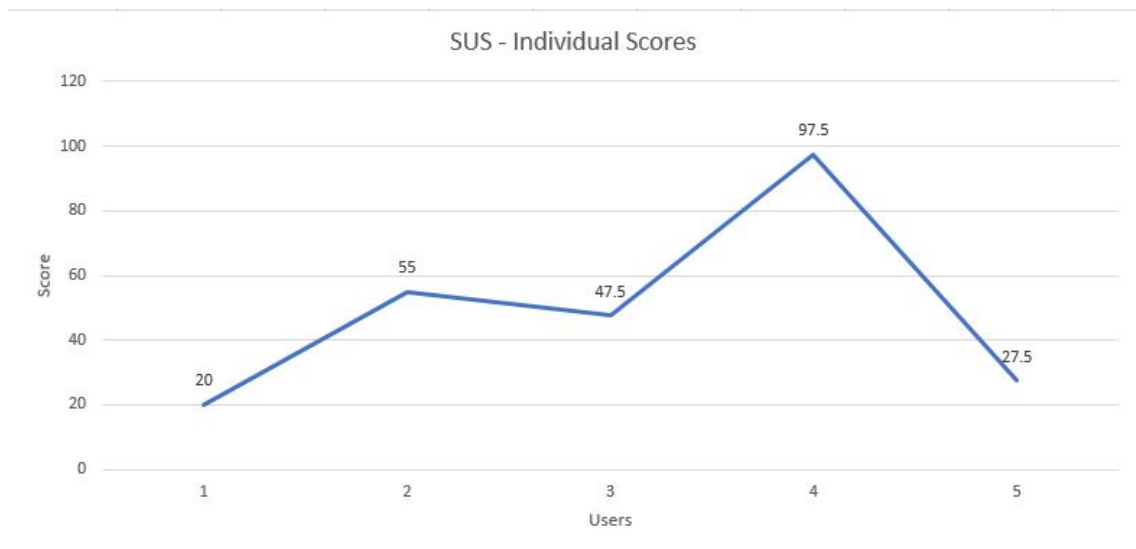


Fig. 16 Chart graph of SUS scores (Signing Avatar)

4.4.3. NPS results

The scores obtained for NPS scale are included in Table 15. As can be seen the majority of the users gave the lowest possible score and become detractors while just one user provided a higher score.

Response	Number	Percentage
1	1	9.09%
2	1	9.09%
3	1	9.09%
4	7	63.64%
5	1	9.09%

Total	11	100%
--------------	-----------	-------------

Table 15 NPS individual scores (Signing Avatar)

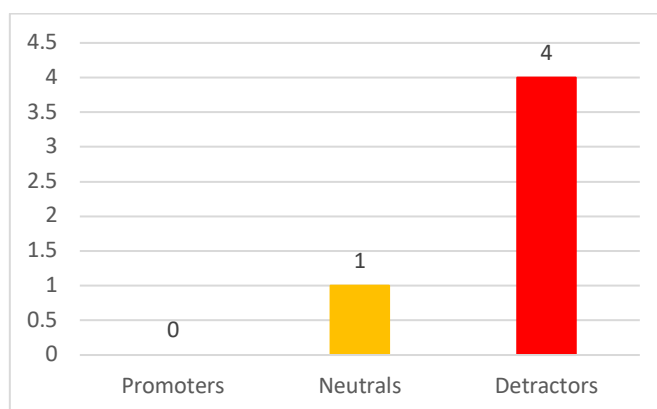
Table 16 shows the percentages of the neutrals and detractors, together with the calculation of the Net Promoter Score.

Net Promoter Score Calculation

	Number	Percentage
Promoters	0	0%
Neutrals	1	20%
Detractors	4	80%
Total	5	100%
Net Promoter Score		-80.0

Table 16 NPS score calculation (Signing Avatar)

Fig. 17 presents the classification of the users according to the three types defined in NPS: promoters, neutrals and detractors.

**Fig. 17** NPS user classification (Signing Avatar)**4.4.4. Qualitative comments made**

The main qualitative comments, along with some suggestions, provided by users during the test are included in Table 17. The main concern is the lack of facial expressions and the fact that the movements were confusing.

No.	COMMENT
1	Research is necessary, but I think it is more realistic and productive to allocate the economic funds to improve accessibility through other resources such as increasing the number of sign language interpreters.
2	For many deaf people, the avatar is not an effective system.
3	I think it could be improved. It seems that the avatar is reluctant.
4	Placing a human.

5	He lacks firmness in the execution of the signs, and expression in his face.
6	The avatar system is not good as it does not represent sign language correctly. It can be used in exceptional cases such as train stations or airports to give a very specific information. I think it is not valid to do an automatic translation because it does not reflect the grammar rules, the facial expression and the rest of the linguistic resources that make up the sign language. The avatar does not provide accessibility.
7	The LSE is not understood, the avatar has no expression and movements are confusing.
8	It's not easy to understand, it's not the same as seeing an interpreter than an avatar... I think you should investigate more in just a short time (for example delays, cancellations, and other of any unforeseen problems) in airports, train stations, buses... but for news and other issues, no.

Table 17 Qualitative comments (Signing avatar)

4.4.5. Test conclusions

Apparently, the AVATAR lacks realism and, most important, sign language comprehension. The addition of face expressions by hand didn't manage to overcome the lack of facial recorded data. Also, the signs need to be further improved, though the corrections be made manually.

4.4.6. Actions to be taken for service improvement.

Facial expressions proved to be dramatically important for the end user comprehending the content. At this stage of development there were not any recorded data. Therefore, a temporary solution was chosen, which included a small set of basic blend shapes that represent facial expressions (smile, blink, etc.), which were imported by hand. A combination of these blend shapes was used in order to synchronize with human signer's facial expressions from video capture, also by hand. When the recorded data is included, the problem will more likely be solved.

Also, the incomplete impression of the hands signs at the recording data (for example, when thumb is hidden from other fingers or in repeated fast movements) caused a non-comprehensive result for the users. Further improvements regarding the accuracy of the data (especially rotational data) and transition between signs is necessary in order to achieve human-like realism.

4.5. Text detection (UPM)

This service was tested online by eight users, who were speakers of either Spanish or Italian. UICI and FCNSE took care of recruiting them. The test could be completed from March 19th to March 31st and it lasted for about 20 minutes. Since it was an online test, it consisted of watching a video in which a demonstration of the service was shown. Then, users had to fill in a questionnaire.

4.5.1. Description of the informants' demographic profile

With regards to the demographic profile of the participants, Fig. 18 shows the percentages based on users' educational level. As it can be seen, more than the half of them have a high level of education ("Advanced vocational education level" and beyond).

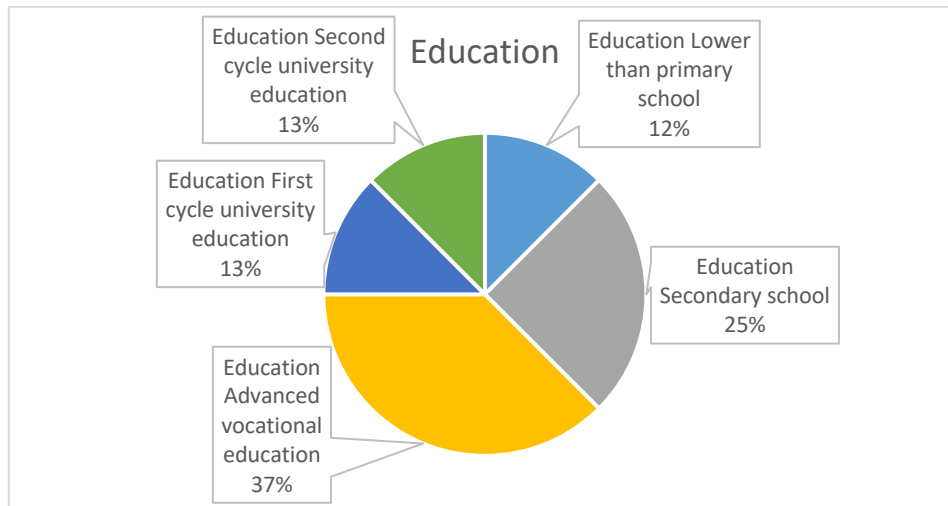


Fig. 18 Education level (text detection online tests)

Regarding users' profile, Fig. 19 shows that all the users have sight problems (total or partial). Moreover, only one person is older than 65.

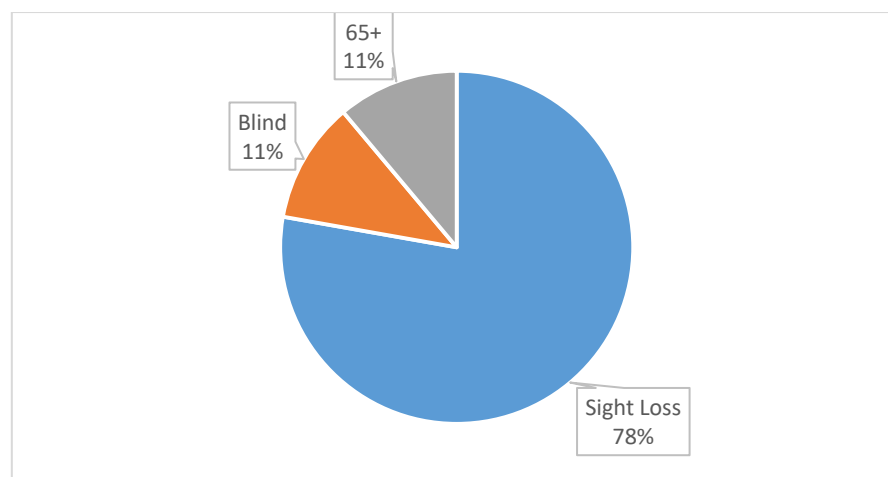


Fig. 19 Disabilities (text detection online tests)

4.5.2. SUS results

Table 18 shows the results for the SUS questionnaire while Fig. 20 presents a graph with the individual scores. As it can be seen, the overall score is 69.69, which can be considered to be a good result (higher than the average score, 68). Nevertheless, there are three scores lower than the average (one of them with a very lower score: 17.5), which should be taken into consideration.

N.	Participants	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Scales			
		I think that I would like to use this feature frequently.	I found the feature unnecessarily complex.	I thought the feature was easy to use.	I think that I would need the support of a technical person to be able to use this feature.	I found the various functions in this feature were well integrated.	I thought there was too much inconsistency in this feature.	I would imagine that most people would learn to use this feature very quickly.	I found the feature very cumbersome to use.	I felt very confident using the feature.	I needed to learn a lot of things before I could get going with this feature.	Odd items	Even items	SUS score (/100)	Grades
1	user 1	1	1	4	4	4	2	2	2	2	5	8	11	47.5	F
2	user 2	1	2	3	1	2	3	4	3	3	2	8	14	55	D
3	user 3	4	2	4	1	4	1	5	1	4	1	16	19	87.5	A
4	user 4	3	2	5	1	4	1	5	1	5	1	17	19	90	A
5	user 5	5	1	5	1	5	1	5	1	5	1	20	20	100	O
6	user 6	4	3	3	2	3	2	4	2	4	2	13	14	67.5	D
7	user 7	5	2	5	1	4	1	4	1	5	1	18	19	92.5	A
8	user 8	3	5	1	5	1	3	3	5	1	4	4	3	17.5	F
												Total Score		69.69	B

Table 18 SUS responses and scores (text detection online tests)

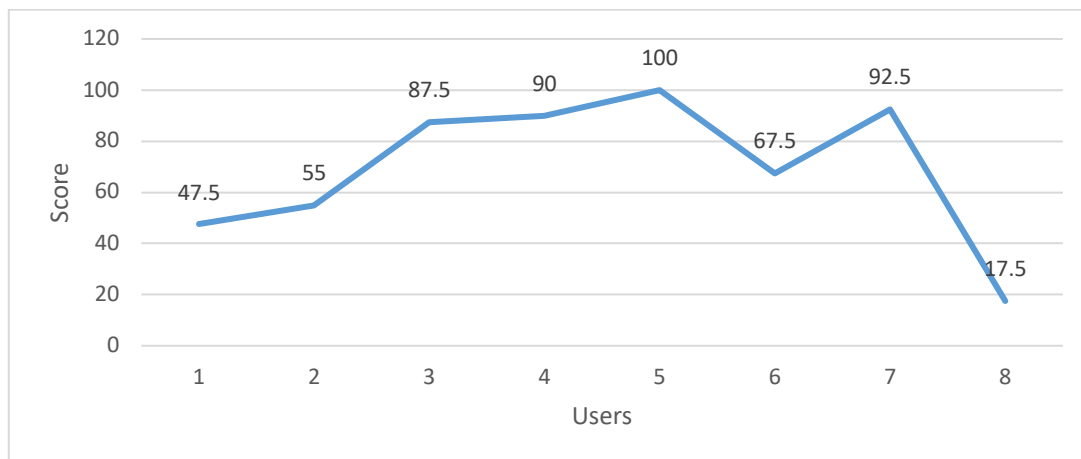


Fig. 20 Chart graph of SUS scores (text detection online tests)

4.5.3. NPS results

The scores obtained for the NPS scale are included in Table 19. As it can be seen, two users gave a very high punctuation, becoming promoters, while three of them provided low scores, becoming detractors. The remaining three users, although classified as neutral users, also provided a valuable score.

Response	Number	Percentage
1	2	3.77%
2	4	7.55%
3	9	16.98%
4	8	15.09%
5	10	18.87%
6	8	15.09%
7	8	15.09%
8	4	7.55%
Total	53	100%

Table 19 NPS individual scores (text detection online tests)

Table 20 shows the percentages of promoters, passives and detractors, together with the

calculation of the Net Promoter Score.

Net Promoter Score Calculation		
	Number	Percentage
Promoters	2	25%
Passives	3	38%
Detractors	3	38%
Total	8	100%
Net Promoter Score		-12,5

Table 20 NPS score calculation (text detection online tests)

Finally, Fig. 21 presents the classification of the users according to the three types defined in NPS: promoters, passives and detractors. As it can be seen, although there are three detractors, with an improvement of the services we will try the three passives to become promoters, in order to have a majority of promoters.

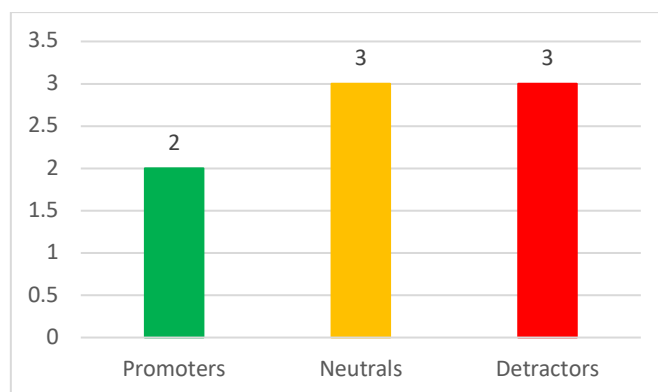


Fig. 21 NPS user classification (text detection online tests)

4.5.4. Qualitative comments made

The main qualitative comments provided by users during the test are included in Table 21. In this regard, the main complaints are related to the complexity of the functionality execution and with the voice control and audio presentation of the access contents.

No.	COMMENT
1	It seems very useful to help the visually impaired.
2	Provides a certain and immediate help to those who want to read textual information.
3	Easy to use for both young and old.
4	Helps you in everyday life. Choice of text position.
5	It allows me to read texts that I could not read without magnification before.

6	The system is cumbersome and unnecessarily complex.
7	In sum, a system would be needed to allow the disabled (blind in my case) to manage as much as possible independently of a television and a television program, subrogating the missing view with appropriate audio functions manageable by the user. I understand that the concept thus exposed is very general, but this is the spirit with which to face the problem and the logic to follow in the individual functions implemented in the system.
8	Essential functions, easy to understand and manage, presented in a simple way, without having to extrapolate them from an indestructible (or at least complex) forest of other options.

Table 21 Main qualitative comments (text detection online tests)

4.5.5. Test conclusions

Based on the results obtained, we can conclude that, although we have a SUS score slightly higher than the average (69.69), we still have room for improvement. We need to improve the perception of the service in order to assure its acceptance by taking note of the comments given by the users with the lower score. Regarding the NPS, some modifications have to be made in order to increase the number of promoters, avoiding the appearance of detractors.

4.5.6. Actions to be taken for service improvement

According to the comments made, there are two main measures of improvement:

- We need to reduce the complexity of the functionality within the app.
- We need to include some voice control in order to make it more accessible.

4.6. Subtitles customization (UPM)

This service was tested online by ten users, who were speakers of either Spanish or Italian. UICI and FCNSE took care of recruiting them. The test could be completed from March 19th to March 31st and it lasted for about 20 minutes. Since it was an online test, it consisted of watching a video in which a demonstration of the service was shown. Then, users had to fill in a questionnaire.

4.6.1. Description of the informants' demographic profile

With regards to the demographic profile of the participants, Fig. 22 shows the percentages based on users' educational level. As it can be seen, more than half of them have a good level of education ("Advanced vocational education level" and beyond).

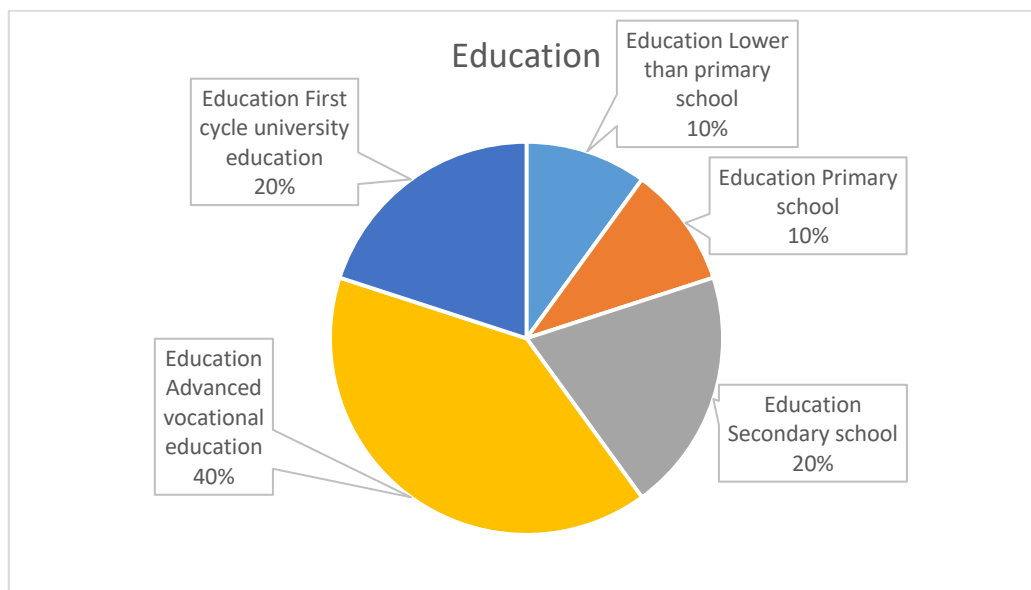


Fig. 22 Education level (subtitles customization online tests)

Regarding users' profile, Fig. 23 shows that 70% users have sight problems, while 30% have hearing problems (total or partial). Moreover, deaf users in this test use sign language to communicate.

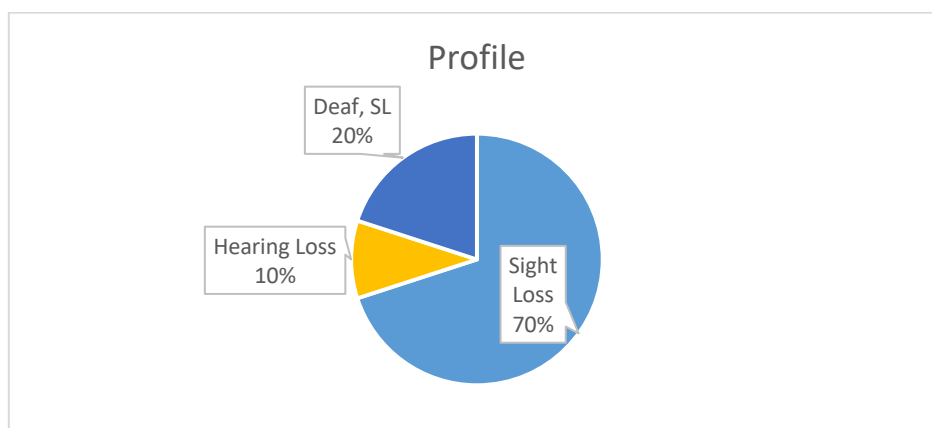


Fig. 23 Disabilities (subtitles customization online tests)

4.6.2. SUS results

Table 22 shows the results for the SUS questionnaire while Fig. 24, presents a graph with the individual scores. As it can be seen, the overall score is 82.75, which can be considered as Excellent according to the SUS score scale, corresponding to an A in the SUS grade scale. Nevertheless, there are two scores lower than the average that should be taken into consideration.

N.	Participants	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10		Scales			
		I think that I would like to use this feature frequently.	I found the feature unnecessarily complex.	I thought the feature was easy to use.	I think that I would need the support of a technical person to be able to use this feature.	I found the various functions in this feature were well integrated.	I thought there was too much inconsistency in this feature.	I would imagine that most people would learn to use this feature very quickly.	I found the feature very cumbersome to use.	I felt very confident using the feature.	I needed to learn a lot of things before I could get going with this feature.		Odd items	Even items	SUS score (/100)	Grades
1	user 1	1	1	1	5	5	4	4	4	4	4		10	7	42,5	F
2	user 2	1	1	2	2	3	3	3	3	4	4		8	12	50	F
3	user 3	4	1	5	1	4	1	5	1	5	3		18	18	90	A
4	user 4	3	2	5	1	4	1	5	1	5	1		17	19	90	A
5	user 5	5	1	5	1	5	1	5	1	5	1		20	20	100	O
6	user 6	3	2	4	2	4	1	4	2	4	2		14	16	75	B
7	user 7	5	2	5	1	4	1	5	1	5	1		19	19	95	A
8	user 8	5	1	5	1	4	2	5	1	5	1		19	19	95	A
9	user 9	5	1	5	1	5	1	5	1	5	1		20	20	100	A
10	user 10	5	1	5	3	5	1	3	1	5	1		18	18	90	A
														Total Score	82,75	A

Table 22 SUS responses and scores (subtitles customization online tests)

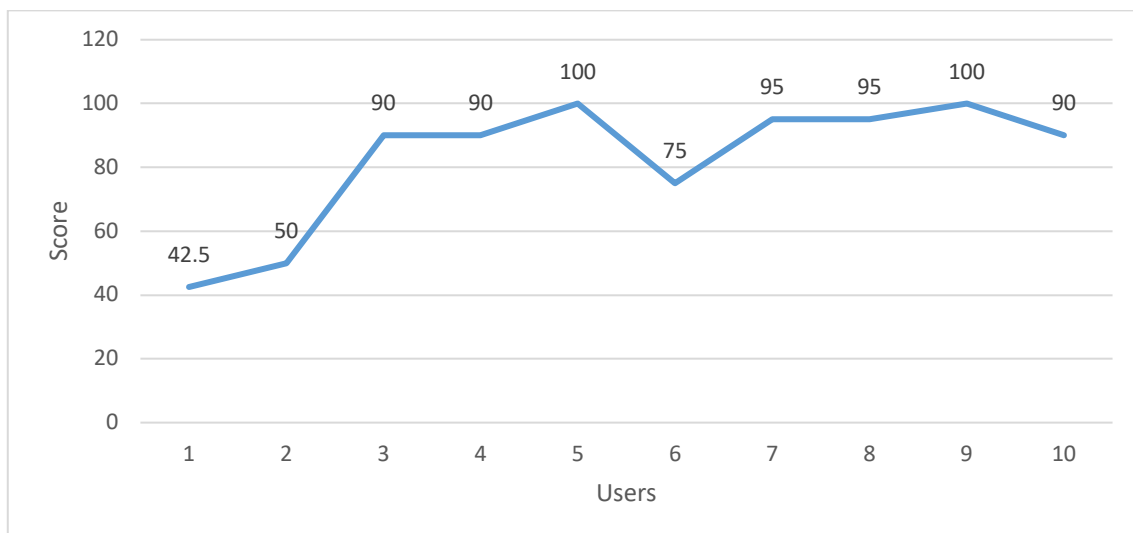


Fig. 24 Chart graph of SUS scores (subtitles customization online tests)

4.6.3. NPS results

The scores obtained for the NPS scale are included in Table 23. As it can be observed, five users gave a very high punctuation, becoming promoter users, while only two of them provided low scores, becoming detractors. The remaining three users, although classified as neutral users, also provided a valuable score.

Response	Number	Percentage
1	5	6,33%
2	2	2,53%
3	10	12,66%
4	8	10,13%
5	10	12,66%

6	8	10,13%
7	9	11,39%
8	8	10,13%
9	9	11,39%
10	10	12,66%
Total	79	100%

Table 23 NPS individual scores (subtitles customization online tests)

Table 24 shows the percentages of the promoters, passives and detractors, together with the calculation of the Net Promoter Score.

	Number	Percentage
Promoters	5	50%
Passives	3	30%
Detractors	2	20%
Total	10	100%
Net Score	Promoter	30,0

Table 24 NPS score calculation (subtitles customization online tests)

Fig. 25 presents the classification of the users according to the three types defined in NPS: promoters, passives and detractors. As it can be seen, there were only two detractors. With the improvement of the services we expect to convert detractors into at least passive users.

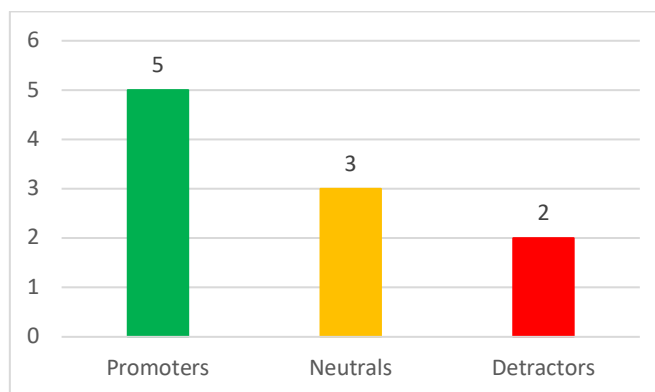


Fig. 25 NPS user classification (subtitles customization online tests)

4.6.4. Qualitative comments made

The main qualitative comments provided by users during the test are included in Table 25. The main complaints are related to the possibility of enjoying this option not only in the companion screen but also in the television screen.

No.	COMMENT
1	It is good to know and test any service that helps the disabled.

2	Very useful for the visually impaired.
3	Easy for both young and old visually impaired.
4	The position of the subtitles should be customizable.
5	Only for short programs or transmissions, otherwise it may be tiring to follow them.
6	The changes should be applied on television as well. You also have to set a limit of characters per line, so you do not have to read from one side to the other (in case of long sentences).
7	It would be great to incorporate this type of subtitles on the TV screen itself, not only on my tablet, iPad, etc.
8	The customization of the subtitles should also be available on the main TV screen.

Table 25 Main qualitative comments (subtitles customization online tests)

4.6.5. Test conclusions

Based on the results, we can conclude that, although we have a high SUS score (82.75), we still have room for improvement. We need to improve the perception of the service in order to assure its acceptance by taking note of the comments given by the users. Regarding the NPS, some modifications have to be done in order to increase the number of promoters, avoiding the appearance of detractors.

4.6.6. Actions to be taken for service improvement

According to the comments made, there are two main measures of improvement:

- To set a limit about the number of characters per line in order to make reading easier.
- To analyse the possibility of including the service in the television. Although this option is currently out of our scope, we will try to find a solution.

4.7. Face detection (UPM)

This service was tested online by five users, who were speakers of either Spanish or Italian. UICI and FCNSE took care of recruiting them. The test could be completed from March 19th to March 31st and it lasted for about 20 minutes. Since it was an online test, it consisted of watching a video in which a demonstration of the service was shown. Then, users had to fill in a questionnaire.

4.7.1. Description of the informants' demographic profile

With regards to the demographic profile of the participants, Fig. 26 shows the percentages based on users' educational level. As it can be seen, more than the half of them have a good level of education ("Advanced vocational education" level and beyond).

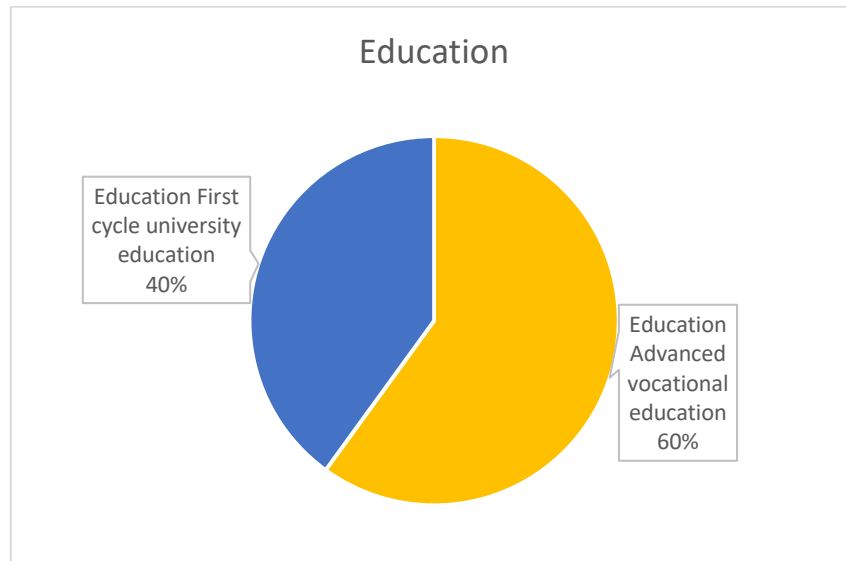


Fig. 26 Education level (face magnification online tests)

Regarding users' profile, Fig. 27 shows that 20% users have visual problems, while 80% have hearing problems (total or partial). Moreover, deaf users in this test use sign language to communicate.

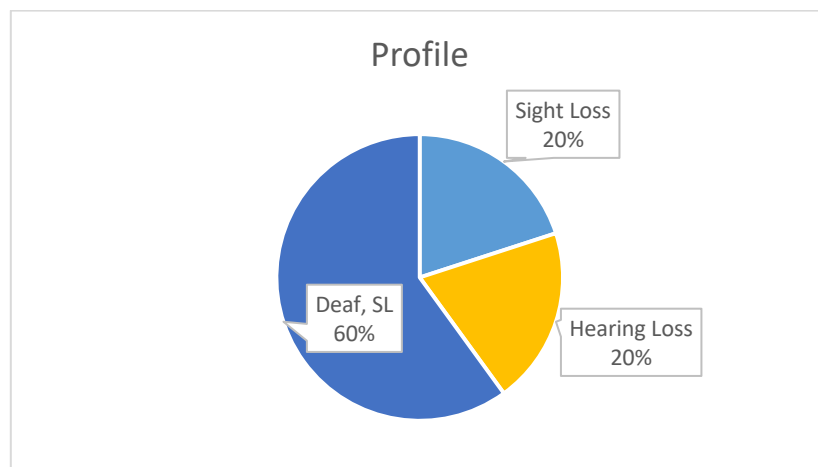


Fig. 27 Disabilities (face magnification online tests)

4.7.2. SUS results

Table 26 shows the results for the SUS questionnaire while Fig. 28, presents a graph with the individual scores. As it can be seen, the overall score is 73.50, which can be considered as good according to the SUS score scale, since it corresponds to a B. Nevertheless, there are two scores lower than the average that should be taken into consideration.

N.	Participants	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Scales			
		I think that I would like to use this feature frequently.	I found the feature unnecessarily complex.	I thought the feature was easy to use.	I think that I would need the support of a technical person to be able to use this feature.	I found the various functions in this feature were well integrated.	I thought there was too much inconsistency in this feature.	I would imagine that most people would learn to use this feature very quickly.	I found the feature very cumbersome to use.	I felt very confident using the feature.	I needed to learn a lot of things before I could get going with this feature.	Odd items	Even items	SUS score (/100)	Grades
1	user 1	4	2	5	2	5	1	5	1	5	2	19	17	90	A
2	user 2	1	5	1	5	5	1	5	1	5	1	12	12	60	D
3	user 3	2	4	5	1	2	1	4	1	4	1	12	17	72,5	B
4	user 4	3	1	5	1	5	1	5	1	5	1	18	20	95	A
5	user 5	1	5	3	1	3	4	4	4	4	1	10	10	50	F
Total Score														73,50	B

Table 26 SUS responses and scores (face magnification online tests)

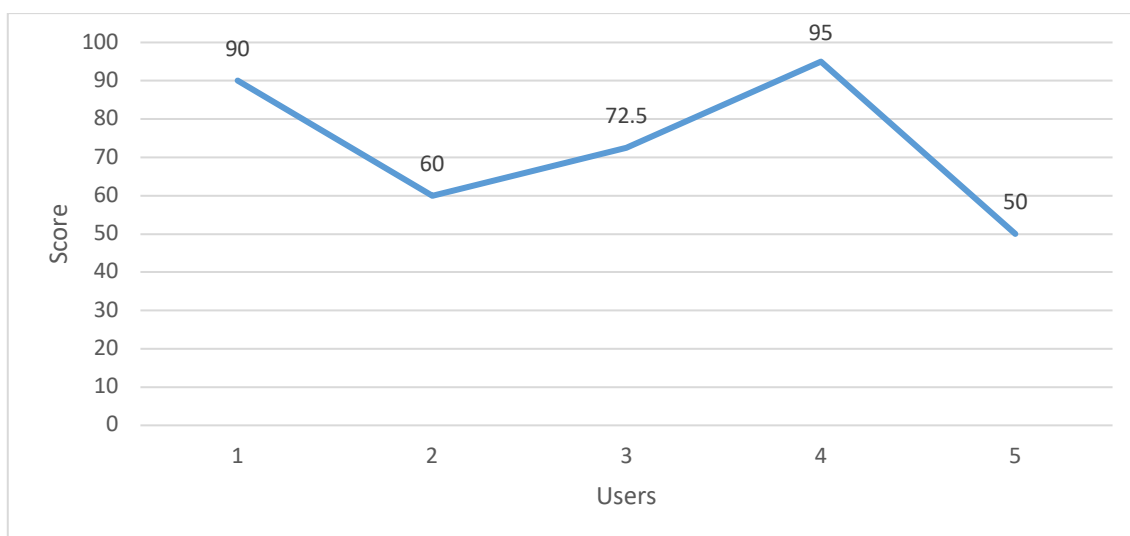


Fig. 28 Chart graph of SUS scores (face magnification online tests)

4.7.3. NPS results

The scores obtained for the NPS scale are included in Table 27. As it can be observed, two users gave a very high score, becoming promoters, while also two of them provided low scores, becoming detractors. The remaining user, although classified as a neutral one, also provided a valuable score.

Response	Number	Percentage
1	10	31,25%
2	10	31,25%
3	4	12,50%
4	7	21,88%
5	1	3,13%
Total	32	100%

Table 27 NPS individual scores (face magnification online tests)

Table 28 shows the percentages of promoters, passives and detractors, together with the calculation of the Net Promoter Score.

	Number	Percentage
Promoters	2	40%
Passives	1	20%
Detractors	2	40%
Total	5	100%
Net Score	Promoter	0,0

Table 28 NPS score calculation (face magnification online tests)

Fig. 29 presents a classification of the users according to the three profiles defined in NPS: promoters, passives and detractors. With the improvement of the services we expect to convert detractors into at least passives users.

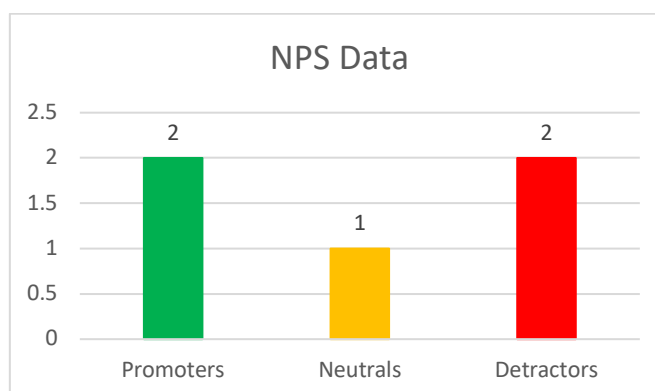


Fig. 29 NPS user classification (face magnification online tests)

4.7.4. Qualitative comments made

The main qualitative comments provided by users during the test are included in Table 29. In this sense, the main complaints are related to the possibility of offering this service not only in the companion screen, but also in the television screen. The movement of the face magnified can also be a problem.

No.	COMMENT
1	I'm interested in everything that can help ease everyday life to the disabled.
2	I do not see it effective, because sometimes the characters do not show their faces, and the viewer cannot read the lips. When the screen is in the process of detecting moves a lot. If the screen gets too close, you may lose information about the environment.
3	I find it useful for people with vision problems. I think it would be better if these tools could be directly connected to TV, not just on the iPad or other devices.
4	The user depends on the tablet to follow the dialogues. When passing the faces to a close-up, the information of the rest of the scene is lost. It is

	much more efficient and practical to use subtitling. The lip reading by itself does not give enough information to the user, it is not a sufficiently valid accessibility system.
--	---

Table 29 Main qualitative comments (face magnification online tests)

4.7.5. Test conclusions

Based on the obtained results, we can conclude that, although we have a high SUS score (73.50), we still have room for improvement. We need to improve the perception of the service in order to assure its acceptance by taking note of the comments given by the users. Regarding the NPS, and as above mentioned, some modifications have to be done in order to increase the number of promoters, avoiding the appearance of detractors.

4.7.6. Actions to be taken for service improvement

According to the comments gathered, there are two main measures of improvement:

- To improve the face detection to reduce the constant movement of the image.
- To analyse the possibility of including the service also in the television screen. Although this option is currently out of the scope, we will try to find a solution.

4.8. Custom magnification (UPM)

This service was tested online by eleven users, who were speakers of either Spanish or Italian. UICI and FCNSE took care of recruiting them. The test could be completed from March 19th to March 31st and it lasted for about 20 minutes. Since it was an online test, it consisted of watching a video in which a demonstration of the service was shown. Then, users had to fill in a questionnaire.

4.8.1. Description of the informants' demographic profile

With regards to the demographic profile of the participants, Fig. 30 shows the percentages based on users' educational level. As it can be seen, more than the half of them have a good level of education ("Advanced vocational education level" and beyond).

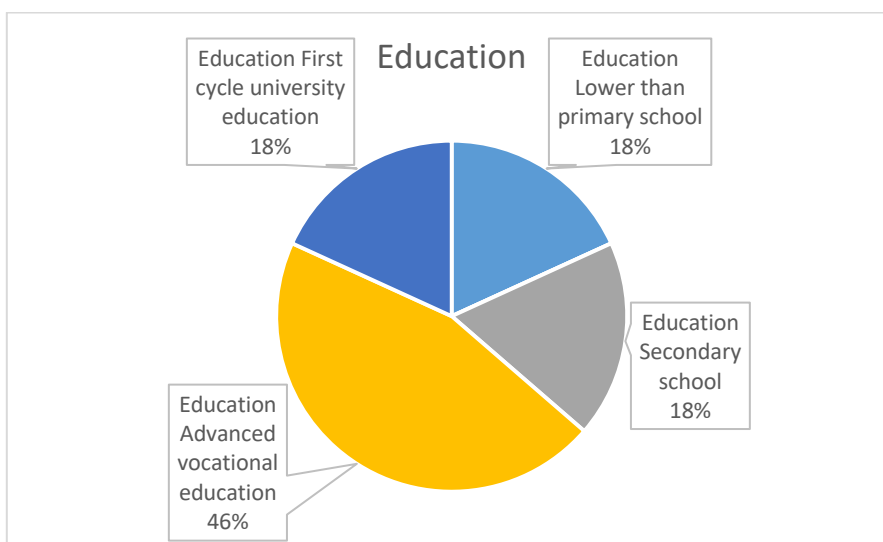


Fig. 30 Education level (custom magnification online tests)

Regarding users' profile, Fig. 31 shows that 64% users have visual problems, while 36% have

hearing problems (total or partial). Moreover, deaf users in this test use sign language to communicate.

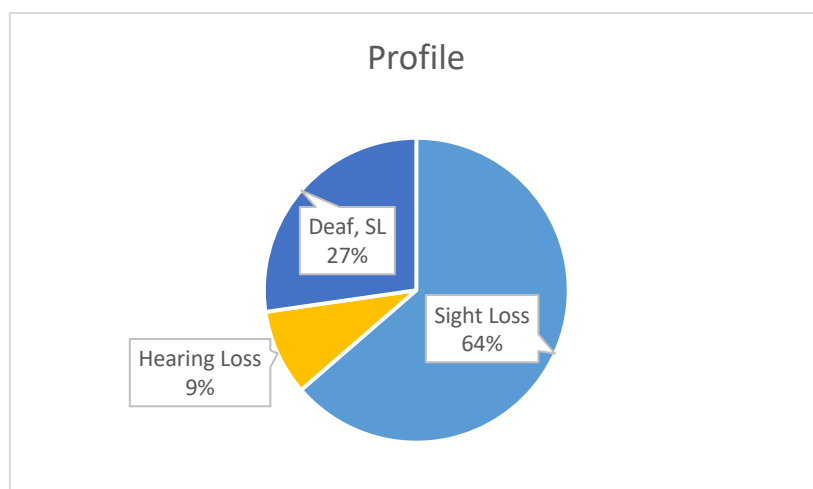


Fig. 31 Disabilities (custom magnification online tests)

4.8.2. SUS results

Table 30 shows the results for the SUS questionnaire, while Fig. 32, presents a graph with the individual scores. As it can be seen, the overall score is 80.23, which can be considered to be “Excellent” according to the SUS score scale, since it corresponds to an A. Nevertheless, there are three scores lower than average that should be taken into consideration.

N.	Participants	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Scales			
		I think that I would like to use this feature frequently.	I found the feature unnecessarily complex.	I thought the feature was easy to use.	I think that I would need the support of a technical person to be able to use this feature.	I found the various functions in this feature were well integrated.	I thought there was too much inconsistency in this feature.	I would imagine that most people would learn to use this feature very quickly.	I found the feature very cumbersome to use.	I felt very confident using the feature.	I needed to learn a lot of things before I could get going with this feature.	Odd items	Even items	SUS score (/100)	Grades
1	user 1	1	1	2	2	2	5	5	5	5	2	10	10	50	F
2	user 2	2	2	3	3	2	2	2	2	5	4	9	12	52,5	D
3	user 3	5	1	5	1	4	1	5	1	5	1	19	20	97,5	A
4	user 4	3	1	5	1	5	1	5	1	5	1	18	20	95	A
5	user 5	5	1	5	1	5	1	5	1	5	1	20	20	100	O
6	user 6	4	1	4	1	4	2	4	3	4	1	15	17	80	B
7	user 7	5	1	5	1	5	1	5	1	5	1	20	20	100	O
8	user 8	1	5	1	5	5	1	5	5	5	1	12	8	50	F
9	user 9	3	2	5	1	4	2	5	1	5	1	17	18	87,5	A
10	user 10	4	1	5	1	5	1	5	1	5	1	19	20	97,5	A
11	user 11	1	4	4	1	3	2	5	1	5	1	13	16	72,5	B
													Total Score	80,23	B

Table 30 SUS responses and scores (custom magnification online tests)

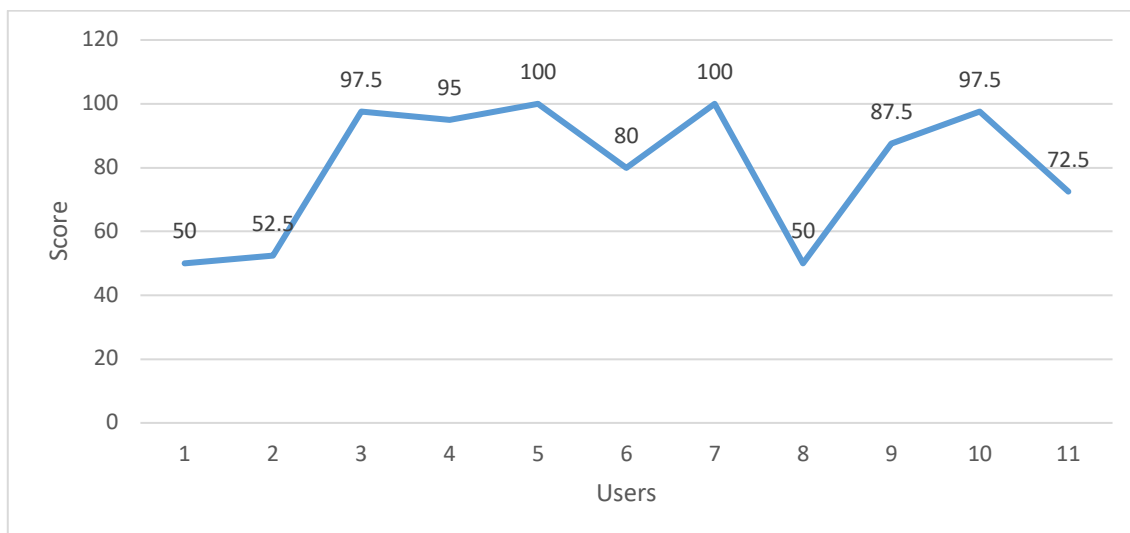


Fig. 32 Chart graph of SUS scores (custom magnification online tests)

4.8.3. NPS results

The scores obtained for the NPS scale are included in Table 31. As it can be seen, five users gave a very high mark, becoming promoter users, while only one of them provided a low score, becoming a detractor. The remaining five users, although classified as neutral users, also provided valuable scores.

Response	Number	Percentage
1	2	2,27%
2	8	9,09%
3	10	11,36%
4	8	9,09%
5	10	11,36%
6	8	9,09%
7	9	10,23%
8	10	11,36%
9	7	7,95%
10	9	10,23%
11	7	7,95%
Total	88	100%

Table 31 NPS individual scores (custom magnification online tests)

Table 32 shows the percentage of promoters, passives and detractors, together with the calculation of the Net Promoter Score.

	Number	Percentage
Promoters	5	45%
Passives	5	45%

Detractors	1	9%
	Total	11
Net Score		Promoter
		36,4

Table 32 NPS score calculation (custom magnification online tests)

Fig. 33 presents the classification of users according to the three profiles defined in the NPS: promoters, passives and detractors. As it can be seen, although there is only one detractor, there is room for service improvement.

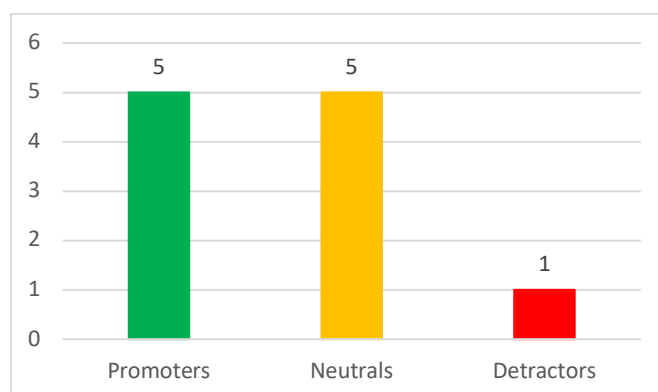


Fig. 33 NPS user classification (custom magnification online tests)

4.8.4. Qualitative comments made

The main qualitative comments provided by users during the test are included in Table 33. In this sense, the main complaints are related to the possibility of including this service not only in the companion screen, but also in the television screen.

No.	COMMENT
1	Very convenient to enlarge the images to see details better.
2	Some TVs have the still image with zoom but it is quite inconvenient to use. With the voice it would be perfect. Easy to use and practical.
3	Very useful for visually impaired people now I take pictures and enlarge them to do this.
4	It would be useful to have the enlargement also in the TV screen.
5	So that the elderly or visually impaired can see details that they miss at first glance.
6	I do not think it's focused on deaf people.
7	With this tool you can see details of interest. It's okay like that. I found it very interesting.

Table 33 Main qualitative comments (custom magnification online tests)

4.8.5. Test conclusions

Based on the test results, we can conclude that, although we have a high SUS score (80.23), we still have room for improvement. We need to improve the perception of the service in order to assure its acceptance by taking note of the comments given by users. Regarding the NPS, some modifications have to be done in order to increase the number of promoters, avoiding the appearance of detractors.

4.8.6. Actions to be taken for service improvement

According to the comments made, there is one main measures of improvement:

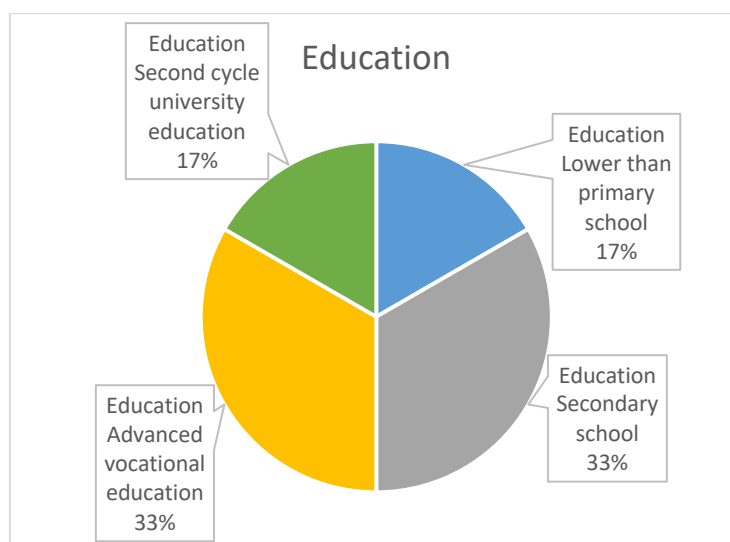
- To analyse the possibility of including this service in the television screen Although this option is currently out of our scope, we will try to find a solution.

4.9. Character detection (UPM)

This service was tested online by six users, who were speakers of either Spanish or Italian. UICI and FCNSE took care of recruiting them. The test could be completed from March 19th to March 31st and it lasted for about 20 minutes. Since it was an online test, it consisted of watching a video in which a demonstration of the service was shown. Then, users had to fill in a questionnaire.

4.9.1. Description of the informants' demographic profile

With regards to the demographic profile of the participants, Fig. 34 shows the percentages based on users' educational level. As it can be seen, more than half of them have a good level of education ("Advanced vocational education" level and beyond).

**Fig. 34** Education level (character recognition online tests)

Regarding users' profile, Fig. 35 shows that all the users have visual problems (total or partial).

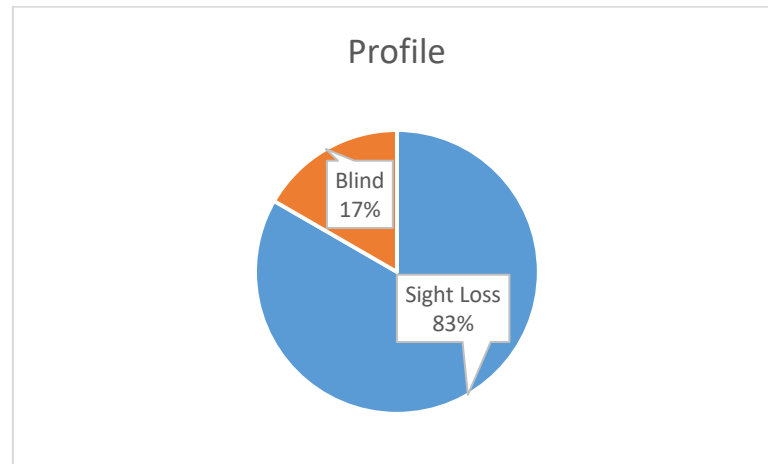


Fig. 35 Disabilities (character recognition online tests)

4.9.2. SUS results

Table 34 shows the results for the SUS questionnaire, while Fig. 36 presents individual scores. As it can be seen, the overall score is 77.08, which can be considered good, according to the SUS score scale, as it corresponds to an B. Nevertheless, there are two scores lower than average that should be taken into consideration.

N.	Participants	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Scales			
		I think that I would like to use this feature frequently.	I found the feature unnecessarily complex.	I thought the feature was easy to use.	I think that I would need the support of a technical person to be able to use this feature.	I found the various functions in this feature were well integrated.	I thought there was too much inconsistency in this feature.	I would imagine that most people would learn to use this feature very quickly.	I found the feature very cumbersome to use.	I felt very confident using the feature.	I needed to learn a lot of things before I could get going with this feature.	Odd items	Even items	SUS score (/100)	Grades
1	user 1	2	4	4	4	4	4	4	2	2	2	11	9	50	F
2	user 2	3	1	5	1	4	1	5	4	4	2	16	16	80	B
3	user 3	5	1	5	1	5	1	5	1	5	1	20	20	100	O
4	user 4	4	2	4	2	4	2	4	2	4	2	15	15	75	B
5	user 5	3	2	4	2	4	2	4	2	4	1	14	16	75	B
6	user 6	2	4	5	1	4	1	5	1	5	1	16	17	82.5	A
												Total Score		77.08	B

Table 34 SUS responses and scores (character recognition online tests)

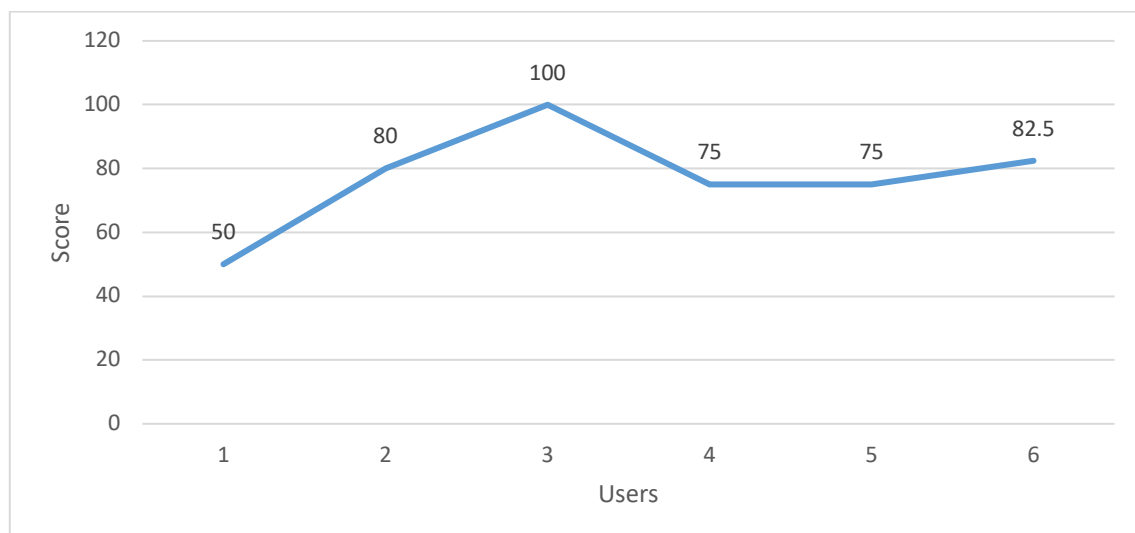


Fig. 36 Chart graph of SUS scores (character recognition online tests)

4.9.3. NPS results

The scores obtained for the NPS scale are included in Table 35. As can be seen, two users gave a very high punctuation, becoming promoters, while only one of them provided a low score, becoming detractors. The remaining three users, although classified as neutral, also provided a valuable score.

Response	Number	Percentage
1	9	19,15%
2	7	14,89%
3	10	21,28%
4	8	17,02%
5	7	14,89%
5	6	12,77%
Total	47	100%

Table 35 NPS individual scores (character recognition online tests)

Table 36 shows the percentage of the promoters, passives and detractors, together with the calculation of the Net Promoter Score.

	Number	Percentage
Promoters	2	33%
Passives	3	50%
Detractors	1	17%
Total	6	100%
Net Score	Promoter	16,7

Table 36 NPS score calculation (character recognition online tests)

Fig. 37 presents the classification of the users according to the three profiles defined in NPS: promoters, passives and detractors. As it can be seen, after the improvement of the services we expect to convert detractors into at least passive users.

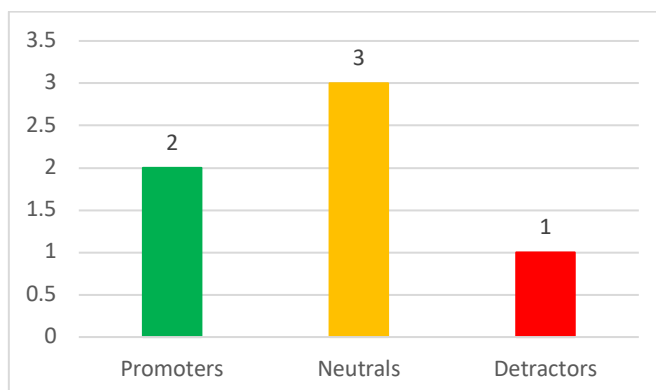


Fig. 37 NPS user classification (character recognition online tests)

4.9.4. Qualitative comments made

The main qualitative comments provided by users during the test are included in Table 37. The main complaints are related to its use, which has to be at users' convenience.

No.	COMMENT
1	I don't think it's very useful because the explanation stops the video and the viewing times are too long.
2	Very useful and enjoyable.
3	Very simple and useful.
4	Useful only in particular situations, not always.
5	It can be helpful.

Table 37 Main qualitative comments (character recognition online tests)

4.9.5. Test conclusions

Based on the results, we can conclude that, although we have a high SUS score (77.08), we still have room for improvement. We need to improve the perception of the service in order to guarantee its acceptance by taking note of the comments given by the users. Regarding the NPS, some modifications need to be made in order to increase the number of promoters and avoid detractors.

4.9.6. Actions to be taken for service improvement

Since all the comments made by users are positive, there are no specific measures needed to improve the service. However, we will reflect on possible improvements to be included in the final version.

4.10. Screen reader (CCMA)

This service was tested live by five Catalan users. The test was held in CCMA premises at Sant Joan Despí, Barcelona. The test was carried out from 24th to 30th of March and lasted between 45 and 60 minutes. Users were first informed about the HbbTV services red-button at compatible devices, which allows running applications to find video on demand content. Then, we presented the screen reader service, which helps giving feedback about the position of the focused elements and finding the desired content. Users were also informed about how to use the system with the remote-control buttons (arrows, OK, backwards button, etc.). As an introduction, users were explained the main menu, which consists of a 'home' button, a search engine, content indexing by channel and date (for a set amount of time, usually 10 days), index of A-Z programs, four thematic groups of programmes. Then informants asked to execute the following tasks:

- Find last chapter of a featured program at the home page.
- Carry out a search and find the desired content.
- Find a program broadcasted 2 days ago at 7.00 AM on a random channel.
- Find their favourite program at the A-Z index.
- Navigate through thematic groups of programmes to find content.

4.10.1. Description of the informants' demographic profile

In this section the demographic data collected during intermediate tests is reported (Fig. 38).

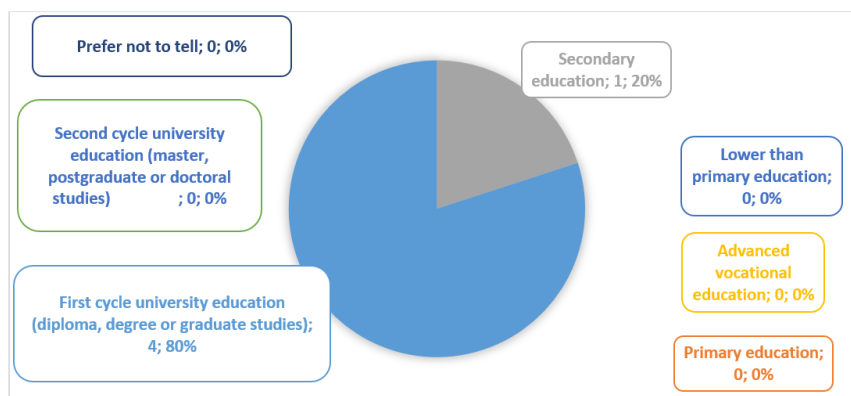


Fig. 38 Education Level (Screen reader)

The sample obtained thanks to the help of the Spanish National Organization of Blind People (ONCE) mainly consisted of a group of persons with a high education level, 80% of them having studied “first cycle university education”.

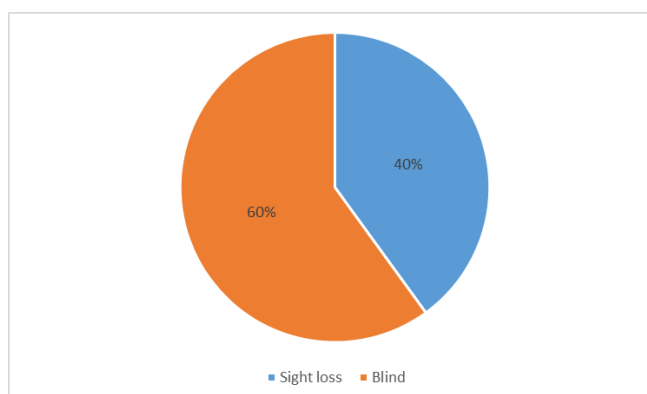


Fig. 39 Disabilities (Screen reader)

Regarding disabilities and age of the informants, we can observe in Fig. 39 that most of them (60%) were blind and 40% of them had low vision. Fig. 40 shows that 20% of the informants were over 65.

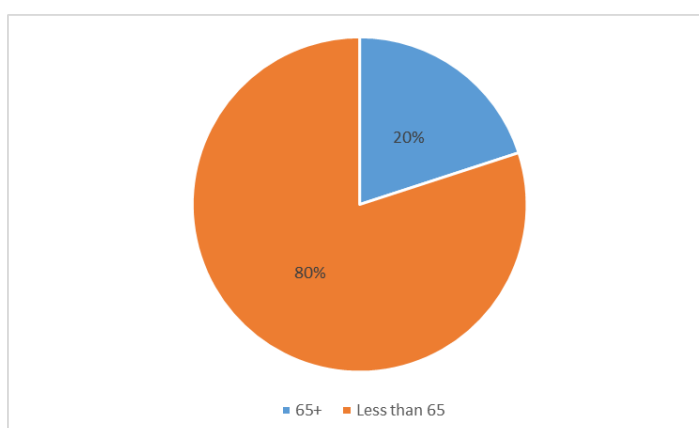


Fig. 40 Age (Screen reader)

4.10.2. SUS results

The results obtained regarding the SUS questionnaire are presented in Table 38.

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
Participant	I think that I would like to use this feature frequently.	I found the feature unnecessarily complex.	I thought the feature was easy to use.	I think that I would need the support of a technical person to be able to use this feature.	I found the various functions in this feature were well integrated.	I thought there was too much inconsistency in this feature.	I would imagine that most people would learn to use this feature very quickly.	I found the feature very cumbersome to use.	I felt very confident using the feature.	I needed to learn a lot of things before I could get going with this feature.
user 1	5	3	3	1	4	1	5	1	3	1
user 2	5	2	4	4	4	1	3	1	4	2
user 3	4	1	5	1	5	1	2	2	4	1
user 4	5	2	4	1	4	2	4	1	3	1
user 5	5	2	4	1	3	2	4	2	4	2

Table 38 SUS responses (Screen reader)

Table 39 shows that the overall SUS score is almost 80.50, which is considered 'Good' according to the SUS score scale, since it corresponds to a B (Fig. 41).

Scales			
Odd items	Even items	SUS score (/100)	Grade
15	18	82,5	A
15	15	75	B
15	19	85	A
15	18	82,5	A
15	16	77,5	B
Total Score		80,50	B

Table 39 SUS scores (Screen reader)

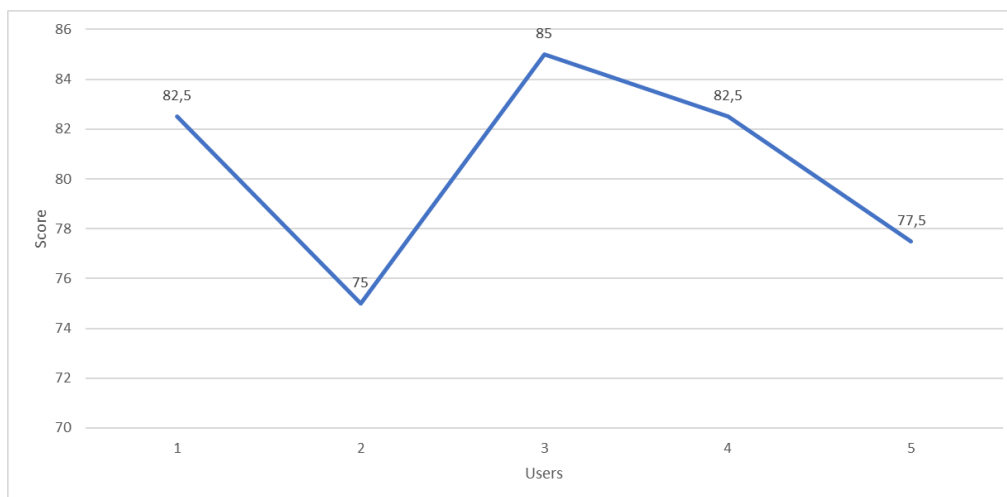


Fig. 41 Chart graph of SUS scores (Screen reader)

4.10.3. NPS results

Table 40 reports the scores given by each participant, as well as the qualitative comments made.

Individual Scores			
Response	Number	Percentage	Comment
1	7	15,56%	finds the very interesting solution. All improvements in the field of accessibility are welcome
2	10	22,22%	Being able to access content that was not directly accessible to date.
3	9	20,00%	Because it is very useful for you to read what's on screen, in my case it saves me to get up, get me and try hard to read it.
4	10	22,22%	Because I think it's fine and a person with blindness has no alternative
5	9	20,00%	find the solution useful, for blind people, vision difficulty or even without glasses
Total	45	100%	

Table 40 NPS individual scores and comments (Screen reader)

Table 41 shows the final NPS obtained:

Net Promoter Score Calculation		
	Number	Percentage
Promoters	4	80%
Neutrals	1	20%
Detractors	0	0%
Total	5	100%
Net Promoter Score		80,0

Table 41 NPS score calculation (Screen reader)

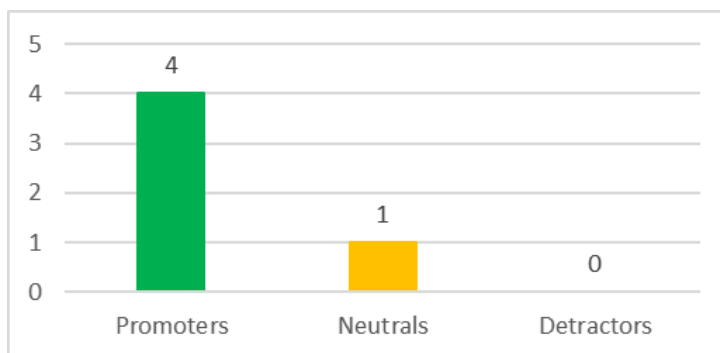


Fig. 42 Chart of NPS data (Screen reader)

It can be seen in Fig. 42 that most respondents were promoters and there were no detractors. The results can therefore be considered to be 'WorldClass' in the grade scale of NPS.

4.10.4. Qualitative comments made

All the informants recruited thought we should continue researching and developing this service. They also made the following qualitative comments (Table 42):

No.	COMMENTS
1	<ul style="list-style-type: none"> We need more feedback when clicking letters on keyboards. Avoid two columns menus and zigzag order. Once the results are loaded after a search offer feedback.
2	<ul style="list-style-type: none"> Improve the search engine and modify the proximity navigation to focus first element of listing results. Smoothe 'beep' tones.
3	<ul style="list-style-type: none"> Let it know when you do some type of click, and when something new appears on the screen (results). As a low vision user, I am interested in more personalization. Optional way to demand screen reader help, and not always on. Decide what has to be reproduced by screen reader and what it does not (only titles, duration, keyboards, etc.)
4	<ul style="list-style-type: none"> It would improve the way you move around the application. I think you have to polish it a bit more.
5	<ul style="list-style-type: none"> Improve feedback when on a page the user moves from keyboard to results. Offer more sound feedback. Avoid column menus, and always start at the beginning of the menus and avoid if you can navigate by proximity. Give more information about the use of keyboards when the page is loaded, because they confuse when to press 3 characters or one to get results.

Table 42 Table of comments (Screen reader)

4.10.5. Test conclusions

Our assessment of the intermediate tests is very positive because it allows us to obtain valuable feedback that will help us prioritize and better focus future work. Having not only blind people, but

also people with different degrees of sight loss has allowed us to add another perspective. This new perspective will be very useful because otherwise it would have been difficult to foresee many improvements to be made.

4.10.6. **Actions to be taken for service improvement.**

The following are the main areas for improvement identified:

- Improvements in the search engine and keyboards:
 - Adding more sounds ('beeps'), for example when selecting keys and loading results, as well as positioning in the first result and not closest to the keyboard.
 - When loading the page that contains keyboards we have to offer more information at the beginning and, for example, give feedback if results are not received.
- Find a better solution for a two-column menu, which was confusing to intermediate test users.

4.11. **Colour-blind subtitles (CCMA)**

This service was tested by nine Catalan users at the CCMA premises in Sant Joan Despí, Barcelona. CCMA supervised the test, which took around 45 minutes.

Users were first informed about the Spanish regulation relative to subtitling and the colour set involved. Moreover, we divided the test into readability and usability tasks. As for readability, informants were asked to watch a video with a normative colour-set and compile their opinion on readability. Then, informants were asked to differentiate the colours identifying each character over a video generated with two-line subtitles, using all colour combinations on each line. Finally, informants repeated the same exercise with an alternative colour set defined precisely for the type of colour-blindness they suffered from to evaluate the possible improvement.

Regarding usability, informants were informed about the red-button for HbbTV services, which allows running applications on connected TV to consume video on demand content. It also allows personalizing subtitles or including colour-sets. Therefore, the objective was to modify subtitles colour set. Users were also informed about how to use the system with the remote-control buttons (such as arrows, OK and backwards button).

4.11.1. **Description of the informants' demographic profile**

This section describes the informants' profile. The informants were CCMA staff, recruited through their intranet. Informants were asked to take a colour-blindness test available at: http://www.opticien-lentilles.com/daltonien_beta/nueva_test_daltoniano.php.

This test allowed us to classify informants and to finally select them or not according to the probability of having some type of colour-blindness. Our final sample consisted of:

- Three informants with no colour-blindness to validate the proposed material.
- Five informants with deuteranopia or protanopia colour blindness types.
- One participant with tritanopia (there exists a low probability associated with this type).

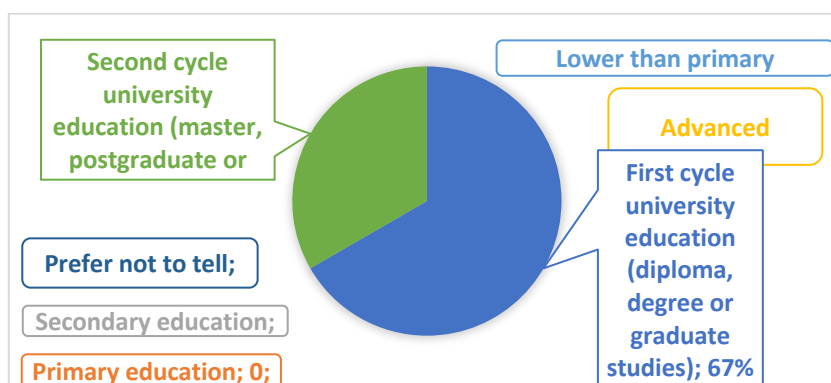


Fig. 43 Education Level (colour-blind subtitles)

Fig. 43 shows that 67% of the informants had a degree or graduate studies, while 33% had received more education and had a postgraduate, a masters or a PhD degree.

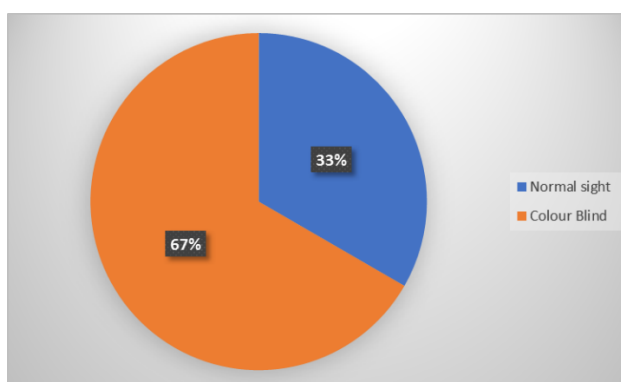


Fig. 44 Disabilities (colour-blind subtitles)

Regarding disabilities (Fig. 44) and age of the users (Fig. 45), more than half of the informants suffer from colour-blindness. This distribution coincides with the sample that has already been presented. The presence of persons with no colour-blindness is justified by the fact that this group was needed to verify that tests are not corrupted beforehand. As for the informants' age, all of them were under 65.

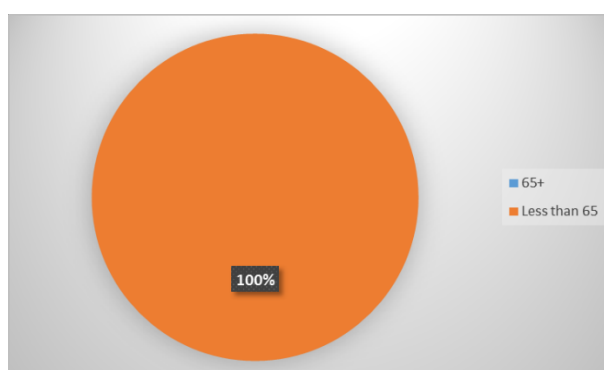


Fig. 45 Age (colour-blind subtitles)

4.11.2. SUS results

The results regarding the SUS are presented in Table 43.

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
Participant s	I think that I would like to use this feature frequently.	I found the feature unnecessarily complex.	I thought the feature was easy to use.	I think that I would need the support of a technical person to be able to use this feature.	I found the various functions in this feature were well integrated.	I thought there was too much inconsistency in this feature.	I would imagine that most people would learn to use this feature very quickly.	I found the feature very cumbersome to use.	I felt very confident using the feature.	I needed to learn a lot of things before I could get going with this feature.
user 1	3	2	3	1	4	2	4	1	3	1
user 2	3	2	5	1	4	1	4	1	4	1
user 3	3	3	3	1	3	3	2	3	3	1
user 4	3	2	4	1	4	3	5	4	4	1
user 5	3	1	4	2	4	3	5	2	3	2
user 6	3	2	4	1	4	1	3	1	4	1
user 7	5	1	5	1	5	1	5	1	5	1
user 8	4	2	4	1	3	2	4	1	4	1
user 9	4	2	4	1	4	1	4	1	4	2

Table 43 SUS responses (colour-blind subtitles)

Table 44 shows that the overall SUS score is 78.33, which is considered 'Good' according to the SUS score scale, since it corresponds to a B.

Scales			
Odd items	Even items	SUS score (/100)	Grade s
12	18	75	B
15	19	85	A
9	14	57,5	D
15	14	72,5	B
14	15	72,5	B
13	19	80	B
20	20	100	O
14	18	80	B
15	18	82,5	A
Total Score		78,33	B

Table 44 SUS scores (colour-blind subtitles)

Fig. 46 shows the individual score given by each participant:

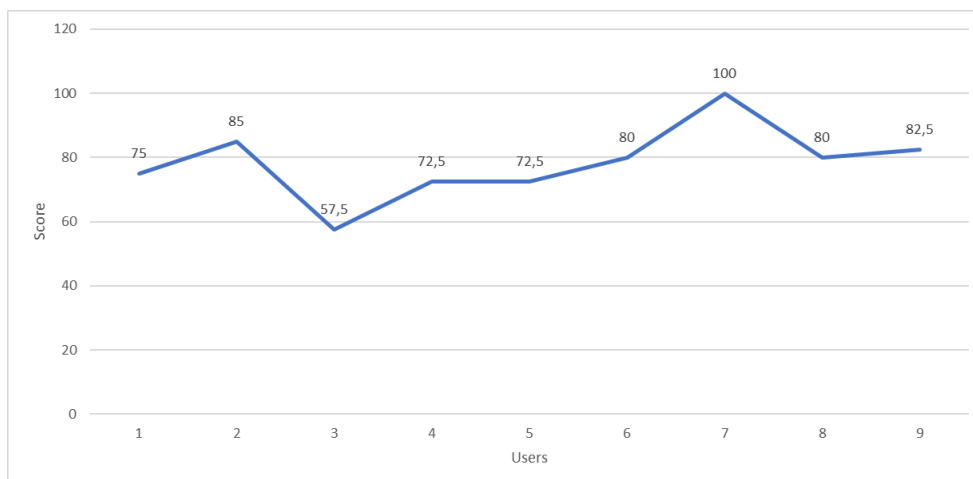


Fig. 46 Chart graph of SUS scores (colour-blind subtitles)

4.11.3. NPS results

Table 45 reports the scores given by each participant, as well as the qualitative comments made:

Individual Scores -			
Response	Number	Percentage	Comments
1	10	14,71%	In the case of having a color blind friendship, I would talk about this solution
2	7	10,29%	Any improvement in accessibility is good, I would recommend it if you know it is an improvement for the other person.
3	5	7,35%	It does not suppose an improvement in the reading of the subtitles
4	8	11,76%	If I know an color-blind person I would speak to her
5	8	11,76%	If you had an color-blind family member, it would tell you about the possibility, because if you could help with accessibility, it is positive
6	6	8,82%	One of the two alternatives was worse and the other similar to what is currently available
7	10	14,71%	It can be very useful to follow any subtitles any better
8	7	10,29%	I find it useful to be able to configure subtitling for grandparents who do not see enough, being able to change the palette may be useful. Being able to add or remove the background is interesting.
9	7	10,29%	Because it is very interesting to be able to set colors to follow a subtitled movie.
Total	68	100%	

Table 45 NPS individual scores and comments (colour-blind subtitles)

The final NPS obtained and the percentage of each kind of user is shown in Table 46 and Fig. 47 , respectively.

Net Promoter Score Calculation		
	Number	Percentage
Promoters	2	22%
Neutrals	5	56%
Detractors	2	22%
Total	9	100%
Net Promoter Score		0,0

Table 46 NPS score calculation (colour-blind subtitles)

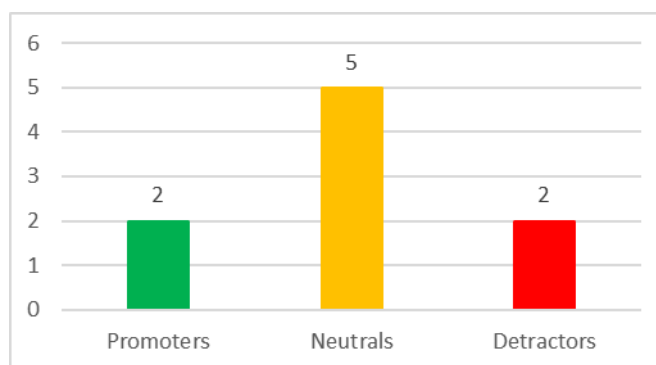


Fig. 47 Chart of NPS data (colour-blind subtitles)

It can be seen that results are balanced. The zero value obtained as NPS score is the bottom value to consider it 'Good' in the grade scale of NPS.

4.11.4. Qualitative comments made

All the informants recruited thought we should continue researching and developing this service. They also made the following comments (Table 47):

No.	COMMENTS
1	When selecting the alternative colour palette, it would be helpful to see the sample before applying it.
2	Change the font type of subtitles.
3	Make the palette of colours I'm choosing easier to find in the interface.
4	Change font type and transitions of the subtitle.
5	More information would be needed to help the application, to discover the option. Choose a palette with more basic colours without tonalities, or shades of brightness that makes it difficult to differentiate colours.

Table 47 Table of comments (colour-blind subtitles)

4.11.5. Test conclusions

The main goal and the usability are on track and informants evaluate positively the service. We have realized that the default colour-set, even in the worst conditions of readability (subtitles without black background), can be read well. Yet, the aspect that wanted to be improved was allowing users to differentiate characters and, according to the results, the colour-set alternatives proposed do not represent a remarkable improvement, since the confusion is not reduced.

4.11.6. Actions to be taken for service improvement.

The following are the main areas identified for improvement:

- To iterate and improve the colour-set alternatives according to feedback received and available resources.
- Colour-sets are ordered by frequency. It means that color1 appears more often than color6 and it is strange to use them all. An improvement could be done on colour-set alternatives, discarding colours (we tested seven and just six colours are required). Moreover, we asked

to personalize the order of the colours by frequency and readability criteria. We should analyse if there is consensus to reduce confusions with a new order and test it again.

4.12. Speech platform

The screen reader was tested in Catalan (live, with the help of CCMA) and Italian (live and online). In this case, the results are presented separately because some relevant differences have been detected according to the language and test modality.

4.12.1. Live tests results (CCMA)

The live tests in Catalan were organised by CCMA. They were carried out from March 25nd to March 31st in the CCMA premises, Barcelona. Five Catalan users took part in them. The test took around 25 minutes. Informants were asked to carry out the following tasks:

- Search songs/videos.
- Control the video (play/pause/stop/seek).

Low vision volunteers were asked to do the following tasks:

- Change colour, dimension of the text, voice speed and volume.

Blind volunteers were asked to do the following tasks:

- Change voice speed and volume.

4.12.1.1 Description of the informants' demographic profile

In this section, the demographic data of the informants is reported.

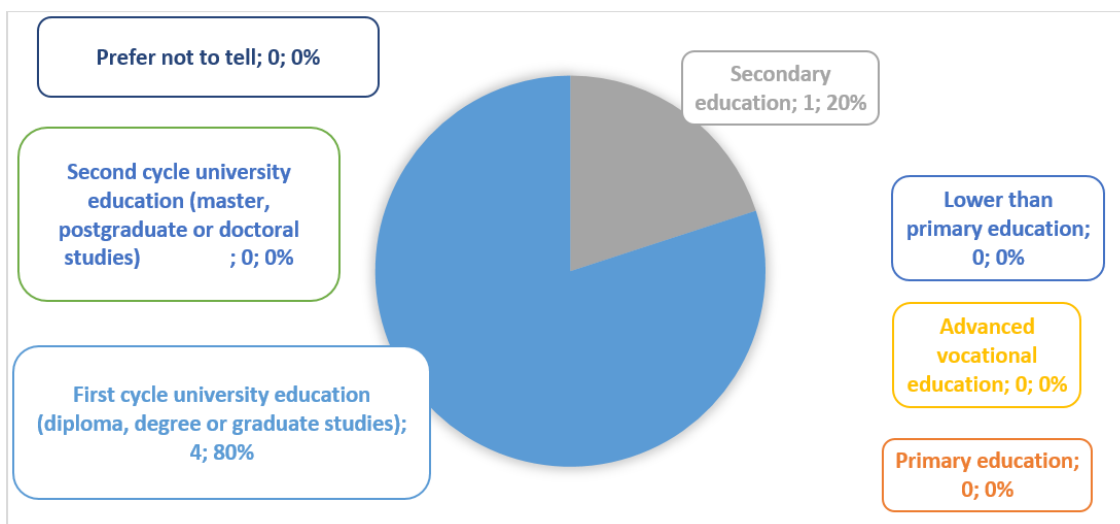


Fig. 48 Education Level (speech platform live test by CCMA)

Fig. 48 shows that the informants were mainly highly educated people, since 80% had achieved the “first cycle university education”.

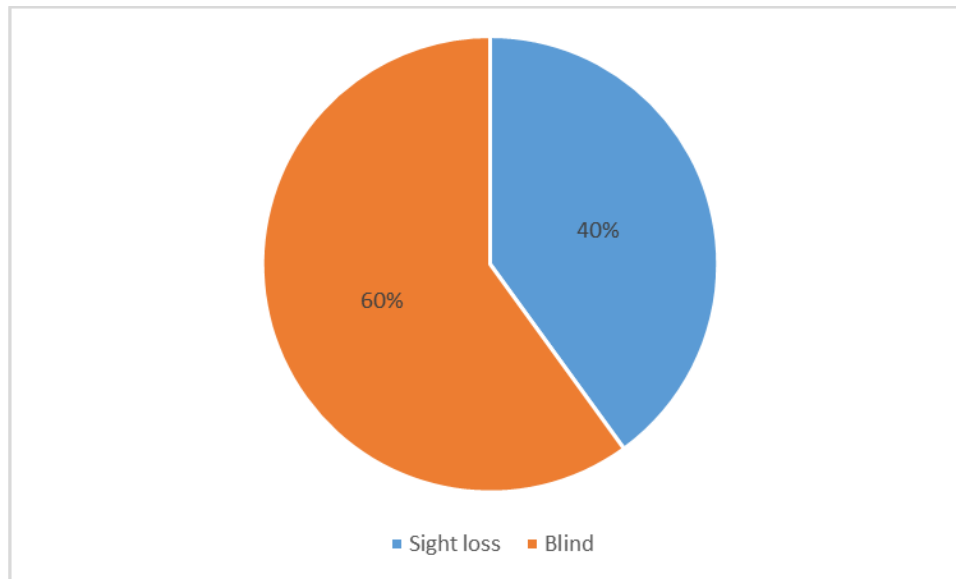


Fig. 49 Disabilities (speech platform live test by CCMA)

Regarding disabilities (Fig. 49) and age of the users (Fig. 50), we can observe that most of them (60%) were blind users and (40%) of them had low vision. As for their age, 20% were over 65.

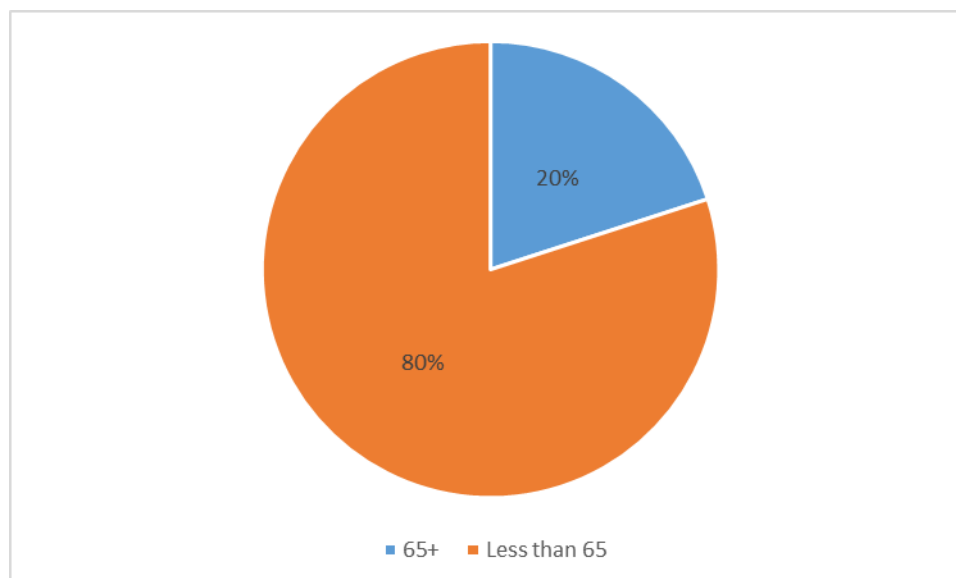


Fig. 50 Age (speech platform live test by CCMA)

4.12.1.2 SUS results

Table 48 shows the SUS responses from the users:

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
Participant s	I think that I would like to use this feature frequently.	I found the feature unnecessarily complex.	I thought the feature was easy to use.	I think that I would need the support of a technical person to be able to use this feature.	I found the various functions in this feature were well integrated.	I thought there was too much inconsistency in this feature.	I would imagine that most people would learn to use this feature very quickly.	I found the feature very cumbersome to use.	I felt very confident using the feature.	I needed to learn a lot of things before I could get going with this feature.
user 1	2	3	5	1	4	3	5	1	3	1
user 2	3	1	5	1	5	1	5	1	4	1
user 3	2	1	2	1	3	2	3	1	5	1
user 4	3	2	4	1	2	3	4	4	2	1
user 5	1	5	1	4	1	5	2	3	1	4

Table 48 SUS responses (speech platform live test by CCMA)

Table 49 shows that the overall SUS score is 62.50 which is considered 'OK' according to the SUS score scale, which corresponds to a D.

Scales			
Odd items	Even items	SUS score (/100)	Grade s
14	16	75	B
17	20	92,5	A
10	19	72,5	B
10	14	60	D
1	4	12,5	F
Total Score		62,50	D

Table 49 SUS scores (speech platform live test by CCMA)

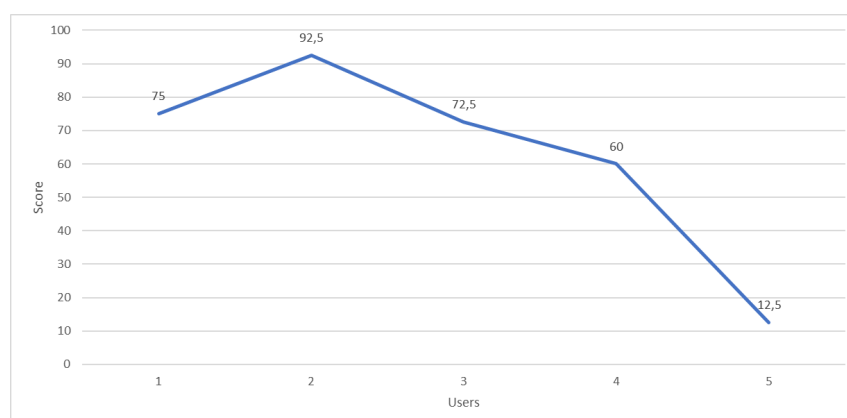


Fig. 51 Chart graph of SUS scores (speech platform live test by CCMA)

4.12.1.3 NPS results

Table 50 reports the scores given by each participant along with the qualitative comments made:

	-		Individual Scores
Response	Number	Percentage	Comment
1	5	18,52%	he find it interesting but not quite enough.
2	7	25,93%	It is an ideal tool for people who are looking for simple searches and does not require great ability to make it go.
3	6	22,22%	For a person with visual disabilities, you already use your accessibility adaptation (talkback or screen magnifiers) in a tablet, and I do not think that you compensate for the effort to learn a new mechanism. In a television application I would find it more useful, because writing with the command is cumbersome.
4	6	22,22%	Because there may be people who may need it because of problems in the hands or mobility.
5	3	11,11%	It is a very incipient project and that the fact that you have to say the exact order makes the system not intuitive.
Total	27	100%	

Table 50 NPS scores and comments (speech platform live test by CCMA)

After applying the NPS formula, the following result was obtained, as shown in Table 51:

Net Promoter Score Calculation		
	Number	Percentage
Promoters	0	0%
Neutrals	1	20%
Detractors	4	80%
Total	5	100%
Net Promoter Score		-80,0

Table 51 NPS score (speech platform live test by CCMA)

We can see that in this survey the NPS results are considered negative in the grade scale of NPS.

4.12.1.4 Qualitative comments made

All the users recruited thought we needed to continue developing the service. They also added the following comments:

No.	COMMENTS
1	<ul style="list-style-type: none"> Make voice commands without touching the screen.
2	<ul style="list-style-type: none"> Greater flexibility in commands at the vocabulary level. Is concerned about compatibility with screen readers, such as 'voice over' or 'talkback'.
3	<ul style="list-style-type: none"> Greater flexibility in commands, you have to say exactly each command and pronounce it perfect.
4	<ul style="list-style-type: none"> It should not be so inflexible with the orders, especially with the diction. This can be more useful for people with mobility problems than for people with blindness. And it would be more useful to handle things beyond tablets

	and mobiles.
5	<ul style="list-style-type: none"> • Be able to use synonyms and not have the frustration that often do not understand you. • I would not have to touch the screen and give only voice commands.

Table 52 Qualitative comments (speech platform live test by CCMA)

4.12.1.5 Test conclusions

We can observe that the live test of the speech platform in Catalan didn't reach the average of 68 in the SUS score, unlike many other tests of the same service. NPS scales, however, have been very disappointing in all cases. Looking at the final comments and the NPS comments, it seems that the prototype didn't really convince these few testers. Not only the users didn't find it interesting, but they also felt it was a new way of interaction they'd had to learn, unlike the screen readers already included in current mobile devices (Android talkback and Apple VoiceOver). Moreover, they found the interaction not very flexible due to the limited possibilities to use alternatives for voice commands. The reason for that is that in this prototype we just wanted to test the user interaction mode and not to show the complete Voice User Interface.

Regarding the screen readers, we can say that they proved to be very good accessibility tools for the blind to interact with the mobile device. There can be, however, some learning difficulties for those who are not expert using these devices, as well as many constraints for developers who have to accomplish many tasks and modify their development process in order to make their native applications and their functionalities accessible by the screen readers.

4.12.1.6 Actions to be taken for service improvement

In the activities that will follow the design and development of the service, all comments will be analysed and considered in order to include them in the final prototype. Moreover, the flexibility of the Voice User interface must be taken into account improving the voice command interpretation module and the simplicity and flexibility of voice prompts and utterances. Finally, the compatibility of the speech platform with screen readers, already included in the devices, must be well explored and considered in order to reach a more efficient and effective voice interaction system.

4.12.2. Live tests results (MV)

The live tests in Italian were organised by MV with the help of UICI. The tests were carried out from February 22nd to March 31st. Twelve Italian users took part in the tests. The test took around 30-40 minutes. Informants were asked to carry out the following tasks:

- Video search.
- Choice of a video from a given list (video x ...).
- Commands play, pause, stop...
- Movement within the video (e.g. x minutes ahead, y seconds back, x minutes and y seconds ahead).
- Change the colours of the TTS subtitles (TTS subtitles also to simulate the subtitles of a TV program).
- Change font size of TTS subtitles.
- Enable or disable the TTS subtitles.
- Change the volume.
- Change the speed of the TTS voice.

4.12.2.1 Description of the informants' demographic profile

In this section we report some demographic data collected during the test. Fig. 52 reports the level of user education. We can observe that all of them have a good level of education (Advanced

vocational) and 22% have even a higher level of education.

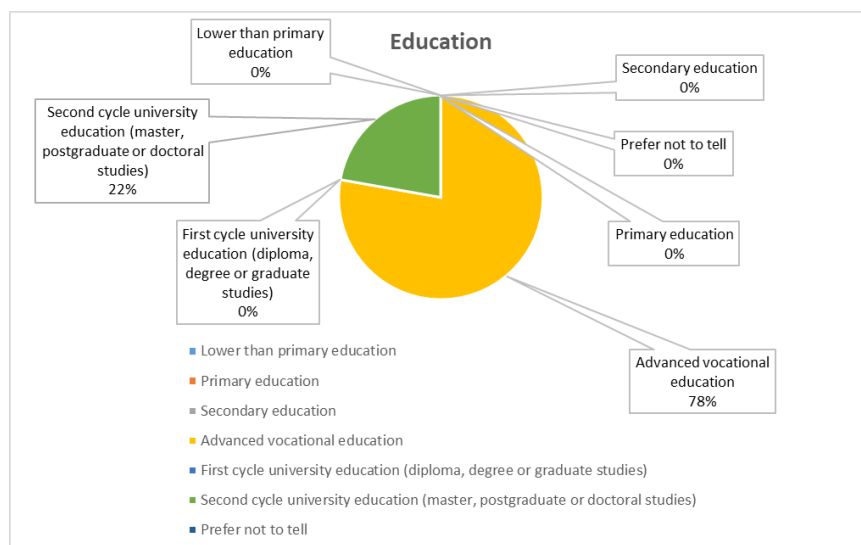


Fig. 52 Education level (Speech platform, live - Italian)

Regarding disabilities and age of the users we can observe that most of them (62%) define themselves as blind persons, while 38% of the informants consider themselves to be persons with sight loss (Fig. 53).

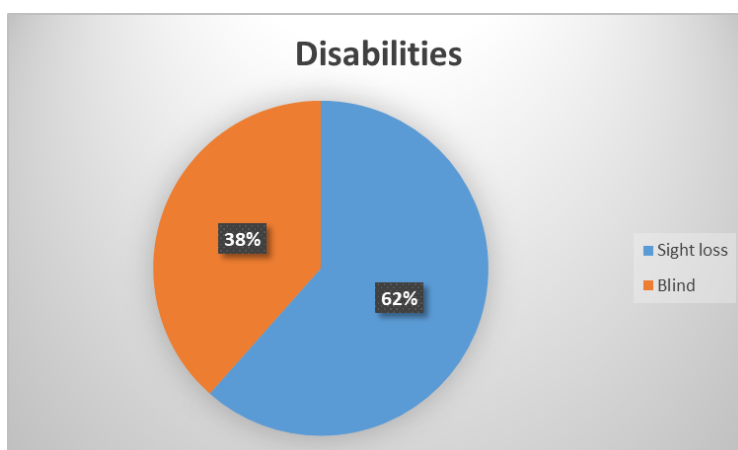


Fig. 53 Disabilities (Speech platform, live - Italian)

Fig. 54 shows that 58% of the informants were under 65 years old, while the rest were over 65.

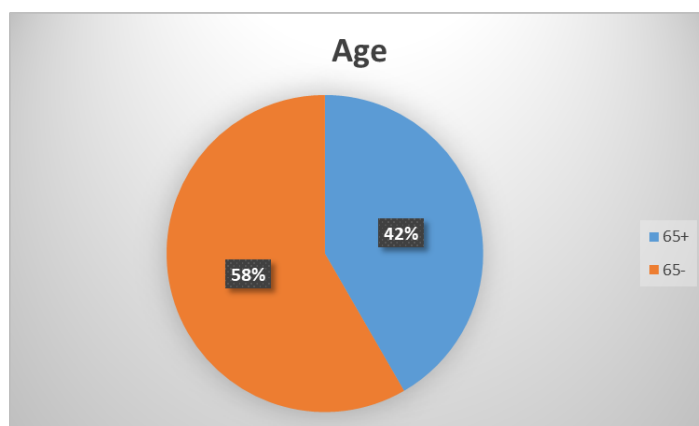


Fig. 54 Age (Speech platform, live - Italian)

4.12.2.2 SUS results

Table 53 shows the SUS responses from users:

N.	Participants	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Scales			
		I think that I would like to use this feature frequently.	I found the feature unnecessarily complex.	I thought the feature was easy to use.	I think that I would need the support of a technical person to be able to use this feature.	I found the various functions in this feature were well integrated.	I thought there was too much inconsistency in this feature.	I would imagine that most people would learn to use this feature very quickly.	I found the feature very cumbersome to use.	I felt very confident using the feature.	I needed to learn a lot of things before I could get going with this feature.	Odd items	Even items	SUS score (/100)	Grades
1	user 1	5	1	5	1	4	1	5	1	5	1	19	20	97,5	A
2	user 2	5	2	3	3	4	1	4	3	3	2	14	14	70	B
3	user 3	2	1	5	1	3	1	3	1	3	2	11	19	75	B
4	user 4	5	1	5	2	4	1	5	2	5	1	19	18	92,5	A
5	user 5	5	1	5	1	5	1	5	2	5	1	20	19	97,5	A
6	user 6	5	1	5	1	5	1	5	1	5	1	20	20	100	O
7	user 7	5	1	5	1	5	1	3	1	4	1	17	20	92,5	A
8	user 8	5	1	5	3	5	1	3	1	4	1	17	18	87,5	A
9	user 9	5	1	5	2	3	1	4	2	4	1	16	18	85	A
10	user 10	5	1	5	1	5	1	5	1	5	1	20	20	100	A
11	user 11	4	2	4	2	3	2	4	3	4	1	14	15	72,5	B
12	user 12	5	2	4	1	5	1	3	1	5	1	17	19	90	A
													Total Score	88,33	A

Table 53 SUS responses and scores (Speech platform, live - Italian)

Table 53 shows that the overall SUS score is higher than 88, which is considered to be “excellent” according to the SUS score scale, since its corresponding SUS grade is A. Fig. 54 shows a graph of the individual SUS scores:

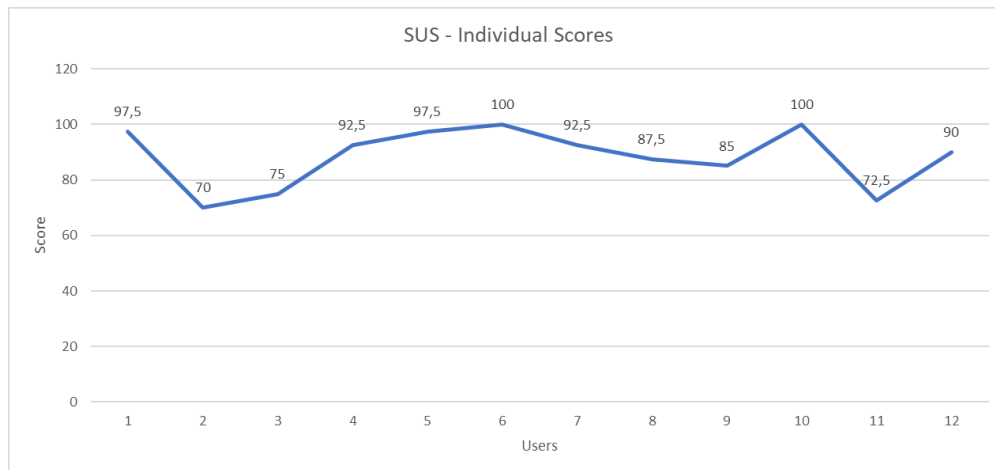


Fig. 55 Chart graph of SUS scores (Speech platform, live - Italian)

4.12.2.3 NPS results

In this section we report the NPS scores of each user together with their justification (Table 54).

Individual Scores -			
Response	Number	Percentage	Comment
1	8	7,34%	many people doesn't use a tablet
2	9	8,26%	useful
3	7	6,42%	easy
4	10	9,17%	comfortable
5	10	9,17%	easy and ready to use
6	10	9,17%	very easy to use, effectively and efficient, very fast, also for childrens, i can bring it wherever i want
7	9	8,26%	useful
8	9	8,26%	useful
9	10	9,17%	easy
10	9	8,26%	useful
11	10	9,17%	amazing
12	8	7,34%	should be less verbose
Total	109	100%	

Table 54 NPS individual scores and comments (Speech platform, live - Italian)

Table 55 reports the NPS score calculation:

Net Promoter Score Calculation		
	Number	Percentage
Promoters	9	75%
Neutrals	3	25%
Detractors	0	0%
Total	12	100%
Net Promoter Score		75,0

Table 55 NPS score calculation (Speech platform, live - Italian)

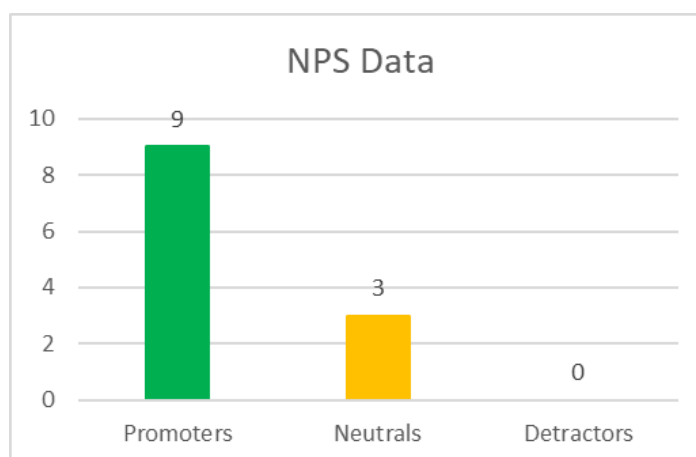


Fig. 56 NPS data (Speech platform, live - Italian)

Most respondents were promoters and no detractors were found (Fig. 56). According to these results the service tested could be considered to be a World Class solution in the grade scale of NPS.

4.12.2.4 Qualitative comments made

In Table 56 we report some of the qualitative comments made by users in order to have an overview of their thoughts and reactions to the service tested.

No.	COMMENTS
-----	----------

1	All TV functionalities should be controlled i.e. settings and so on. Less functionalities but more accessibility i.e. subtitles and audio descriptions.
2	Look at all the different types of blind people. Understanding all the problems of low vision and the elderly, who are the majority of the visually impaired. Possibility to configure the platform to have all the features available; compatibility with all TVs; platform not only for HBBTV; access to other platforms and also to other languages; colors and backgrounds; color highlights.
3	The possibility to activate the system also with a wakeup keyword like "Ok, Google".
4	Control the volume of each audio track and of the text to speech engine.
5	There are many types of television and each has a way to activate subtitles through the various remote controls; everything should be available on TV; the initial settings must be simple and also tuning channels.
6	Need to be connected to services like medical and police.
7	Info about the contents of the films: actors, directors, detailed info on the content I'm seeing, setting. Possibility to configure volume etc. Tuning, change channel with name; program guide; info on the current channel (I turn on and I don't know what channel I am on); check external content such as DVDs, etc.
8	Swipe to zoom in and out on the display or screen areas; possibility to customize colors and contrasts.

Table 56 Comments (Speech platform, live - Italian)

4.12.2.5 Test conclusions

The live intermediate test of the speech platform gave excellent results looking at the SUS and NPS scales. Despite these excellent results, the informants wanted to underline some aspects that could be improved and that will be taken into consideration in future developments of the final prototype.

4.12.2.6 Actions to be taken for service improvement

In the following developing stages of the final prototype, all comments will be analysed and taken into account in order to meet as many user requirements as possible.

4.12.3. Online test results (MV)

The online tests in Italian were organised by MV with the help of UICI. They were carried out from March 19th to March 31st. Forty-eight Italian users took part in the test. The test took around 30-40 minutes. Informants were asked to watch a video that showed the functionalities of the service, which were:

- Video search.
- Choice of a video from a given list (video x ...)
- Commands play, pause, stop...

- Movement within the video (e.g., x minutes ahead, y seconds back, x minutes and y seconds ahead).
- Change the colours of the TTS subtitles (TTS subtitles also to simulate also the subtitles of a TV program).
- Change font size of TTS subtitles.
- Enable or disable the TTS subtitles.
- Change the volume.
- Change the speed of the TTS voice.

It must also be highlighted that to carry out this test two different communication channels were used. The first was the online testing platform developed for this stage. The second was a speech enabled application included in the Mediavoice product called “Speaky Facile”. It was considered to be also a useful tool to recruit blind and visually impaired users from the Mediavoice platform. The same workflow was applied in both cases so that the methodology followed was the same. The information in the test was read by speech synthesis engines while the questionnaire (Demographic, SUS, NPS and final comments) replies were given using a voice recognition engine.

4.12.3.1 Description of the informants’ demographic profile

In this section we report some demographic data collected during the test. Fig. 57 shows that half of them have a good level of education (Advanced vocational training) and 14% fall on the first or second cycle of university education. Only 15% have a secondary school education level. Finally, 15% of the informants did not answer this question.

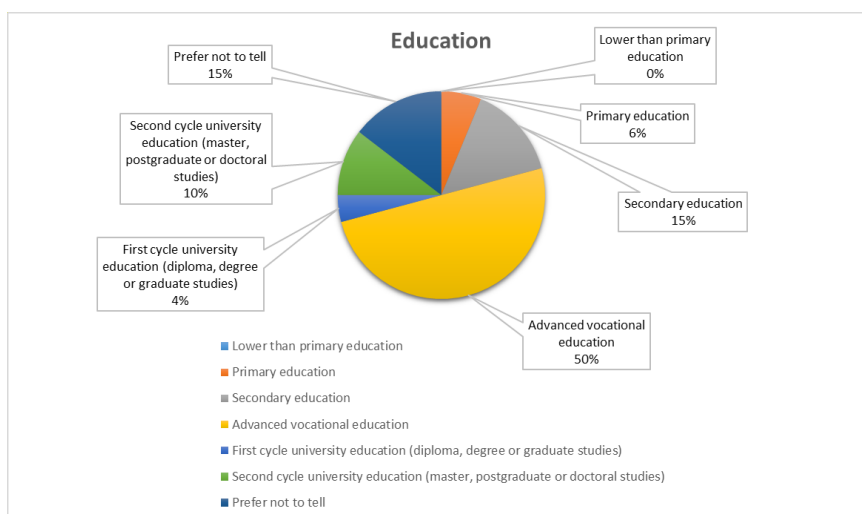


Fig. 57 Education level (Speech platform, online - Italian)

Regarding disabilities (Fig. 58) and age (Fig. 59) of the users we can observe that most of them (71%) were blind and 22% defined themselves as “persons with sight loss”. Most of them were less than 65 and only 15% were people over 65.

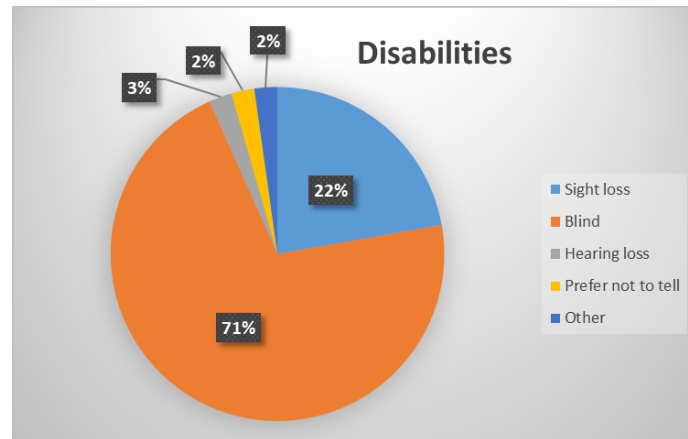


Fig. 58 Disabilities (Speech platform, online - Italian)

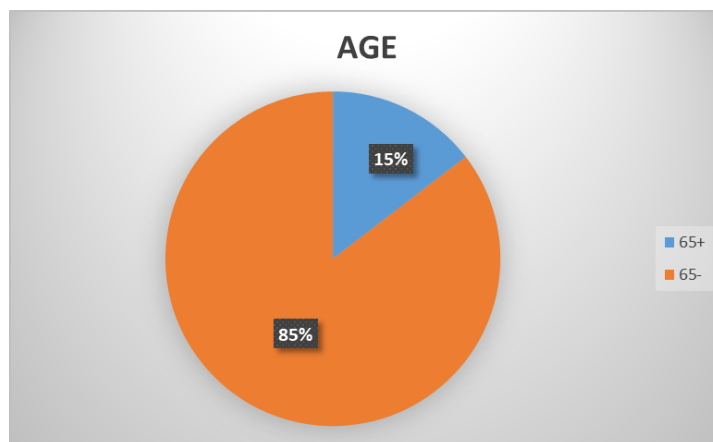


Fig. 59 Age (Speech platform, online - Italian)

4.12.3.2 SUS results

Table 57 shows that the overall SUS score is 67.71, which is a little below the average (68), corresponding to a “D”. Fig. 60 shows the individual SUS scores provided by the informants.

N.	Participants	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Scales			
		I think that I would like to use this feature frequently.	I found the feature unnecessarily complex.	I thought the feature was easy to use.	I think that I would need the support of a technical person to be able to use this feature.	I found the various functions in this feature were well integrated.	I thought there was too much inconsistency in this feature.	I would imagine that most people would learn to use this feature very quickly.	I found the feature very cumbersome to use.	I felt very confident using the feature.	I needed to learn a lot of things before I could get going with this feature.	Odd items	Even items	SUS score (/100)	Grades
1	user 1	5	3	3	5	4	1	4	3	3	4	14	9	57,5	D
2	user 2	5	5	5	5	5	3	1	1	5	5	16	6	55	D
3	user 3	5	5	5	2	5	1	5	1	5	1	20	15	87,5	A
4	user 4	3	1	5	1	5	1	5	1	5	1	18	20	95	A
5	user 5	5	5	5	1	5	3	5	3	3	3	18	10	70	B
6	user 6	5	5	5	5	5	5	5	3	3	3	18	4	55	D
7	user 7	5	3	5	3	5	3	5	2	5	2	20	12	80	B
8	user 8	3	3	3	3	5	3	5	3	5	3	16	10	65	D
9	user 9	5	5	5	1	5	5	5	5	5	5	20	4	60	D
10	user 10	5	1	5	5	5	1	5	1	5	5	20	12	80	B
11	user 11	5	5	5	4	3	3	5	5	4	3	17	5	55	D
12	user 12	2	2	2	1	2	1	2	1	2	1	5	19	60	D
13	user 13	3	3	5	1	5	1	5	1	5	1	18	18	90	A
14	user 14	3	3	5	1	3	1	4	1	5	1	15	18	82,5	A
15	user 15	3	3	3	3	3	2	3	2	3	2	10	13	57,5	D
16	user 16	3	3	5	5	5	5	5	3	3	5	16	4	50	F
17	user 17	5	5	3	5	5	5	3	3	3	5	14	2	40	F
18	user 18	5	1	5	2	4	1	5	1	5	2	19	18	92,5	A
19	user 19	5	5	5	5	3	3	5	1	5	1	18	10	70	B
20	user 20	5	1	4	2	5	1	4	1	4	2	17	18	87,5	A
21	user 21	3	3	2	3	3	3	3	2	2	2	8	12	50	F
22	user 22	5	1	5	1	5	1	5	1	5	1	20	20	100	A
23	user 23	5	5	5	1	5	1	5	1	5	1	20	16	90	A
24	user 24	5	1	5	1	5	1	5	1	5	1	20	20	100	A
25	user 25	3	3	3	3	3	3	4	3	2	3	10	10	50	F
26	user 26	5	5	5	5	5	5	5	5	5	5	20	0	50	F
27	user 27	3	3	4	2	4	3	4	4	4	1	14	12	65	D
28	user 28	5	3	5	1	5	1	5	1	5	1	20	18	95	A
29	user 29	5	5	5	5	1	5	1	5	1	4	8	1	22,5	F
30	user 30	3	3	3	5	5	3	5	3	3	1	14	10	60	D
31	user 31	3	3	1	1	3	3	1	5	5	3	8	10	45	F
32	user 32	3	3	5	1	3	3	5	1	5	5	16	12	70	B
33	user 33	5	1	5	1	5	1	5	1	5	1	20	20	100	A
34	user 34	3	3	3	3	3	3	3	3	3	3	10	10	50	F
35	user 35	5	5	5	3	5	5	5	5	3	3	18	4	55	D
36	user 36	3	1	4	1	3	2	3	2	3	2	11	17	70	B
37	user 37	5	5	5	5	5	5	5	1	5	3	20	6	65	D
38	user 38	5	4	5	3	4	3	5	1	3	3	17	11	70	B
39	user 39	5	5	5	5	5	3	1	2	1	5	12	5	42,5	F
40	user 40	3	3	3	4	3	3	4	3	3	3	11	9	50	F
41	user 41	5	3	5	5	5	3	5	5	5	5	20	4	60	D
42	user 42	5	5	4	5	5	5	5	1	3	4	17	5	55	D
43	user 43	3	4	5	1	5	3	5	1	5	1	18	15	82,5	A
44	user 44	5	1	4	5	4	2	4	1	3	2	15	14	72,5	B
45	user 45	3	3	3	1	3	3	3	3	3	3	10	12	55	D
46	user 46	5	1	4	2	5	1	4	1	4	4	17	16	82,5	A
47	user 47	5	1	5	1	5	1	2	1	5	2	17	19	90	A
48	user 48	4	2	4	1	5	1	5	3	5	1	18	17	87,5	A
												Total Score		67,71	D

Table 57 SUS responses and scores (Speech platform, online - Italian)

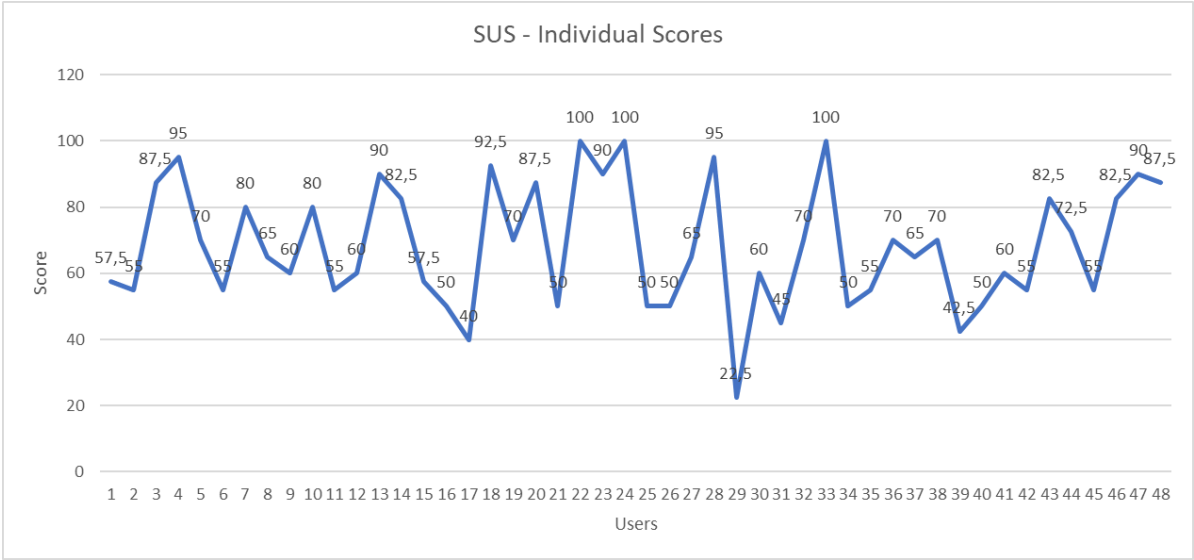


Fig. 60 Chart graph of SUS scores (Speech platform, online - Italian)

4.12.3.3 NPS results

In this section we report the NPS scores given by each user, along with the explanation provided for the score given (Table 58).

Individual Scores -			
Response	Number	Percentage	Comment
1	10	2,48%	The services with voice commands for the visually impaired and the blind are very useful and must be implemented
2	10	2,48%	
3	10	2,48%	clearly explain what to do and the integration of the various operations.
4	8	1,98%	
5	10	2,48%	I am very satisfied I would recommend it to everyone
6	10	2,48%	
7	10	2,48%	Very useful program and very important for the blind.
8	5	1,24%	
9	10	2,48%	i liked it much
10	8	1,98%	makes execution of tasks fast
11	7	1,73%	cannot understand well the answere
12	2	0,50%	
13	10	2,48%	I recommend it because even a blind person can use the computer.
14	8	1,98%	I usually prefer not to give advice but this program seems to me quite simple is useful so I would recommend it
15	7	1,73%	The reason is that he is a blind person needs support to do everything and this can be useful
16	10	2,48%	
17	10	2,48%	
18	10	2,48%	The ease and immediacy of the system.
19	10	2,48%	
20	10	2,48%	Improve the quality of life
21	2	0,50%	
22	10	2,48%	The day of a blind person is on a steep climb from the moment of awakening until the evening. These technological tools, besides making us participate in social life, help us to live better. These tools are able to limit moments of fatigue, sadness and melancholy. I am grateful to you for this. Thank you! Thank you! Thank you! Luciano Venturelli.
23	10	2,48%	I'm tired tonight, I go to bed early
24	10	2,48%	
25	5	1,24%	
26	10	2,48%	I find it simple, easy and intuitive to use.
27	10	2,48%	I think it's a simple and effective way
28	1	0,25%	I can't get to know him
29	10	2,48%	
30	8	1,98%	
31	10	2,48%	
32	10	2,48%	The great practicality and ease of access.
33	10	2,48%	
34	10	2,48%	When this system comes into operation.
35	7	1,73%	
36	10	2,48%	I think it's very useful and can help us blind
37	5	1,24%	
38	10	2,48%	
39	5	1,24%	
40	10	2,48%	
41	7	1,73%	
42	10	2,48%	Its ease
43	10	2,48%	It makes me independent, and politically informed culturally
44	10	2,48%	
45	10	2,48%	very rich with various functions that help the disabled
46	10	2,48%	For people like me who are severely or visually impaired, it is absolutely necessary to interact with the media
47	9	2,23%	a complete and easy system
Total	404	100%	

Table 58 NPS Individual scores and comments (Speech platform, online - Italian)

Table 59 shows the results after applying the NPS formula:

Net Promoter Score Calculation		
	Number	Percentage
Promoters	32	68%
Neutrals	8	17%
Detractors	7	15%
Total	47	100%
Net Promoter Score		53,2

Table 59 NPS score calculation (Speech platform, online - Italian)

Most respondents were promoters and just seven of them were detractors (Fig. 61). This survey shows that the service tested could be considered to be an “excellent” solution in the grade scale of NPS.

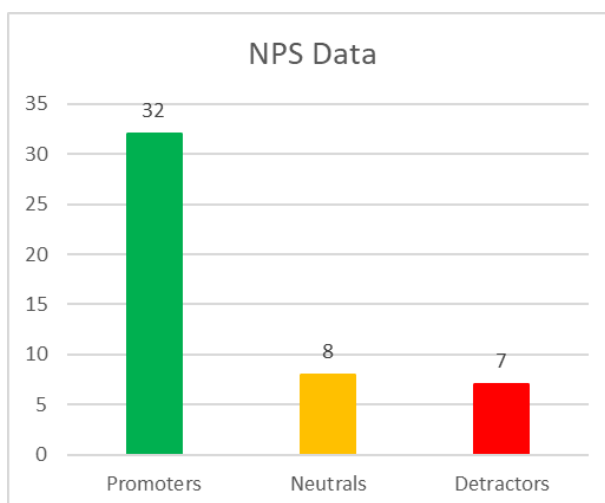


Fig. 61 Chart of NPS data (Speech platform, online - Italian)

4.12.3.4 Qualitative comments made

In Table 60 we report some of the comments made by the informants in order to have an overview of their thoughts and reactions to the service tested.

No.	COMMENTS
1	Make the on / off keys and other primary functions on the devices evident.
2	Search in the Internet as if I was using a mobile phone.
3	The instructions are not always very clear.
4	I would also like the possibility of recording what I am listening to.
5	I would appreciate if you could also use Google, Facebook, and Instagram.
6	I would like a mobile phone completely vocal or, at most, with a keyboard, excluding the touch function.

7	I would like an enhanced system of audio description to be developed, which could help you watch films and documentaries.
8	I did not understand if this system also manages the search for TV channels or platforms such as Sky.
9	How will the service be available? Only with smartTV or even with my current non-smart TV?
10	I have no idea, for me that's okay.

Table 60 Comments (Speech platform, online - Italian)

4.12.3.5 Test conclusions

We can observe that the online tests of the speech platform did not give such good results as the live tests. Actually, the results are rather average (68). Yet, looking at the comments given by the informants we can conclude that some of the negative scores might have been distorted since the goals of the project were not as well-explained as in live tests. Moreover, some SUS questions were not clear enough. In live tests users sometimes asked for help in order to understand the questions and the way to provide a better answer. The NPS result was excellent, so there seem to be some inconsistencies between these two tools in the case of this service. We believe the answer is probably in the middle, which means that the work done so far could be considered good enough. We will continue improving the EasyTV speech platform with the help of user associations and taking into account the suggestions given by end users with a continuous interaction with all the stakeholders of the project.

4.12.3.6 Actions to be taken for service improvement

The actions that will follow to improve the design and development of the final prototype, all take into account all the comments received.

5. CONCLUSIONS

The EasyTV intermediate tests were successfully carried out during March 2019. Table 61 reports the scores obtained for each service tested. The positive results appear in green, whereas the negative scores are written in red.

Partner	Service (test modality)	No. informants	SUS	NPS
CERTH	Capturing module (online + live face to face)	12	57.92 (below average)	-41.7
	Crowdsourcing platform (live face to face).	11	59.09 (below average)	-18.2
	Gesture recognition control (live face to face)	5	77.5 (above average)	40 (good)
	3D signing avatar (live face to face)	5	49.5 (below average)	-80

UPM	Text detection (online)	8	69.69 (above average)	-12.5
	Subtitles customization (online)	10	82.75 (above average)	30 (good)
	Face detection (online)	5	73.50 (above average)	0 (good)
	Custom magnification (online)	11	80.23 (above average)	36.4 (good)
	Character detection (online)	6	77.04 (above average)	16.7 (good)
CCMA	Colour-blind subtitles (live face to face)	9	78.33 (above average)	0 (good)
	Screen reader (live face to face)	5	80.5 (above average)	80 (World Class)
MV	Speech platform (online + live face to face)	Live, CA: 5 Live, IT: 12 Online, IT: 48	Live, CA: 62.5 (below average) Live, IT: 88.33 (above average) Online, IT: 67.71 (below average)	Live, CA: -80 Live, IT: 75 (world class) Online, IT: 53.2 (excellent)

Table 61 Summary of the intermediate tests results

The main conclusion that can be drawn from this table is that most services have been positively evaluated. Yet, there are also some services that need to be carefully revised in order to meet user needs, since either the SUS or the NPS score (or both) have shown big room for improvement. The feedback gathered from users (both quantitative and, especially, qualitative) will be essential to plan to following steps.

Even though the results of the intermediate tests are positive in general, there are a few issues that should be taken into account for the future stages of the project. First, although the SUS can provide accurate scores with a relatively small sample, the results obtained in these tests are not statistically relevant. That means the information elicited does not necessarily apply to the general European population. However, the informants already shed some light on what can be improved with the services developed so far, which was the objective of this phase. Second, in the case of the 3D avatar, maybe a new approach should be taken for the following tests and test not only for the usability of the system, but also for comprehension. Also, some improvements will be made in the online testing platform so that it is fully accessible to all kinds of users for the next phases of the project. The project partners that are user associations themselves were consulted during the process and will carry on piloting the platform until it is ready for the final testing.

6. REFERENCES

- [1] Katsanos, Christos; Tselios, Nikolaos; and Xenos, Michalis (2012). Perceived usability evaluation of learning management systems: a first step towards standardization of the system usability scale in Greek. *Proceedings of the 2012 16th Panhellenic Conference on Informatics*.
- [2] Bangor, Aaron; Kortum, Philip T; & Miller, James T. (2008). An Empirical Evaluation of the System Usability Scale. *International Journal of Human-Computer Interaction*, 24(6): 574-594.
- [3] Tullis, Thomas, and Stetson, Jacqueline (2004). A Comparison of Questionnaires for Assessing Website Usability. Paper presented at the Usability Professionals Association annual conference in Minneapolis. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.396.3677&rep=rep1&type=pdf> [Last accessed 18 March 2019]

7. ANNEXES

7.1. Test information sheet and consent form in English

Easy TV is an H2020 EC funded project with grant agreement number 761999. EasyTV is led by Federico Álvarez, from the Universidad Politécnica de Madrid (Spain). The ethical adviser is Pilar Orero. You can contact Pilar Orero at pilar.orero@uab.cat and ask her for more information about the project and the project results.

EasyTV targets wider availability of interaction to accessible media and to provide equal access to audiovisual services for all users, especially for people with varying degrees of disabilities (focusing in visual and hearing impaired).

The test consists of two parts. First you will watch a very short video with the demo of a service or will be given some instructions to interact with the service. Then you will reply to a short questionnaire.

Now please read/watch/listen the consent form.

CONSENT FORM

Your participation in the tests is absolutely voluntary. The information you provide will be used in the project, but it will remain anonymous. You can discontinue your involvement in the study at any time without prior justification. This shall have no repercussions or negative consequences of any sort.

No personal information will be stored. The rest of data will be stored for 5 years after the project is completed, as the European legislation stipulates.

If you are willing to participate, please confirm the following statements by selecting the “yes” button at the end of this form. If you select “no” it means you do not give your consent.

- I have read and understood the information given for this research or have had the information read to me,
- I have had the opportunity to ask questions about the research.

- I consent to take part in the research sessions.

Do you give your consent to participate in this test?

- Yes
- No

7.2. Test information sheet and consent form in Spanish

EasyTV es un proyecto financiado por H2020 CE, cuyo número de subvención es 761999. EasyTV está dirigido por Federico Álvarez, de la Universidad Politécnica de Madrid. La asesora ética es Pilar Orero, con la que puede comunicarse en pilar.orero@uab.cat y pedirle más información sobre el proyecto y sus resultados.

La principal motivación de EasyTV es la necesidad de proporcionar un acceso igualitario a la televisión y a los servicios audiovisuales con el fin de garantizar que todos los usuarios, y especialmente las personas con diversidad funcional, las personas de la tercera edad y los usuarios con necesidades especiales, obtengan el máximo beneficio en cuanto a la oferta y la calidad de los contenidos y servicios multimedia.

El test consta de dos partes. En primer lugar, deberá mirar un vídeo corto con la demostración de un servicio o bien se le darán unas instrucciones para que interactúe con este. A continuación, deberá responder a un breve cuestionario.

Por favor, ahora lea/mire/escuche el consentimiento informado.

CONSENTIMIENTO

Su participación en la prueba es absolutamente voluntaria. La información que proporcione se utilizará en el proyecto, pero permanecerá anónima. Puede interrumpir su participación en cualquier momento sin justificación previa. Esto no tendrá repercusiones ni consecuencias negativas de ningún tipo.

No se almacenarán datos personales. El resto de información de conservará durante un período de cinco años tras la finalización del proyecto, tal y como ordena la legislación europea.

Si está dispuesto a participar, confirme las siguientes declaraciones seleccionando "sí" al final de este formulario. Si selecciona "no" significa que no da su consentimiento.

- He leído y comprendido la información proporcionada para este proyecto o me la han leído.
- He tenido la oportunidad de hacer preguntas sobre el proyecto.
- Doy mi consentimiento para participar en la prueba.

¿Da su consentimiento para participar en esta prueba?

- Sí
- No

7.3. Test information sheet and consent form in Catalan

EasyTV és un projecte finançat per H2020 CE, el número de subvenció del qual és 761999. EasyTV està dirigit per Federico Álvarez, de la Universitat Politècnica de Madrid. L'assessora ètica és Pilar Orero. Pot comunicar-se amb ella enviant-li un correu a pilar.orero@uab.cat per demanar-li més informació sobre el projecte i els seus resultats.

La principal motivació d'EasyTV és la necessitat de proporcionar un accés equitatiu a la televisió i als serveis audiovisuals per tal de garantir que tots els usuaris -i especialment les persones amb diversitat funcional, les persones de la tercera edat i els usuaris amb necessitats especials- obtinguin el màxim benefici pel que fa a l'oferta i la qualitat dels continguts i serveis multimèdia.

La prova consta de dues parts. En primer lloc haurà de mirar un vídeo curt amb una demostració d'un servei o bé seguir les instruccions que se li oferiran perquè hi interactui. A continuació, se li demanarà que contesti un breu qüestionari.

Si us plau, ara llegeixi/miri/escolti el consentiment informat.

Consentiment informat

La seva participació en la prova és absolutament voluntària. La informació que proporcioni s'utilitzarà en el projecte, però romandrà anònima. Pot interrompre la seva participació en qualsevol moment sense justificació prèvia. Això no tindrà repercussions ni conseqüències negatives de cap tipus. Si està disposat a participar-hi, confirmi les següents afirmacions seleccionant "sí" al final d'aquest formulari. Si selecciona "no" vol dir que no dona el seu consentiment.

No s'emmagatzemaran dades personals. La resta de dades es conservaran durant cinc anys un cop acabi el projecte, tal i com ordena la legislació europea.

- He llegit i comprès la informació proporcionada per aquest projecte o me l'han llegida.
- He tingut l'oportunitat de fer preguntes sobre el projecte.
- Dono el meu consentiment per participar en la prova.

Dona el seu consentiment per participar en aquesta prova?

- Si
- No

7.4. Test information sheet and consent form in Greek

To EasyTV είναι ένα έργο χρηματοδοτούμενο από το πρόγραμμα H2020 της Ευρωπαϊκής Ένωσης με αριθμό συμφωνίας επιχορήγησης 761999. Το EasyTV συντονίζεται από τον Federico Álvarez ο οποίος είναι ακαδημαϊκό μέλος της Πολυτεχνικής Σχολής της Μαδρίτης (Ισπανία). Η σύμβουλος σε θέματα ηθικής του έργου είναι η Pilar Orero. Μπορείτε να επικοινωνήσετε με την Pilar Orero στο pilar.orero@uab.cat και να ρωτήσετε περισσότερες πληροφορίες για το έργο και τα αποτελέσματά του.

Το EasyTV στοχεύει στο να διευρύνει τη διαθεσιμότητα για συμμετοχή σε μέσα πρόσβασης και την παροχή ίσων δυνατοτήτων πρόσβασης σε οπτικο-ακουστικές υπηρεσίες σε όλους τους χρήστες, ειδικά σε ανθρώπους με διαφόρους βαθμούς αναπηρίας (εστιάζοντας κυρίως σε άτομα με προβλήματα όρασης και ακοής).

Παρακαλώ διαβάστε/δείτε/ακούστε την φόρμα συγκατάθεσης.

ΦΟΡΜΑ ΣΥΓΚΑΤΑΘΕΣΗΣ

Η συμμετοχή σας στα δοκιμαστικά test είναι απόλυτα εθελοντική. Οι πληροφορίες που παρέχετε θα χρησιμοποιηθούν για τους σκοπούς του έργου, αλλά θα τηρηθεί ανωνυμία. Μπορείτε να διακόψετε τη συμμετοχή σας σε αυτή τη μελέτη οποιαδήποτε στιγμή θελήσετε χωρίς καμία αιτιολόγηση. Κάτι τέτοιο δεν έχει επιπτώσεις ή αρνητικές συνέπειες.

Αν θέλετε να συμμετάσχετε στις δοκιμές, παρακαλώ επιβεβαιώστε τα ακόλουθα με το να επιλέξετε “ναι” στο τέλος αυτής της φόρμας. Αν επιλέξετε “όχι” σημαίνει ότι δεν δίνετε τη συγκατάθεσή σας.

- Έχω διαβάσει και έχω κατανοήσει τις πληροφορίες που δίνονται σε αυτήν την έρευνα ή οι σχετικές πληροφορίες αναγνώστηκαν σε εμένα,
- Είχα τη δυνατότητα να κάνω ερωτήσεις σχετικά με την έρευνα.
- Συμφωνώ να συμμετάσχω στην ερευνητική διαδικασία.

Δίνεται τη συγκατάθεσή σας για τη συμμετοχή σας στις δοκιμές;

- ☐ Ναι
- ☐ Όχι

7.5. Test information sheet and consent form in Italian

Easy TV è un progetto H2020 finanziato dalla UE con l'accordo di sovvenzione numero 761999. Alla guida del progetto EasyTV troviamo Federico Álvarez, della Universidad Politécnica de Madrid (Spagna), mentre il consigliere etico è Pilar Orero. È possibile contattare Pilar Orero a pilar.orero@uab.cat al fine di avere ulteriori informazioni sul progetto e sui risultati dello stesso.

EasyTV ha come obiettivo quello di ampliare la possibilità di interazione verso i media accessibili e di fornire un accesso equo ai servizi audiovisivi per tutti gli utenti, in particolare per le persone con diversi gradi di disabilità (con un particolare focus verso sordi e non vedenti).

Il test è strutturato in due parti. Prima verrà mostrato un breve video con la demo di un servizio o, in alternativa, verranno date istruzioni su come interagire con il servizio. Poi si dovrà rispondere ad un breve questionario.

Gentilmente leggete/ascoltate/osservate il modulo di consenso.

Modulo di consenso

La vostra partecipazione ai test è assolutamente volontaria. Le informazioni fornite verranno utilizzate nel progetto, ma rimarranno anonime. È possibile interrompere il vostro coinvolgimento

nello studio in qualsiasi momento senza giustificazione preventiva. Ciò non avrà ripercussioni o conseguenze negative di alcun tipo.

Se siete disposti a partecipare, si prega di confermare le seguenti dichiarazioni, selezionando il pulsante "Sì" alla fine di questo modulo. Se si seleziona "No" significa che non si dà il consenso.

Ho letto e compreso, o mi hanno letto, le informazioni fornite per questa ricerca.

Ho avuto l'opportunità di porre domande sulla ricerca.

- Acconsento a partecipare alle sessioni di ricerca.

Acconsente a partecipare a questo test?

- Sí
- No

7.6. Test information sheet and consent form in Greek SL (snapshots of clips)

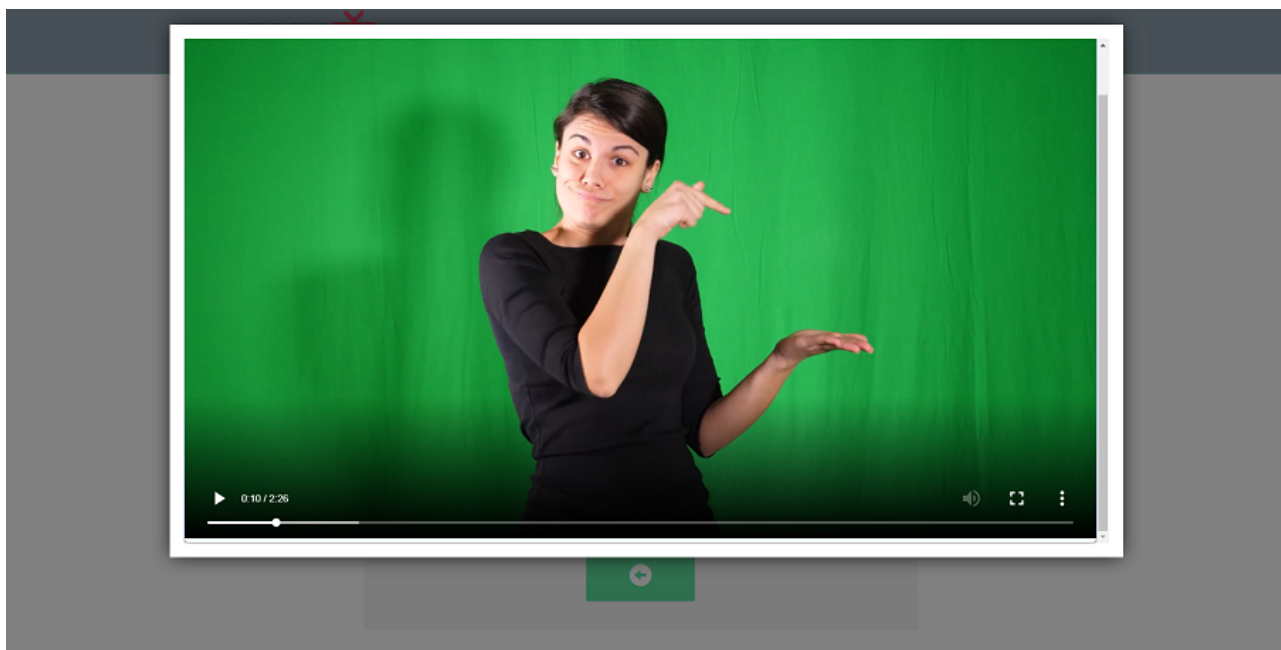


Fig. 62 Information and consent form in Greek Sign Language (1)

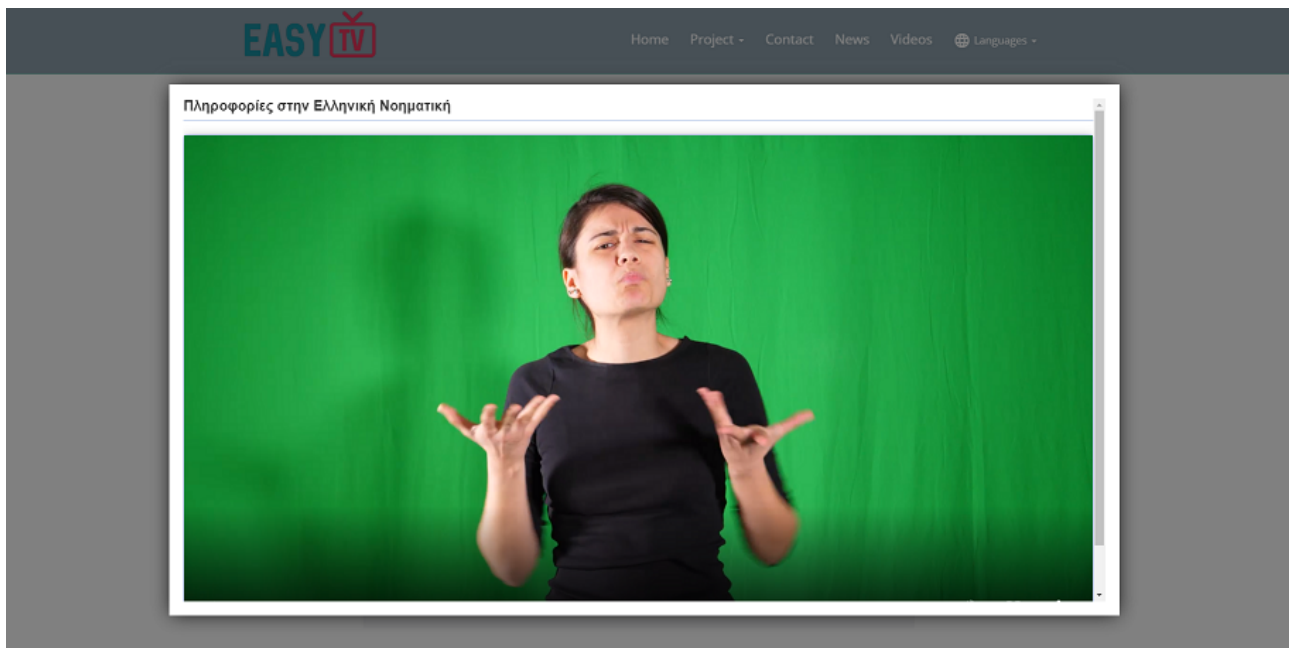


Fig. 63 Information and consent form in Greek Sign Language (2)

7.7. Test information sheet and consent form in Spanish SL (snapshots of clips)

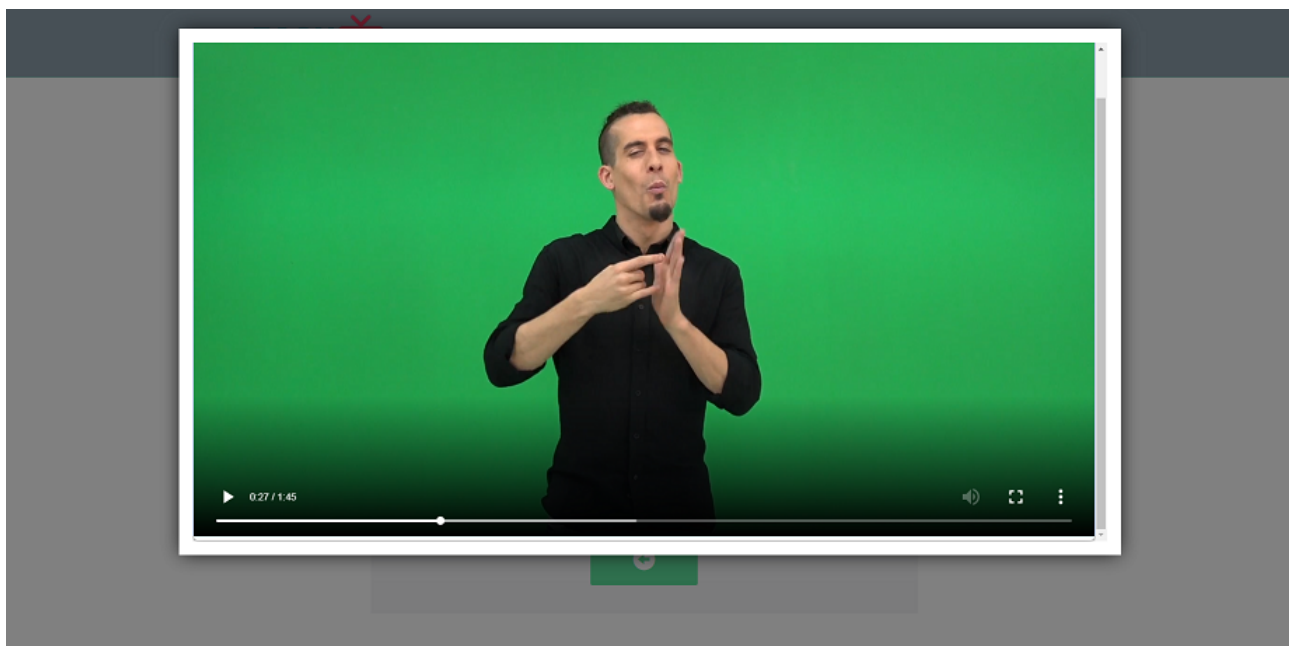


Fig. 64 Information and consent form in Spanish Sign Language (1)

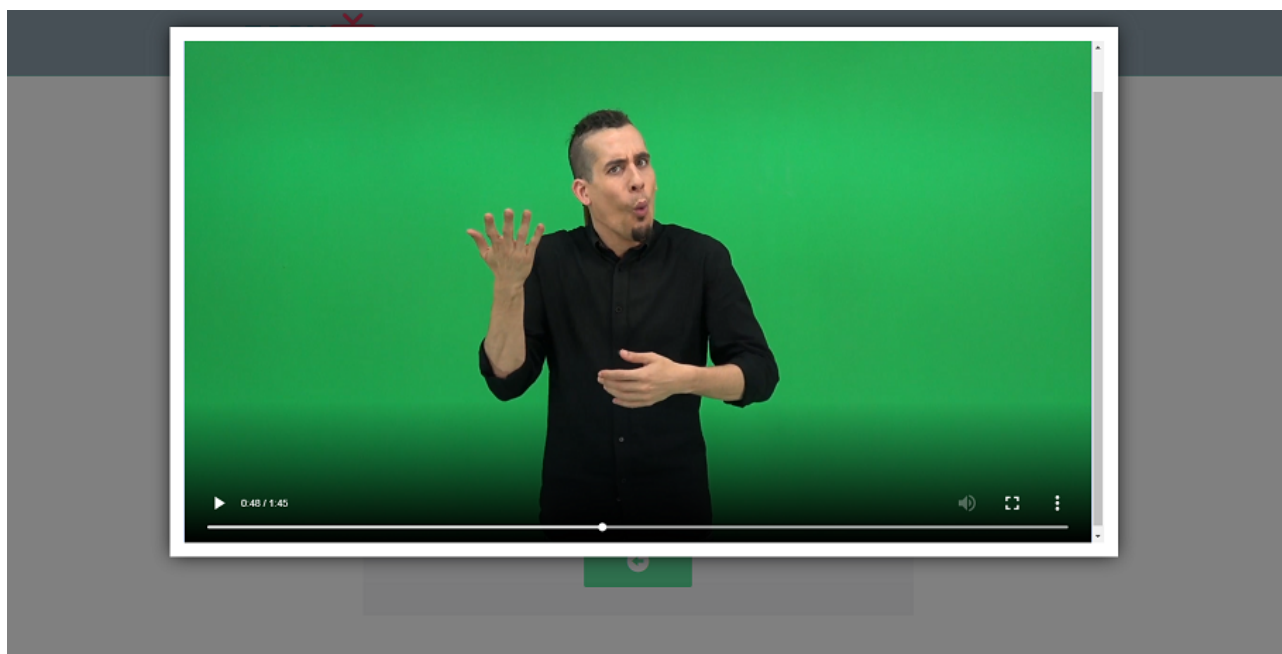


Fig. 65 Information and consent form in Spanish Sign Language (2)

7.8. Questionnaire in English

1. Highest level of studies reached:*

- ☐ Lower than primary education
- ☐ Primary education
- ☐ Secondary education
- ☐ Advanced vocational education
- ☐ First cycle university education (diploma, degree or graduate studies)
- ☐ Second cycle university education (master, postgraduate or doctoral studies)
- ☐ Prefer not to tell

2. How would you define yourself? (more than one can be selected)*

- ☐ Sight loss
- ☐ Blind
- ☐ 65+
- ☐ Hearing loss
- ☐ I'm deaf or hard of hearing, and I prefer to use sign language on my everyday life
- ☐ I'm deaf or hard of hearing, and I prefer to use oral language on my everyday life
- ☐ Prefer not to tell
- ☐ Other (please, indicate):

3. I think that I would like to use this service frequently*

Strongly
disagree

Strongly agree

1	2	3	4	5
---	---	---	---	---

4. I found the service unnecessarily complex*

Strongly
disagree

Strongly agree

1	2	3	4	5
---	---	---	---	---

5. I thought the service was easy to use*

Strongly
disagree

Strongly agree

1	2	3	4	5
---	---	---	---	---

6. I think that I would need the support of a technical person to be able to use this service*

Strongly
disagree

Strongly agree

1	2	3	4	5
---	---	---	---	---

7. I found the various functions in this service were well integrated*

Strongly
disagree

Strongly agree

1	2	3	4	5
---	---	---	---	---

8. I thought there was too much inconsistency in this service*

Strongly
disagree

Strongly agree

1	2	3	4	5
---	---	---	---	---

9. I would imagine that most people would learn to use this service very quickly*

Strongly
disagree

Strongly agree

1	2	3	4	5
---	---	---	---	---

10. I found the service very cumbersome to use*

Strongly
disagree

Strongly agree

1	2	3	4	5
---	---	---	---	---

11. I felt very confident using the service*

Strongly
disagree

Strongly agree

1	2	3	4	5
---	---	---	---	---

12. I needed to learn a lot of things before I could get going with this service*

Strongly
disagree

Strongly agree

1	2	3	4	5
---	---	---	---	---

13. Did you know or have you ever used this kind of service before? *

- ☐ Yes
☐ No

If so, which one?

14. How likely would recommend our service to a friend or colleague in a scale from 0 (very improbable) to 10 (I would definitely recommend it)? *

0.....10

15. What is the primary reason for this score?

16. Do you think we should continue researching and developing on this area of TV service? *

- ☐ Yes
☐ No
☐ Prefer not to tell

17. If you would like to suggest any new functionality or improvement, you can do it now.

18. Is there anything you would like to add?

7.9. Questionnaire in Spanish

1. Nivel de estudios más alto conseguido*:

- ☐ Inferior a la educación primaria
☐ Educación primaria
☐ Educación secundaria
☐ Formación profesional (FP)
☐ Diplomatura, licenciatura o grado universitario
☐ Máster, posgrado o doctorado
☐ NS/NC

2. ¿Cómo se definiría? (puede seleccionar más de una respuesta)*

- ☐ Tengo pérdida de visión
☐ Ciego
☐ Soy mayor de 65
☐ Tengo pérdida de audición
☐ Soy sordo y prefiero usar la lengua de signos en mi vida diaria.
☐ Soy sordo y prefiero usar la lengua oral en mi vida diaria.
☐ NS/NC
☐ Otro (por favor, especifique):

3. Creo que me gustaría usar este sistema frecuentemente*.

Totalmente en
desacuerdo

Totalmente de
acuerdo

1	2	3	4	5
---	---	---	---	---

4. Me ha parecido innecesariamente complejo este sistema*.

Totalmente en
desacuerdo

Totalmente de
acuerdo

1	2	3	4	5
---	---	---	---	---

5. Este sistema me ha parecido fácil de usar*.

Totalmente en
desacuerdo

Totalmente de
acuerdo

1	2	3	4	5
---	---	---	---	---

6. Creo que necesitaría la ayuda de una persona con conocimientos técnicos para usar este sistema*.

Totalmente en
desacuerdo

Totalmente de
acuerdo

1	2	3	4	5
---	---	---	---	---

7. Me ha parecido que las distintas funciones de este sistema están bien integradas*.

Totalmente en
desacuerdo

Totalmente de
acuerdo

1	2	3	4	5
---	---	---	---	---

8. Creo que este sistema es demasiado inconsistente*.

Totalmente en
desacuerdo

Totalmente de
acuerdo

1	2	3	4	5
---	---	---	---	---

9. Imagino que la mayoría de la gente aprendería a usar este sistema de forma muy rápida*.

Totalmente en
desacuerdo

Totalmente de
acuerdo

1	2	3	4	5
---	---	---	---	---

10. El sistema me ha parecido engorroso*.

Totalmente en
desacuerdo

Totalmente de
acuerdo

1	2	3	4	5
---	---	---	---	---

11. Tenía muy claro cómo usar este sistema todo el rato*.

Totalmente en
desacuerdo

Totalmente de
acuerdo

1	2	3	4	5
---	---	---	---	---

12. Tuve que adquirir muchos conocimientos antes de poder usar este sistema*.

Totalmente en
desacuerdo

Totalmente de
acuerdo

1	2	3	4	5
---	---	---	---	---

13. ¿Conocía o había usado este tipo de servicio anteriormente?*

En caso afirmativo, ¿cuál?

14. ¿Cuán probable es que recomiende nuestro servicio a un familiar o amigo? Califique su respuesta en una escala de 0 a 10, donde 0 es «Muy improbable» y 10 es «Seguro que lo recomendaría»*.

15. ¿Cuál es la razón principal para la puntuación que ha dado en la pregunta anterior?

16. ¿Cree que deberíamos seguir investigando y desarrollando este tipo de servicios para la televisión?*

- ☐ Sí
- ☐ No
- ☐ NS/NC

17. Si desea sugerir que añadamos alguna nueva característica al servicio o que lo mejoremos de alguna manera, puede hacerlo ahora.

18. ¿Le gustaría hacer constar alguna otra cuestión?

7.10. Questionnaire in Catalan

1. Nivell més alt d'estudis assolit:

- ☐ Inferior a l'educació primària
- ☐ Educació primària
- ☐ Educació secundària
- ☐ Formació professional (FP)
- ☐ Diplomatura, llicenciatura o grau universitari
- ☐ Màster, postgrau o doctorat
- ☐ NS/NC

2. Com es definiria? (Es pot seleccionar més d'una resposta)

- ☐ Tinc pèrdua de visió
- ☐ Cec
- ☐ 65+
- ☐ Tinc pèrdua d'audició
- ☐ Soc sord i prefereixo fer servir la llengua de signes en la meva vida diària
- ☐ Soc sord i prefereixo fer servir la llengua oral en la meva vida diària
- ☐ NS/NC
- ☐ Altres (si us plau, especifiqueu):

3. Crec que m'agradaria fer servir aquest sistema sovint.

Totalment en
desacord

Totalment
d'acord

1	2	3	4	5
---	---	---	---	---

4. Aquest sistema m'ha semblat innecessàriament complex.

Totalment en
desacord

Totalment
d'acord

1	2	3	4	5
---	---	---	---	---

5. El sistema m'ha semblat fàcil de fer servir.

Totalment en
desacord

Totalment
d'acord

1	2	3	4	5
---	---	---	---	---

6. Crec que necessitaria l'ajuda d'una persona amb coneixements tècnics per fer servir aquest sistema.

Totalment en
desacord

Totalment
d'acord

1	2	3	4	5
---	---	---	---	---

7. M'ha semblat que les diverses funcions d'aquest sistema estaven ben integrades.

Totalment en
desacord

Totalment
d'acord

1	2	3	4	5
---	---	---	---	---

8. Crec que el sistema és massa inconsistent.

Totalment en
desacord

Totalment
d'acord

1	2	3	4	5
---	---	---	---	---

9. Imagino que la majoria de gent aprendria a fer servir aquest sistema ràpidament.

Totalment en
desacord

Totalment
d'acord

1	2	3	4	5
---	---	---	---	---

10. L'ús del sistema m'ha semblat molt molest.

Totalment en
desacord

Totalment
d'acord

1	2	3	4	5
---	---	---	---	---

11. Tenia molt clar com fer servir el sistema en tot moment.

Totalment en
desacord

Totalment
d'acord

1	2	3	4	5
---	---	---	---	---

12. Vaig haver d'aprendre moltes coses noves abans de poder fer servir aquest sistema.

Totalment en
desacord

Totalment
d'acord

1	2	3	4	5
---	---	---	---	---

13. Coneixia o haver fet servir aquest tipus de servei abans?

- ☐ Sí
☐ No

En cas afirmatiu, quin?

14. Quina probabilitat hi ha que recomani el nostre servei a un familiar o amic? Doni la seva resposta en una escala del 0 al 10, en la qual 0 és "molt improbable" i 10 és "de ben segur que el recomanaria".

1.....10

15. Quin és el principal motiu de la puntuació que ha atorgat a la pregunta anterior?

16. Creu que hauríem de continuar investigant i desenvolupant aquest tipus de serveis per a la televisió?

- ☐ Sí
☐ No
☐ NS/NC

17. Si vol suggerir que afegim alguna nova característica al servei o que hi fem cap millora, ho pot fer ara.

18. Hi ha res més que vulgui fer constar?

7.11. Questionnaire in Greek

1. Επίπεδο σπουδών:*

- ☐ Χαμηλότερο της πρωτοβάθμιας εκπαίδευσης
☐ Πρωτοβάθμια εκπαίδευση
☐ Δευτεροβάθμια εκπαίδευση
☐ Προχωρημένη επαγγελματική εκπαίδευση
☐ Τριτοβάθμια εκπαίδευση (πτυχίο)
☐ Τριτοβάθμια εκπαίδευση (μεταπτυχιακές/διδακτορικές σπουδές)
☐ Επιθυμώ να μην απαντήσω

2. Με ποιόν τρόπο θα περιγράφατε τον εαυτό σας? (μπορείτε να επιλέξετε περισσότερα του ενός)*

- ☐ Απώλεια όρασης
☐ Τυφλός
☐ 65+
☐ Απώλεια ακοής
☐ Είμαι κουφός ή βαρήκοος, και προτιμώ να χρησιμοποιώ Νοηματική Γλώσσα καθημερινά.
☐ Είμαι κουφός ή βαρήκοος, και προτιμώ να χρησιμοποιώ προφορική γλώσσα καθημερινά.
☐ Επιθυμώ να μην απαντήσω
☐ Άλλο (παρακαλώ αναφέρετε):

3. Νομίζω ότι θα ήθελα να χρησιμοποιώ αυτήν την υπηρεσία συχνά*

Διαφωνώ
απολύτως

Συμφωνώ
απολύτως

1	2	3	4	5
---	---	---	---	---

4. Θεωρώ ότι η υπηρεσία είναι πολύπλοκη χωρίς λόγο *

Διαφωνώ
απολύτως

Συμφωνώ
απολύτως

1	2	3	4	5
---	---	---	---	---

5. Θεωρώ ότι η υπηρεσία είναι εύκολη στη χρήση*

Διαφωνώ
απολύτως

Συμφωνώ
απολύτως

1	2	3	4	5
---	---	---	---	---

6. Πιστεύω ότι για να χρησιμοποιηθεί η υπηρεσία θα χρειαστεί τεχνική υποστήριξη από ειδικό*

Διαφωνώ
απολύτως

Συμφωνώ
απολύτως

1	2	3	4	5
---	---	---	---	---

7. Παρατήρησα ότι οι διάφορες λειτουργίες της υπηρεσίας έχουν ενσωματωθεί σωστά*

Διαφωνώ
απολύτως

Συμφωνώ
απολύτως

1	2	3	4	5
---	---	---	---	---

8. Θεωρώ ότι αυτή η υπηρεσία περιείχε πολλές ασυνέπειες*

Διαφωνώ
απολύτως

Συμφωνώ
απολύτως

1	2	3	4	5
---	---	---	---	---

9. Πιστεύω ότι οι περισσότεροι άνθρωποι θα μπορέσουν να χρησιμοποιήσουν την υπηρεσία πολύ εύκολα*

Διαφωνώ
απολύτως

Συμφωνώ
απολύτως

1	2	3	4	5
---	---	---	---	---

10. Βρήκα την υπηρεσία πολύ δύσκολη στη χρήση*

Διαφωνώ
απολύτως

Συμφωνώ
απολύτως

1	2	3	4	5
---	---	---	---	---

11. Νιώθω μεγάλη άνεση στο να χρησιμοποιώ αυτήν την υπηρεσία*

Διαφωνώ
απολύτως

Συμφωνώ
απολύτως

1	2	3	4	5
---	---	---	---	---

12. Έπρεπε να μάθω πολλά προκειμένου να χρησιμοποιήσω την υπηρεσία*

Διαφωνώ
απολύτως

Συμφωνώ
απολύτως

1	2	3	4	5
---	---	---	---	---

13. Ξέρατε από πριν ή είχατε χρησιμοποιήσει τέτοιου είδους υπηρεσίες προηγουμένως; *

- ☐ Ναι
☐ Όχι

Αν ναι, ποιά?

14. Πόσο πιθανό είναι να προτείνετε την υπηρεσία αυτή σε κάποιο φίλο ή συνάδελφο στην κλίμακα από 0 (καθόλου πιθανό) μέχρι 10 (σίγουρα θα την πρότεινα); *

0.....10

15. Ποιός ήταν ο κύριος λόγος που βάλατε αυτήν την βαθμολογία;

16. Πιστεύετε ότι πρέπει να συνεχιστεί η έρευνα και η ανάπτυξη λογισμικού σε αυτόν τον τομέα υπηρεσιών TV; *

- ☐ Ναι
☐ Όχι
☐ Επιθυμώ να μην απαντήσω

17. Αν θέλετε να προτείνετε μια νέα λειτουργία ή τη βελτίωση μιας ήδη υπάρχουσας, μπορείτε να το κάνετε τώρα.

18. Υπάρχει κάτι που θα θέλατε να προσθέσετε;

7.12. Questionnaire in Italian

1. Qual'è il tuo più alto grado di studio:

- ☐ Più basso della scuola primaria
☐ Scuola Primaria
☐ Scuola Secondaria
☐ Istruzione superiore (formazione professionale, diploma, ecc.)
☐ Università primo ciclo (laurea breve, altro)
☐ Università secondo ciclo (laurea, master, dottorato)
☐ Preferisco non rispondere

2. Come definiresti te stesso? (puoi selezionare più di una opzione)

- ☐ Ipovedente
☐ Non vedente
☐ Over 65
☐ Sordo
☐ Con problemi di udito e preferisco usare la lingua dei segni nella mia vita quotidiana
☐ Sordo o con problemi di udito e preferisco usare la lingua orale nella mia vita quotidiana
☐ Preferisco non rispondere
☐ Altro (specifica):

3. Penso che userò spesso questo sistema. *

Totalmente in
disaccordo

Totalmente
d'accordo

1	2	3	4	5
---	---	---	---	---

4. Trovo questo sistema inutilmente complesso. *

Totalmente in
disaccordo

Totalmente
d'accordo

1	2	3	4	5
---	---	---	---	---

5. Penso che il sistema sia facile da usare. *

Totalmente in
disaccordo

Totalmente
d'accordo

1	2	3	4	5
---	---	---	---	---

6. Penso che avrei bisogno dell'aiuto di una persona con conoscenze tecniche per utilizzare questo sistema.*

Totalmente in
disaccordo

Totalmente
d'accordo

1	2	3	4	5
---	---	---	---	---

7. Le funzioni di questo sistema sono ben integrate. *

Totalmente in
disaccordo

Totalmente
d'accordo

1	2	3	4	5
---	---	---	---	---

8. Penso che il sistema sia molto incoerente. *

Totalmente in
disaccordo

Totalmente
d'accordo

1	2	3	4	5
---	---	---	---	---

9. Immagino che la maggior parte delle persone imparerebbe a usare questo sistema molto rapidamente. *

Totalmente in
disaccordo

Totalmente
d'accordo

1	2	3	4	5
---	---	---	---	---

10. Trovo che il sistema sia scomodo da usare. *

Totalmente in
disaccordo

Totalmente
d'accordo

1	2	3	4	5
---	---	---	---	---

11. Ho avuto la certezza di saper usare questo sistema. *

Totalmente in
disaccordo

Totalmente
d'accordo

1	2	3	4	5
---	---	---	---	---

12. Ho dovuto imparare molte cose prima di poter usare questo sistema. *

Totalmente in
disaccordo

Totalmente
d'accordo

1	2	3	4	5
---	---	---	---	---

13. conoscevi già o hai mai sentito parlare di questi servizi?

☐ Sì

☐ No

Se Sì, quali?

14. In una scala da 0 a 10, quanto raccomanderesti il nostro servizio ad un amico o collega. 0 (molto improbabile) 10 (lo raccomanderei sicuramente)?

0.....10

15. Qual'è il principale motivo di questo voto?

16. Pensi che dovremmo continuare a fare ricerca e sviluppare in quest'area di contenuti TV per ciechi e sordi?

☐ Sì

☐ No

☐ Preferisco non rispondere

17. Se desideri suggerire nuove funzionalità o miglioramenti, puoi farlo ora.

18. C'è qualcosa che vorresti aggiungere?

7.13. Questionnaire in Greek Sign Language (snapshots of clips)

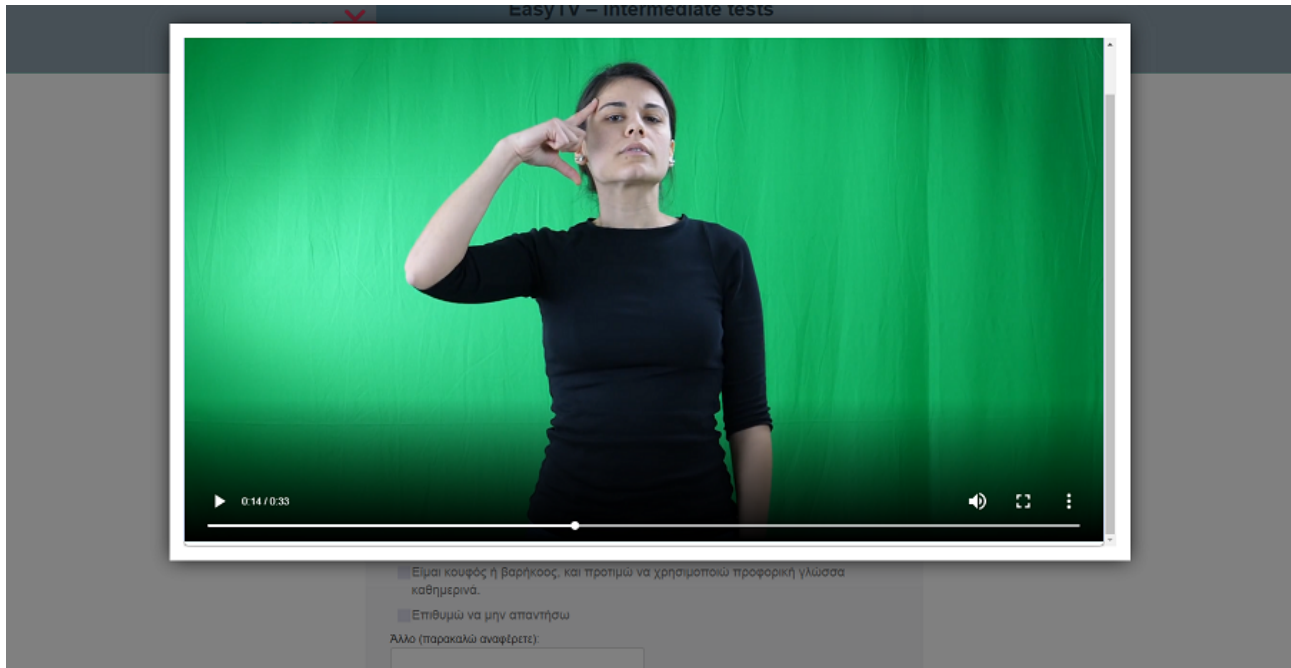


Fig. 66 Questionnaire in Greek Sign Language (1)

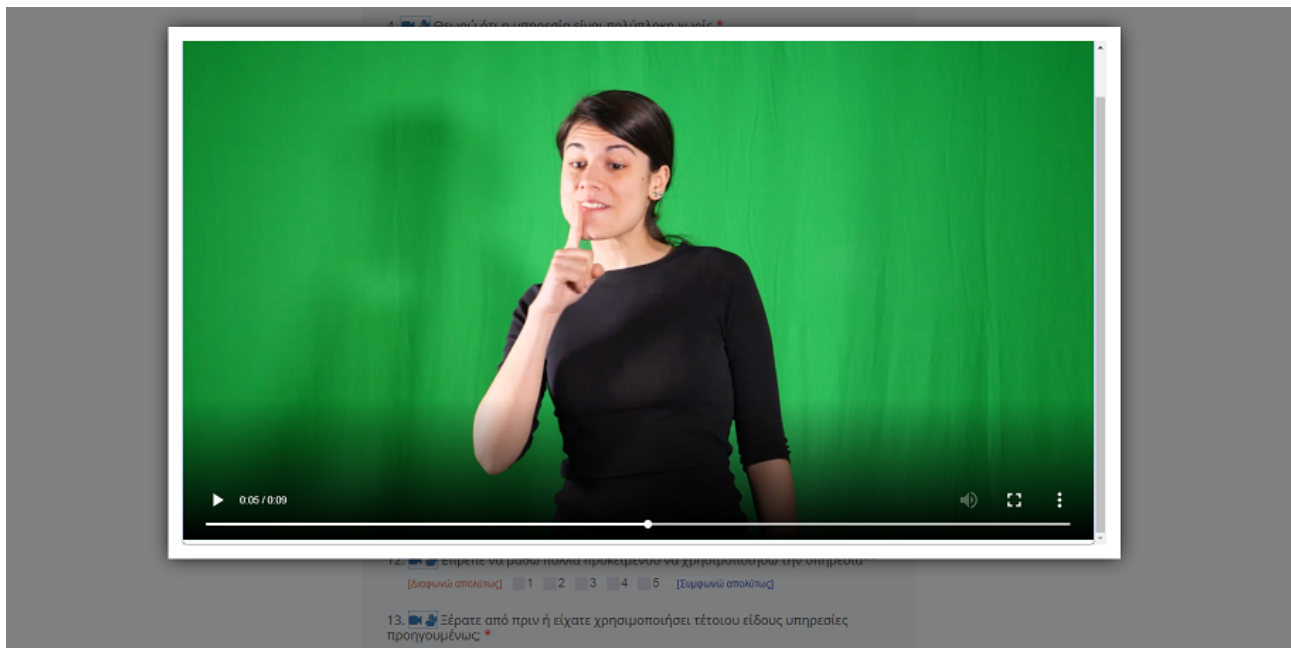


Fig. 67 Questionnaire in Greek Sign Language (2)

7.14. Questionnaire in Spanish Sign Language (snapshots of clips)

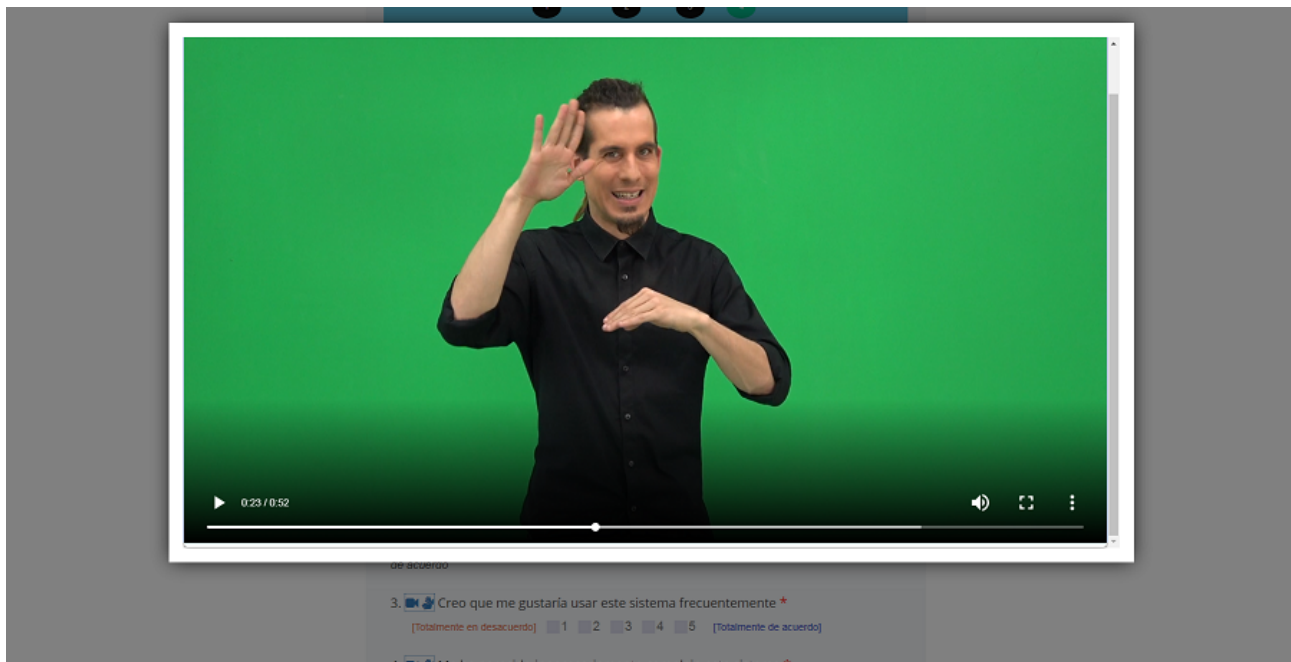


Fig. 68 Questionnaire in Spanish Sign Language (1)

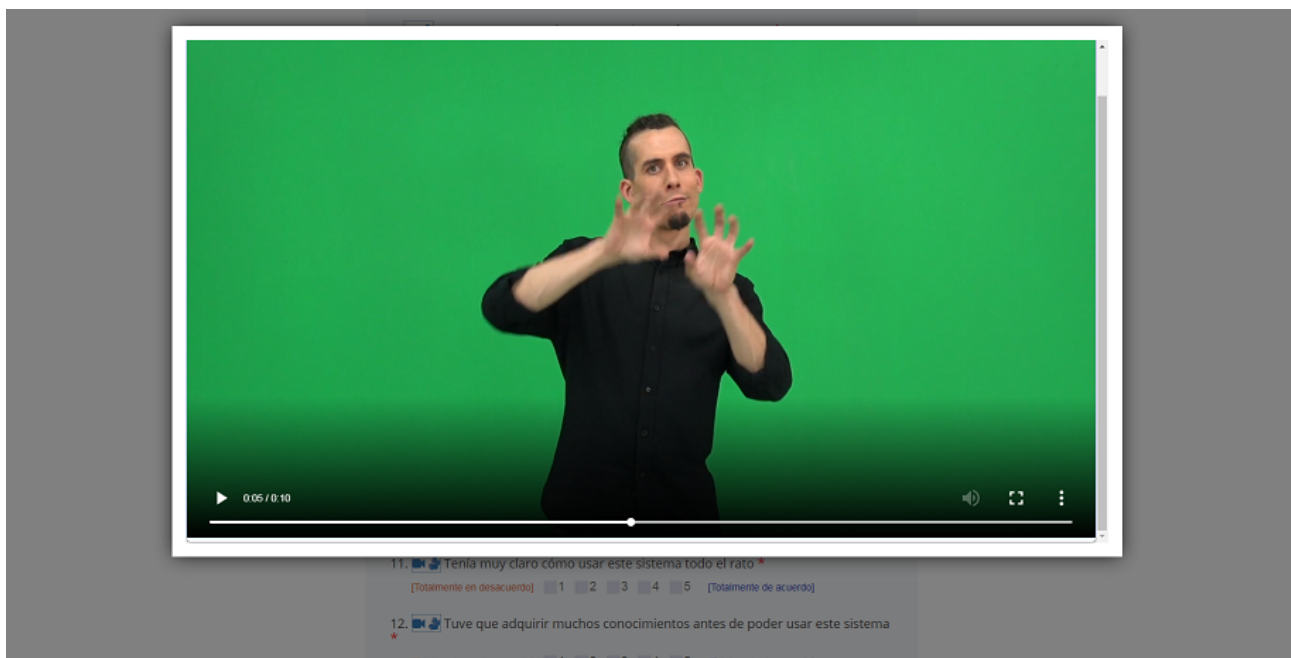


Fig. 69 Questionnaire in Spanish Sign Language (2)

7.15. Test raw data (UPM)

UPM-Intermediate tests																			
quest1	quest2	quest3	quest4	quest5	quest6	quest7	quest8	quest9	quest10	quest11	quest12	quest13	quest14	scoreReason	quest16	userSuggest	userComment	service	qtoken
A-4	0	A-4	A-2	A-4	A-1	A-4	A-1	A-5	A-1	A-4	A-1	no	9	Mi sembra molto utile per aiutare gli ipovedenti	yes			text_detection_UPM	text_detection_UPM-it-2019-03-27T13:07:23.568Z
A-4	0	A-4	A-1	A-5	A-1	A-4	A-1	A-5	A-1	A-5	A-3	no	10	qualsiasi servizio che aiuti i disabili è bene conoscere e provare	yes			subtitles_UPM	subtitles_UPM-it-2019-03-27T13:13:15.813Z
A-4	0	A-4	A-2	A-5	A-2	A-5	A-1	A-5	A-1	A-5	A-2	no	10	sono interessato a tutto quello che può aiutare la difficile vita dei disabili	yes			face_magnification_UPM	face_magnification_UPM-it-2019-03-27T13:16:25.915Z
A-4	0	A-5	A-1	A-5	A-1	A-4	A-1	A-5	A-1	A-5	A-1	no	10	molto comodo per ingrandire le	yes			custom_magnification_UPM	custom_magnification_UPM

													immagini e vedere meglio i particolari					fiction_upm-it-2019-03-27T13:19:53.241Z
A-4	0	A-3	A-1	A-5	A-1	A-4	A-1	A-5	A-4	A-4	A-2	no	7 non lo ritengo molto utile anche perchè la spiegazione ferma il video e si prolungano troppo i tempi di visione	yes			character_detection_upm	character_detection_upm-it-2019-03-27T13:25:20.839Z
A-3	0	A-3	A-2	A-5	A-1	A-4	A-1	A-5	A-1	A-5	A-1	yes/sp eaky facile	8 fornisce un aiuto certo e immediato a chi vuole leggere le informazioni testuali	yes			text_detection_UPM	text_detection_upm-it-2019-03-27T14:38:52.414Z
A-4	0	A-5	A-1	A-5	A-1	A-5	A-1	A-5	A-1	A-5	A-1	no	10 facile da usare sia per giovani che per anziani	yes			text_detection_UPM	text_detection_upm-it-2019-03-27T14:50:08.217Z

A-3	0	A-3	A-2	A-5	A-1	A-4	A-1	A-5	A-1	A-5	A-1	yes/sp eaky facile	8	utilità alta per gli ipovedenti	yes			subtitles_UPM	subtitles_UPM -it- 2019- 03- 27T14: 52:37.9 27Z
A-4	0	A-5	A-1	A-5	A-1	A-5	A-1	A-5	A-1	A-5	A-1	no	10	facile sia per ipovedenti giovani che anziani	yes			subtitles_UPM	subtitles_UPM -it- 2019- 03- 27T14: 58:53.1 14Z
A-3	0	A-3	A-1	A-5	A-1	A-5	A-1	A-5	A-1	A-5	A-1	yes/qu alche tv ha il fermo imma gine con zoom ma scomo do da utilizz are. con la voce sarebb e perfett o	8	semplicità d'uso e praticità	yes			custom_magnification_UPM	custom_magnification_UPM -it- 2019- 03- 27T15: 02:29.7 94Z

A-4	0	A-5	A-1	A-5	A-1	A-5	A-1	A-5	A-1	A-5	A-1	no	10	molto utile per ipovedenti faccio le foto e le ingrandisco per fare questo.	yes			custom_magnification_UPM	custom_magnification_UPM-it-2019-03-27T15:10:52.987Z
A-3	0	A-5	A-1	A-5	A-1	A-5	A-1	A-5	A-1	A-5	A-1	no	10	molto utile e divertente	yes			character_detection_UPM	character_detection_UPM-it-2019-03-27T15:13:35.113Z
A-3	0	A-4	A-3	A-3	A-2	A-3	A-2	A-4	A-2	A-4	A-2	no	8	ti aiuta nella vita di tutti i giorni	yes	scelta della posizione del testo		text_detection_UPM	text_detection_UPM-it-2019-03-27T15:24:07.522Z
A-3	0	A-3	A-2	A-4	A-2	A-4	A-1	A-4	A-2	A-4	A-2	no	8	molto utile	yes	la posizione dei sottotitoli dovrebbe essere personalizzabile		subtitles_UPM	subtitles_UPM-it-2019-03-27T15:36:44.0

																				73Z
A-3	0	A-4	A-2	A-4	A-2	A-4	A-2	A-4	A-2	A-4	A-2	no	8	molto utile	semplice	yes	maggiori informazioni personaggi	sui	character_ detection_ UPM	character_ er_dete ction_ UPM- it- 2019- 03- 27T15: 45:58.5 27Z
A-3	0	A-4	A-1	A-4	A-1	A-4	A-2	A-4	A-3	A-4	A-1	no	8	molto interessante	utile ed	yes	sarebbe utile avere l'ingrandimento anche nella TV		custom_m agnificati on_UPM	custom_ _magni fication_ UPM- it- 2019- 03- 27T15: 54:08.6 65Z
A-4	0	A-5	A-2	A-5	A-1	A-4	A-1	A-4	A-1	A-5	A-1	no	8	mi permette di leggere testi che prima non riuscivo a leggere senza ingrandimento		yes			text_dete ction_UP M	text_de tection_ UPM- it- 2019- 03- 27T16: 13:02.6 10Z
A-4	0	A-5	A-2	A-5	A-1	A-4	A-1	A-5	A-1	A-5	A-1	no	9	solo programmi o trasmissioni brevi altrimenti può	per	yes			subtitles_ UPM	subtitle s_UPM -it- 2019-

														essere faticoso seguirli					03- 27T16: 26:04.5 50Z
A-4	0	A-3	A-2	A-4	A-2	A-4	A-2	A-4	A-2	A-4	A-1	no	7	utile solo in situazioni non particolari sempre	yes			character detection_ UPM	character_ detection_ UPM- it- 2019- 03- 27T16: 31:17.8 55Z
A-4	0	A-5	A-1	A-5	A-1	A-5	A-1	A-5	A-1	A-5	A-1	no	9	molto utile	yes			custom_m agnificati on_UPM	custom_ magnifi cation_ UPM- it- 2019- 03- 27T16: 39:34.2 40Z
A-6	1/2	A-3	A-5	A-1	A-5	A-1	A-3	A-3	A-5	A-1	A-4	no	4	il sistema è farraginoso ed inutilmente complesso	yes	In sintesi, occorrerebbe un i sistema che essen consentisse al li, fa disabile (cieco nel mio caso) di gestire in autonomia quanto più possibile in da autonomia di un ge televisore e di un programma presenta te in televisivo, manie surrogando la vista semplic	Funzion e essenzia li, facili da compre ndere e gestire, presenta te in maniera semplic	text_dete ction_UP M	text_de tection_ UPM- it- 2019- 03- 27T16: 07:52.8 97Z

																<p>mancante con opportune funzioni audio gestibili dall'utente. Capisco che il concetto così esposto risulta molto generale, ma è questo lo spirito con cui porsi di fronte al problema e la logica da seguire nelle singole funzioni implementate nel sistema.</p>	<p>e, senza doverle estrapolare da una selva indistricabile (o comunque da una complessa) di altre opzioni.</p>		
A-4	4	A-5	A-2	A-5	A-5	A-5	A-1	A-4	A-1	A-5	A-4	yes/Usar telex o con mando , tdt	10	Es accesibilidad universal	yes	<p>- Hay que tener cuidado para que el subtítulo no quede encima de los rótulos que se ponen en pantalla para dar información, como el nombre de una persona o el lugar en el que están pasando los hechos.\n- Los subtítulos han de estar sincronizados con el sonido\n- Los subtítulos en general deben seguir la normativa de subtítulo</p>	<p>Se debe poder configurar la composición de la pantalla:\n- Tamaño de ventana de interpretación\n- Interpretación de silueta do o con fondo para personas sordas con</p>	subtitles_ UPM	subtitles_ UPM -es- 2019-03-28T12:39:43.600Z

																	problem as de visión\n- Posición de los subtítul os\n\nEl sistema debe también detectar cuando se está transmit iendo informa ción auditiva o no para que aparezc a o no aparezc a la figura del intérpret e.		
A-4	4	A-1	A-5	A-1	A-5	A-5	A-1	A-5	A-5	A-5	A-1	no	10	Para mi perfil no es útil pero puede que para otra persona sí	yes		Creo que este servicio es más adecuad o para otro tipo de usuario	custom_m agnificati on_UPM	custom _magni fication _UPM- es- 2019- 03- 28T13: 06:15.4

																			45Z
A-4	4	A-1	A-5	A-1	A-5	A-5	A-1	A-5	A-1	A-5	A-1	no	10	Para mi perfil no es útil pero puede que para otra persona sí	yes			face_magnification_UPM	face_magnification_UPM-es-2019-03-28T13:19:41.115Z
A-6	1	A-2	A-4	A-5	A-1	A-4	A-1	A-5	A-1	A-5	A-1	no	6	può essere utile	yes			character_detection_UPM	character_detection_UPM-it-2019-03-30T11:37:21.364Z
A-5	4	A-5	A-1	A-5	A-1	A-4	A-2	A-5	A-1	A-5	A-1	no	8	Para adaptar a todas las personas sordas	yes	Los cambios deben aplicarse al momento en la televisión también. Tambien hay que poner limite de caracteres en una línea para no tener que leer de un lado al otro (en caso de frases largas)	subtitles_UPM		subtitles_UPM-es-2019-04-01T15:18:36.385Z
A-4	3	A-5	A-1	A-5	A-1	A-5	A-1	A-5	A-1	A-5	A-1	no	9	los subtítulos me parecen muy útiles	yes	sería estupendo incorporar este tipo de subtítulos en la	incorporar a la propia	subtitles_UPM	subtitles_UPM-es-

															propia pantalla de TV, no solo en mi tablet, ipad, etc	TV la posibilidad de acceder y modificar los subtítulos		2019-04-01T15:18:43.091Z
A-5	4	A-5	A-1	A-5	A-3	A-5	A-1	A-3	A-1	A-5	A-1	no	10	Poder personalizar los subtítulos inmediatamente	yes	La personalización de los subtítulos debería estar disponible también en la pantalla principal (televisor etc)	subtitles_UPM	subtitles_UPM-es-2019-04-01T15:18:40.915Z
A-5	4	A-2	A-4	A-5	A-1	A-2	A-1	A-4	A-1	A-4	A-1	no	4	Porque no lo veo eficaz, porque hay veces que los personajes no muestran sus caras, y el espectador no podrá leer los labios. Y la pantalla, cuando está detectando, se mueve mucho. Si la pantalla se acerca mucho, podría perder información del entorno	yes		face_magnification_UPM	face_magnification_UPM-es-2019-04-01T15:26:07.170Z

A-4	3	A-3	A-1	A-5	A-1	A-5	A-1	A-5	A-1	A-5	A-1	no	7	me parece útil para personas con problemas de visión	yes	me parece valida para personas que utilicen más la lectura labial, podría valerles.	creo que estaría mejor si estas herramientas pudieran estar directamente conectadas en la TV, no solo en el ipad ou otras dispositivos.	face_mag nification _UPM	face_m agnific ation _UPM- es- 2019- 04- 01T15: 25:57.1 29Z
A-5	4	A-1	A-5	A-3	A-1	A-3	A-4	A-4	A-4	A-4	A-1	no	1	El usuario depende de la tablet para poder seguir los diálogos. Al pasar las caras a un primer plano se pierde la información del resto de la escena. Es mucho más eficiente y práctico utilizar el subtítulo.	no		La lectura labial por si misma no da suficiente información al usuario, no es un sistema de accesibilidad suficientemente	face_mag nification _UPM	face_m agnific ation _UPM- es- 2019- 04- 01T15: 26:21.0 15Z

																	válido.		
A-5	4	A-3	A-2	A-5	A-1	A-4	A-2	A-5	A-1	A-5	A-1	no	7	Recomendable para personas con visión reducida	yes			custom_magnification_UPM-es-2019-04-01T15:32:43.738Z	custom_magnification_UPM-es-2019-04-01T15:32:43.738Z
A-4	3	A-4	A-1	A-5	A-1	A-5	A-1	A-5	A-1	A-5	A-1	no	9	con esta herramienta puedes ver detalles de interés	yes	está bien así.	me ha parecido muy interesante	custom_magnification_UPM-es-2019-04-01T15:32:44.256Z	custom_magnification_UPM-es-2019-04-01T15:32:44.256Z
A-5	4	A-1	A-4	A-4	A-1	A-3	A-2	A-5	A-1	A-5	A-1	no	7	Para que las personas mayores o con problemas de visión puedan ver detalles que se les escapan a simple vista.	yes		No creo que esté enfocada o a personas sordas.	custom_magnification_UPM-es-2019-04-01T15:32:41.546Z	custom_magnification_UPM-es-2019-04-01T15:32:41.546Z

A-4	4/3	A-5	A-1	A-4	A-3	A-5	A-1	A-4	A-1	A-4	A-2	no	8	Recomienda a las personas que puede usar a si mismo para ver las tabletas u ordenadores sin depender de los demás... cada persona adapta a sus necesidades	yes			subtitles_ UPM	subtitles_ UPM-es-2019-04-03T06:49:55.442Z
A-4	3/4	A-1	A-5	A-5	A-1	A-5	A-3	A-5	A-2	A-4	A-1	no	1	Sólo a las personas oralistas, pero no para las personas que usan LS	no			face_magnification_ UPM	face_magnification_ UPM-es-2019-04-03T06:57:28.976Z
A-4	3/4	A-3	A-3	A-4	A-3	A-4	A-2	A-4	A-2	A-4	A-2	no	7	Puede ser útil para ver como se hacen las comidas, dibujos, cosas manuales, etc... sobre todo muy vistos que es ideal para los problemas visuales...	yes			custom_magnification_ UPM	custom_magnification_ UPM-es-2019-04-03T07:05:26.470Z

7.16. Test raw data (CERTH)

CERTH - Intermediate tests																			
quest 1	quest2	quest 3	quest 4	quest 5	quest 6	quest 7	quest8	quest 9	quest 10	quest 11	quest 12	quest 13	quest 14	scoreReason	quest 16	userSuggest	userComment	service	qtokentoken
A-2	4	A-4	A-3	A-4	A-4	A-5	A-1	A-3	A-1	A-5	A-4	no	7	mou aresei	yes			CapturingModule_CERTH	CapturingModule_CERTH-gr-sl-2019-03-21T12:50:23.840Z
A-2	4	A-4	A-5	A-4	A-5	A-4	A-2	A-4	A-1	A-5	A-1	no	7	mou aresei	yes			CrwdPlatform_CERTH	CrwdPlatform_CERTH-gr-sl-2019-03-21T13:27:39.191Z
A-6	4	A-3	A-3	A-3	A-5	A-3	A-2	A-2	A-3	A-3	A-4	no	6		yes			CapturingModule_CERTH	CapturingModule_CERTH-gr-sl-2019-03-21T13:34:19.056Z
A-6	4	A-2	A-3	A-2	A-5	A-3	A-2	A-2	A-4	A-2	A-2	no	6		yes			CrwdPlatform_CERTH	CrwdPlatform_CERTH-gr-sl-2019-03-21T13:52:38.038Z

A-5	/Κωφός και προτιμώ τη νοηματική	A-4	A-2	A-4	A-2	A-4	A-2	A-4	A-2	A-4	A-2	no	8	είναι ενδιαφέροντα	yes			CapturingModule_CERTH	CapturingModule_CERTH-gr-sl-2019-03-21T13:54:13.825Z
A-5	/Κωφός και προτιμώ τη νοηματική	A-4	A-2	A-4	A-2	A-4	A-2	A-4	A-2	A-4	A-2	no	8	Έχει ενδιαφέρον	yes			CrwdPlatform_CERTH	CrwdPlatform_CERTH-gr-sl-2019-03-21T13:56:07.469Z
A-5	/Είμαι Κωφός	A-5	A-5	A-5	A-5	A-4	A-1	A-5	A-4	A-4	A-4	no	10	10 ενδιαφερον	yes			CapturingModule_CERTH	CapturingModule_CERTH-gr-sl-2019-03-21T13:47:09.087Z
A-5	4	A-4	A-4	A-3	A-2	A-5	A-2	A-4	A-4	A-4	A-4	no	7	exei diadikasia kai 8a i8ela diefkolinsi	yes			CapturingModule_CERTH	CapturingModule_CERTH-gr-sl-2019-03-21T14:08:17.566Z
A-5	4	A-4	A-3	A-3	A-3	A-4	A-3	A-2	A-3	A-3	A-4	no	6	einai kapws i diskolo diadikasia	yes			CrwdPlatform_CERTH	CrwdPlatform_CERTH-gr-sl-2019-03-21T14:20:12.901Z
A-5	/Γνωρίζω Νοηματική	A-4	A-1	A-5	A-3	A-4	A-1	A-5	A-1	A-5	A-1	no	9		yes			CrwdPlatform_CERTH	CrwdPlatform_CERTH-gr-sl-2019-03-21T14:31:10.333Z

A-4	3/4	A-3	A-3	A-3	A-3	A-3	A-3	A-3	A-3	A-3	A-3	no	5		preferN otT ell			CapturingMod ule_CERTH	CapturingModul e_CERTH-es-sl- 2019-03- 22T15:38:23.16 5Z
A-5	/Χρήσ της τεχνολ ογιών πληρο φορική ς	A-4	A-1	A-4	A-3	A-5	A-2	A-4	A-2	A-4	A-3	yes /vi deo ga me s	9	Εύκολη και γρήγορη χρήση.	yes			GestureRecog nition_CERT H	GestureRecognit ion_CERTH-gr- 2019-03- 27T12:51:51.34 5Z
A-6	/Χρήσ της IT	A-5	A-5	A-5	A-2	A-3	A-1	A-5	A-1	A-5	A-2	no	10	Ευχρηστία	yes			GestureRecog nition_CERT H	GestureRecognit ion_CERTH-gr- 2019-03- 27T13:00:48.18 8Z
A-5		A-4	A-1	A-4	A-1	A-4	A-2	A-4	A-1	A-4	A-1	no	7	Πιστεύω θα είναι ιδιαίτερα χρήσιμη μελλοντικά μετά από βελτιώσεις σε ακρίβεια και ταχύτητα	yes			GestureRecog nition_CERT H	GestureRecognit ion_CERTH-gr- 2019-03- 27T13:30:07.17 6Z
A-6		A-4	A-2	A-4	A-2	A-5	A-1	A-5	A-2	A-5	A-2	no	10	έχει	yes	προβλέπ ει για πολίτες με αναπηρίε ς		GestureRecog nition_CERT H	GestureRecognit ion_CERTH-gr- 2019-03- 27T14:25:43.72 9Z

A-6	6	A-2	A-2	A-2	A-1	A-5	A-1	A-2	A-3	A-2	A-1	no	4		yes			GestureRecognition_CERTH	GestureRecognition_CERTH-gr-2019-03-28T09:53:16.304Z
A-4	4	A-1	A-5	A-1	A-3	A-1	A-4	A-3	A-2	A-5	A-2	yes /Area de comunicación (redes sociales, we b,y out ube) DII se	5	La herramienta me parece que se puede usar pero no creo que pueda utilizarse para conseguir un buen avatar.	yes			CapturingModule_CERTH	CapturingModule_CERTH-es-sl-2019-03-28T11:30:04.097Z

A-4	4	A-1	A-5	A-1	A-1	A-1	A-5	A-1	A-5	A-1	A-1	yes /Estación de Referencia	1	- El sistema de avatar no es bueno ya que no representa correctamente la lengua de signos.\n- Puede utilizarse en casos excepcionales como en estaciones de tren o aeropuertos para dar una información muy concreta\n- Considero que no es válido para hacer una traducción automática ya que no refleja las reglas gramaticales, la expresión facial y el resto de recursos lingüísticos que componen la lengua de signos.\n- El avatar no proporciona	no	La investigación es necesaria pero creo que es más realista y productivo destinar los fondos económicos a mejorar la accesibilidad mediante otros recursos como por ejemplo aumentar el número de intérpretes de lengua de signos	avatar3d_CERTH	avatar3d_CERTH-es-sl-2019-03-28T13:27:38.563Z
-----	---	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----------------------------	---	--	----	---	----------------	---

														accesibilidad					
A-2	3/4	A-1	A-5	A-1	A-3	A-1	A-5	A-3	A-2	A-1	A-3	no	5	Puede que haya otras personas a las que les interese	yes	Que el resultado del vídeo se vea como si fuese una persona no como un muñeco hecho con rayas	El proceso de grabación debería hacerse en menos pasos	CapturingModule_CERTH	CapturingModule_CERTH-es-sl-2019-03-29T11:31:50.705Z
A-2	4/3	A-3	A-3	A-3	A-3	A-3	A-3	A-3	A-3	A-3	A-3	no	7	Porque es un sistema nuevo que puede ayudar a otras personas	yes			CrwdPlatform_CERTH	CrwdPlatform_CERTH-es-sl-2019-03-29T11:48:52.682Z

A-4	4	A-1	A-5	A-1	A-3	A-1	A-4	A-3	A-2	A-5	A-2	yes / Redes sociales	5	Puede que a otros usuarios	yes	Usaría la herramienta para grabar signos pero no creo que sirva para hacer un buen avatar		CapturingModule_CERTH	CapturingModule_CERTH-es-sl-2019-03-29T12:45:42.713Z
A-4	4	A-4	A-2	A-4	A-5	A-4	A-3	A-1	A-3	A-3	A-5	yes / Cursos de formación online	5		yes			CrwdPlatform_CERTH	CrwdPlatform_CERTH-es-sl-2019-03-29T12:49:32.405Z
A-4	3	A-3	A-1	A-5	A-1	A-4	A-1	A-4	A-1	A-3	A-1	no	8	me parece bueno aprender nuevas herramientas	yes	prefiero ver más vídeos para valorar.	de momento no, gracias	CapturingModule_CERTH	CapturingModule_CERTH-es-sl-2019-04-01T14:44:15.338Z
A-5	4	A-4	A-2	A-3	A-1	A-3	A-4	A-4	A-3	A-4	A-1	no	7		yes			CapturingModule_CERTH	CapturingModule_CERTH-es-sl-2019-04-01T14:44:44.441Z

A-5	4	A-2	A-2	A-5	A-2	A-4	A-2	A-4	A-2	A-4	A-1	no	3	Porque falta la expresión facial y la "lectura labial"	yes			CapturingModule_CERTH	CapturingModule_CERTH-es-sl-2019-04-01T14:44:19.765Z
A-5	4	A-4	A-3	A-3	A-4	A-3	A-2	A-4	A-4	A-2	A-3	no	9		yes			CrwdPlatform_CERTH	CrwdPlatform_CERTH-es-sl-2019-04-01T14:58:07.554Z
A-5	4	A-2	A-4	A-2	A-1	A-4	A-3	A-4	A-3	A-4	A-2	no	6	Seía útil para profesionales	yes			CrwdPlatform_CERTH	CrwdPlatform_CERTH-es-sl-2019-04-01T14:58:06.844Z
A-4	3	A-3	A-1	A-5	A-2	A-3	A-1	A-3	A-1	A-4	A-1	no	8		yes			CrwdPlatform_CERTH	CrwdPlatform_CERTH-es-sl-2019-04-01T14:58:20.304Z
A-5	4	A-1	A-1	A-1	A-1	A-3	A-5	A-5	A-5	A-5	A-1	yes/Otros avatars	1	No se entiende la LSE, el avatar no tiene expresión y los movimientos son confusos	no	Poniendo un humano.		avatar3d_CERTH	avatar3d_CERTH-es-sl-2019-04-01T15:08:17.451Z
A-5	4	A-1	A-1	A-1	A-1	A-1	A-5	A-2	A-1	A-3	A-1	yes/story sign	1	No se entiende al avatar, porque el signado no es claro, y carece	no	No creo que el servicio sea útil, ni con	Para muchas personas sordas, el avatar no	avatar3d_CERTH	avatar3d_CERTH-es-sl-2019-04-01T15:07:52.218Z

														de expresión facial. No lo consideraría útil		mejoras.	es un sistema eficaz.		
A-4	3	A-4	A-1	A-5	A-1	A-5	A-1	A-5	A-1	A-5	A-1	no	7	Creo que al avatar le falta expresión y marcar más los signos.	yes	le falta firmeza en la ejecución de los signos, y expresión en su cara	creo que se podría mejorar. Parece que está como desgastado el avatar.	avatar3d_CERTH	avatar3d_CERTH-es-sl-2019-04-01T15:08:04.041Z
A-4	4/3	A-4	A-2	A-4	A-4	A-3	A-2	A-3	A-2	A-4	A-3	no	6	Le recomendaría a las personas capacitadas en LS con alto nivel.	no			CapturingModule_CERTH	CapturingModule_CERTH-es-sl-2019-04-02T10:42:28.002Z
A-4	3/4	A-3	A-2	A-2	A-5	A-4	A-2	A-4	A-3	A-3	A-5	no	7	Lo recomendaría a los expertos en LS	no		Sería útil accesibilidad a la información en las zonas transitadas de los aeropuertos, estaciones de trenes, autobuses.. o en las zonas comerciales	CrwdPlatform_CERTH	CrwdPlatform_CERTH-es-sl-2019-04-03T06:24:47.182Z

																S...			
A-4	4/3	A-1	A-5	A-1	A-1	A-2	A-5	A-3	A-5	A-1	A-1	yes /En un proyecto de la universidad, no recuerdo cuál.	1	No es fácil de entender, no es lo mismo que ver una intérprete que avatar... Creo que debe investigar más solo en breve tiempo (por ejemplo retrasos, cancelaciones, y otros de cualquier problema imprevisto) en los aeropuertos, estaciones de tren, autobuses... pero para las noticias y otros temas, no.	no			avatar3d_CERTH	avatar3d_CERTH-es-sl-2019-04-03T06:36:28.810Z

7.17. Test raw data (CCMA)

CCMA-Intermediate tests																			
quest 1	quest2	quest 3	quest 4	quest 5	quest 6	quest 7	quest 8	quest 9	quest1 0	quest1 1	quest1 2	quest1 3	quest1 4	scoreReason	quest1 6	userSuggest	userComment	service	qtoken
A-5	/grup de control de daltònics	A-3	A-2	A-3	A-1	A-4	A-2	A-4	A-1	A-3	A-1	yes/si desubtitols, però res de daltònics	10	en el cas de tenir un conegut que sigui daltònic, si que li parlaria d'aquesta solució.	yes	a l'hora de seleccionar la paleta de color alternativa, ajudaria poder veure la mostra abans d'aplicar-la.	li sembla bé la inversió en aquest tipus de solucions.	colour_blind_subs_CCMA	colour_blind_subs_CCMA -ca-2019-03-25T09:39:51.554Z
A-3	2/1	A-5	A-3	A-3	A-1	A-4	A-1	A-5	A-1	A-3	A-1	no	7	troba la solució molt interessant. totes les millores en el camp de l'accessibilitat son ben vingudes	yes	necessitem més feedback al clicar lletres als menús. que els resultats dels llistats segueixin un ordre alfabetic i no en mode zig-zag. rebre feedback de quan els resultats s'han carregat a la plana.		screen_reader_CCMA	screen_reader_CCMA -ca-2019-03-25T14:33:08.227Z
A-5	/proves de daltonisme	A-3	A-2	A-5	A-1	A-4	A-1	A-4	A-1	A-4	A-1	yes/hb btvbot o vermell tv3	7	tota millora en l'accessibilitat es bona, ho recomanaria si sap que es una millora per l'altre persona.	yes	que es pugui canviar la tipografia dels subtitols		colour_blind_subs_CCMA	colour_blind_subs_CCMA -ca-2019-03-26T09:05:18.018Z

A-5	1	A-5	A-2	A-4	A-4	A-4	A-1	A-3	A-1	A-4	A-2	no	10	El poder acceder a continguts que fins ara no eren accessibles de manera directe.	yes	Donar més feedback en el cercador, posicionar-se sempre en el primer element de les llistes, un to de 'bip' més suau.	Esteu cobrint un forat que els televisors moderns no cobreixen: entrar en els serveis a la carta.	screen_reader_CCMA	screen_reader_CCMAca-2019-03-26T14:39:52.706Z
A-5	0	A-4	A-1	A-5	A-1	A-5	A-1	A-2	A-2	A-4	A-1	no	9	Porque tiene una gran utilidad que te lean lo que hay en pantalla, en mi caso me ahorra levantarme, hacercarme y esforzarme por leerlo.	yes	Que avise cuando haces algun tipo de click, y cuando aparece algo nuevo en pantalla (resultados).Que avise cuando haces algun tipo de click, y cuando aparece algo nuevo en pantalla (resultados).\nTen dría interés en un modo opcional que me diga donde estoy.\nTambién una opción para activarlo o desactivarlo en cualquier momento.\nPersonalización de lo que quiero que se lea y lo que	No	screen_reader_CCMA	screen_reader_CCMAca-2019-03-27T14:36:02.467Z

																no (solo títulos, navegación de letras si o no...)			
A-6	/daltònic	A-3	A-3	A-3	A-1	A-3	A-3	A-2	A-3	A-3	A-1	no	5	no li suposa una millora en la lectura dels subtítols	yes			colour_blind_subs_CCM A -ca-2019-03-28T10:33:07.044Z	
A-5	/no daltònic. grup de control	A-3	A-2	A-4	A-1	A-4	A-3	A-5	A-4	A-4	A-1	no	8	si conec una persona daltònica li parlaria	yes	fer més visible la paleta de colors que estic triant a la interfície	no	colour_blind_subs_CCM A -ca-2019-03-28T13:55:33.629Z	
A-5	1	A-5	A-2	A-4	A-1	A-4	A-2	A-4	A-1	A-3	A-1	no	10	Perquè penso que està bé i una persona amb ceguera no té alternativa	yes	Milloraria la manera de com moure's per l'aplicació, crec que cal pulir-lo una mica més.	No	screen_reader_CCMA	screen_reader_CCMA-ca-2019-03-28T14:51:25.886Z
A-6	6/No sóc daltònic. grup de control	A-3	A-1	A-4	A-2	A-4	A-3	A-5	A-2	A-3	A-2	no	8	Si tingués un familiar daltònic li parlaria de l'aplicació, ja que si li ajuda en l'accessibilitat éspositiu	yes	faltaria més informació, ajuda a l'aplicació, per descobrir la opció	No	colour_blind_subs_CCM A -ca-2019-03-29T10:18:37.711Z	

A-5	0	A-5	A-2	A-4	A-1	A-3	A-2	A-4	A-2	A-4	A-2	no	9	troba la solució útil, per gent amb gent que tingui ceguera, dificultat de visió o inclús que senseuellers vegi bé	yes	millorar la lògica al saltar entre seccions de les planes, més feedback sonor, evitar menús columnes i sempre començar pel principi dels menús i evitar si es pot la navegació per proximitat. Donar més informació del ús dels teclats al entrar a la secció	No	screen_reader_CCMA	screen_reader_CCMAca-2019-03-29T10:35:57.302Z
A-6	6/Daltònic	A-3	A-2	A-4	A-1	A-4	A-1	A-3	A-1	A-4	A-1	yes/HbbTV	6	Una de les dues alternatives era pitjor i l'altra similar a la que hi ha actualment	yes	escollir una paleta amb colors més bàsics sense tonalitats, ni matisos de lluminositat que fa difícil diferenciar colors		colour_blind_subst_CCMA	colour_blind_subst_CCMAca-2019-04-01T13:07:13.878Z
A-5	/Daltonic	A-5	A-1	A-5	A-1	A-5	A-1	A-5	A-1	A-5	A-1	no	10	Pot ser molt útil per seguir millor qualsevol subtítol	yes			colour_blind_subst_CCMA	colour_blind_subst_CCMAca-2019-04-02T08:05:00.519Z
A-5	6/Daltònic	A-4	A-2	A-4	A-1	A-3	A-2	A-4	A-1	A-4	A-1	no	7	Trobo útil poder configurar la subtitulació per avis que no	yes	Tipus de lletra\naparició progressiva de la frase	Gràcies per la feina	colour_blind_subst_CCMA	colour_blind_subst_CCMAca-2019-04-02T09:05:55.494Z

														veuen prou, poder canviar la paleta pot ser útil. Poder posar o treure la pastilla és interessant.					
A-6	6/Discromatòpsic	A-2	A-4	A-4	A-2	A-4	A-2	A-5	A-1	A-5	A-2	no	8	Com a persona afectada crec que és un bona solució.	yes		Que està molt bé que estingui n en compte elsdiferents grups socials que tenen unes característiques peculiars.	colour_blind_subbs_CCMA	colour_blind_subbs_CCM A -ca-2019-04-03T08:44:00.934Z
A-5	6/Sóc daltònic(De utanomalia)	A-4	A-2	A-4	A-1	A-4	A-1	A-4	A-1	A-4	A-2	yes/A Netflix	7	Perquè és molt interessant poder configurar els colors per tal de seguir una pel·lícula subtítulada.	yes	Poder canviar la Font\n Que el text apareixés amb transicions	Gràcies per l'estudi.	colour_blind_subbs_CCMA	colour_blind_subbs_CCM A -ca-2019-04-03T14:45:59.373Z

7.18. Test raw data (MV)

MV-Intermediate tests																			
quest1	quest2	quest3	quest4	quest5	quest6	quest7	quest8	quest9	quest10	quest11	quest12	quest13	quest14	scoreReason	quest16	userSuggest	userComment	service	qtoken
A-3	1/2	A-2	A-3	A-5	A-1	A-4	A-3	A-5	A-1	A-3	A-1	no	5	ho veu interessant però no del tot.	yes	fer comandaments de veu sense tocar la pantalla.		speech_platform_MV	speech_platform_MVca-2019-03-25T16:11:59421Z
A-5	1	A-3	A-1	A-5	A-1	A-5	A-1	A-5	A-1	A-4	A-1	yes/Alexa i Siri	7	És un programa ideal per persones que busquen cerques senzilles i no requereix gran habilitat per fer-lo anar.	yes	Major flexibilitat en les comandes, a nivell de vocabulari.	Li preocupa la compatibilitat amb lectors de pantalla, voice over otalkback	speech_platform_MV	speech_platform_MVca-2019-03-26T15:42:58668Z
A-4	0	A-5	A-1	A-4	A-2	A-5	A-1	A-4	A-1	A-4	A-4	no	10	molto ricco con varie funzioni che aiutano i disabili	yes			speech_platform_MV	speech_platform_MVca-2019-03-27T13:29:48060Z
A-5	0	A-2	A-1	A-2	A-1	A-3	A-2	A-3	A-1	A-5	A-1	no	6	Para una persona que tiene discapacidad visual, enuna tablet ya utilizas tu adaptación de accesibilidad (talkback o ampliadores de pantalla), y no creo que compense el esfuerzo de aprender un mecanismo nuevo. En una aplicación de televisión loencontraria más útil, ya que	yes	Debería ser más flexible con los comandos, tienes quedecir exactamente cada comando y pronunciarlo perfecto.	No.	speech_platform_MV	speech_platform_MVca-2019-03-27T16:04:14894Z

														escribir con el mando es engorroso.					
A-5	1	A-3	A-2	A-4	A-1	A-2	A-3	A-4	A-4	A-2	A-1	yes/Alexa, Google Home i Siri.	6	Perquè potser hi ha persones que per problemes a les mans o de mobilitat ho poden necessitar.	yes	No ha de ser tant inflexible amb les comandes, sobretot amb la dicció.	Crec que això pot ser més útil per persones amb problemes de mobilitat que per persones amb ceguera. I seriamés útil per manegar coses més enllà de les tauletes i els mòbils.	speech_platform_MV	speech_platform_MVca-2019-03-28T16:13:00.658Z
A-5	0	A-1	A-5	A-1	A-4	A-1	A-5	A-2	A-3	A-1	A-4	no	3	es un projecte que està molt incipient i que el fet de que has de dir la comanda exacta fa que el sistemano sigui intuitiu.	yes	poder utilitzar sinònims i no tenir la frustració de que moltes vegades no t'enten. voldria no haver de tocar lapantalla i donar comandes només de veu.		speech_platform_MV	speech_platform_MVca-2019-03-29T11:52:49.400Z
A-4	0	A-5	A-1	A-5	A-1	A-5	A-1	A-2	A-1	A-5	A-2	no	10	Per persone come me ipovedenti di grado severo o non vedenti è assolutamente necessario perinteragire con i media.	yes	Vorrei che fosse sviluppato un sistema potenziato di descrizione che aiuti a vedere film e documentari per noi non vedenti o ipovedenti.	Si una domanda.... come sarà fruibile il servizio ? solo con smartTV o anche col mio attuale TV non smart?	speech_platform_MV	speech_platform_MVit-2019-03-29T16:47:51.987Z
A-6	1	A-4	A-2	A-4	A-1	A-5	A-1	A-5	A-3	A-5	A-1	no	9	un sistema completo e agevole	yes	Non ho capito se questo sistema gestisce anche laricerca di canali tv o di piattaforme come Sky		speech_platform_MV	speech_platform_MVit-2019-03-30T11:16:29.658Z

7.19. Template for intermediate tests report

1. General information about the test
 - a. Testing partner:
 - b. Service tested:
 - c. Testing date:
 - d. Venue:
 - e. Number of informants:
 - f. Language(s) involved:
 - g. Tasks performed by users to carry out the test
 - h. Approximate test duration:
2. Description of the informants' demographic profile:
3. SUS results:
4. NPS results:
5. Qualitative comments made
6. Test conclusions
7. Actions to be taken for service improvement.

7.20. Images, video and recording consent in Catalan



UNIVERSITAT AUTÒNOMA DE BARCELONA **DOCUMENT DE CESSIÓ DE DRETS I CONSENTIMENT SOBRE FOTOGRAFIES, VÍDEOS I** **ENREGISTRAMENTS DE SO**

En signar el present document de cessió de drets i consentiment sobre fotografies, vídeos i enregistraments de so, atorgo de manera irrevocable el meu permís als responsables assignats de la UAB, als directors, representants, empleats, successors, llicenciataris i cessionaris, perquè utilitzin fotografies, vídeos i/o enregistraments de so de la meua persona per al següent projecte: ImAc. Atorgo aquest permís de manera totalment voluntària.

El meu consentiment per a l'ús de fotografies, vídeos i enregistraments de so i per a l'ús de la meua imatge, semblant, aparença i veu és per sempre. No rebré cap compensació per l'ús de la meua imatge, semblant, aparença i veu ni ara ni en el futur. La universitat pot utilitzar fotografies, vídeos i enregistraments de so que continguin la meua imatge, semblant, aparença i veu de qualsevol manera o en qualsevol mitjà, inclòs l'ús en pàgines web. Les fotografies, vídeos i enregistraments de so es podran usar íntegrament o en part, soles o juntament amb altres enregistraments. Les fotografies, vídeos i enregistraments de so es podran usar amb qualsevol finalitat educativa, institucional, científica o informativa, però mai amb finalitats comercials de cap mena. La Universitat té el dret a permetre que terceres parts fora de la Universitat puguin copiar, editar, modificar, retocar, revisar i canviar de qualsevol manera les fotografies, vídeos i enregistraments de so a criteri de la Universitat per a finalitats no comercials. Tots els drets, títols i interessos sobre les fotografies, vídeos i enregistraments de so pertanyen única i exclusivament als responsables assignats de la UAB.

Amb aquest document, atorgo el meu permís a la Universitat perquè pugui usar el meu nom, biografia i qualsevol altra informació personal, fets o qualsevol altre material en relació amb els usos de les fotografies, vídeos i enregistraments de so d'acord amb la llei espanyola de protecció de dades.

Comprenc i estic d'acord amb les condicions estipulades en el document de cessió de drets i consentiment sobre fotografies, vídeos i enregistraments de so. Atorgo el meu consentiment de manera irrevocable i per sempre als responsables assignats de la UAB, així com als directors, representants, empleats, successors, llicenciataris i concessionaris de la Universitat, per fer ús de la meua imatge, semblant, aparença i veu registrats en les fotografies, vídeos i enregistraments de so descrits anteriorment. Amb aquest document, reconec que estic en plenitud de les meves facultats per entendre el contingut d'aquest document de cessió de drets i que no presento cap discapacitat cognitiva, ni m'han sotmès a coacció o pressió indeguda a l'hora de signar el present document.

Nom imprès del participant

Signatura del participant

Data

Acrònim del projecte:	EASYTV
Número del conveni de subvenció:	761999
Títol del projecte:	Easing the access of Europeans with disabilities to converging media and content.



7.21. Image, videos and recording consent in English



UNIVERSITAT AUTÒNOMA DE BARCELONA PHOTO, VIDEO AND SOUND RECORDING RELEASE AND CONSENT FORM FOR EASYTV

By signing this Photo, Video and Sound Recording Release and Consent Form, I am irrevocably giving permission to the Regents of the UAB officers, agents, employees, successors, licensees, and assigns to take and use photographs, video or sound recordings of you for the following project: EASYTV. This is completely voluntary and up to me.

My consent to the use of the photographs, video and sound recordings and your image, likeness, appearance, and voice is for forever. I will not receive compensation for the use of my image, likeness, appearance, and voice now or in the future. The University may use the photographs, video and sound recordings containing my image, likeness, appearance and voice in any manner or media, including use on web pages. The photographs, video and sound recordings may be used in whole or in part, alone or with other recordings. The photographs, video and sound recordings may be used for any educational, institutional, scientific or informational purposes whatsoever, but not for any commercial uses. The University has the right and may allow others outside the University to copy, edit, alter, retouch, revise and otherwise change the photographs, video and sound recordings at the University's discretion. All right, title, and interest in the photographs, video and sound recordings belong solely to the Regents of the UAB.

I further give permission to the University to use my name, biography, and any other personal data, events, or other material in or in connection with any such uses of the photographs, video and sound recordings.

I understand and agree to the conditions outlined in this photograph, video and sound recording release and consent form. I irrevocably give consent to the Regents of the UAB and the University's officers, agents, employees, successors, licensees, and assigns forever to make use of my image, likeness, appearance, and voice in photographs, video and sound recordings as described above. I acknowledge that I am fully aware of the contents of this release and am under no disability, duress, or undue influence at the time of my signing of this instrument.

Printed Name of Participant

Signature of Participant

Date

7.22. Photos and other graphic documents



Fig. 70 Screen reader test session (1)

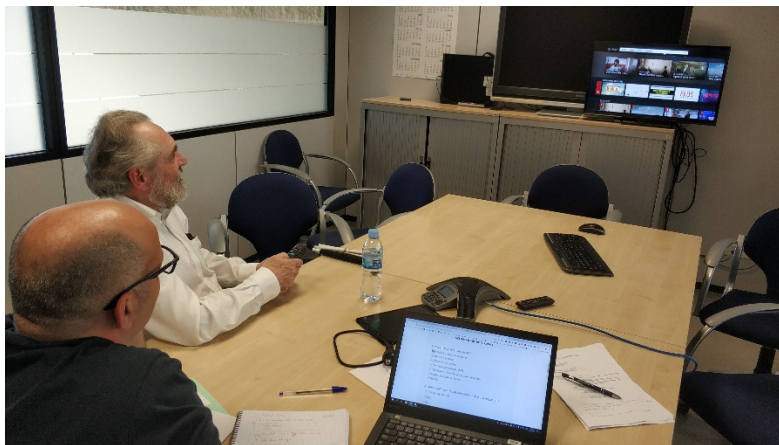


Fig. 71 Screen reader test session (2)



Fig. 72 Screen reader test session (3)



Fig. 73 Screen reader test session (4)



Fig. 74 Colorblind subtitles test session (1)

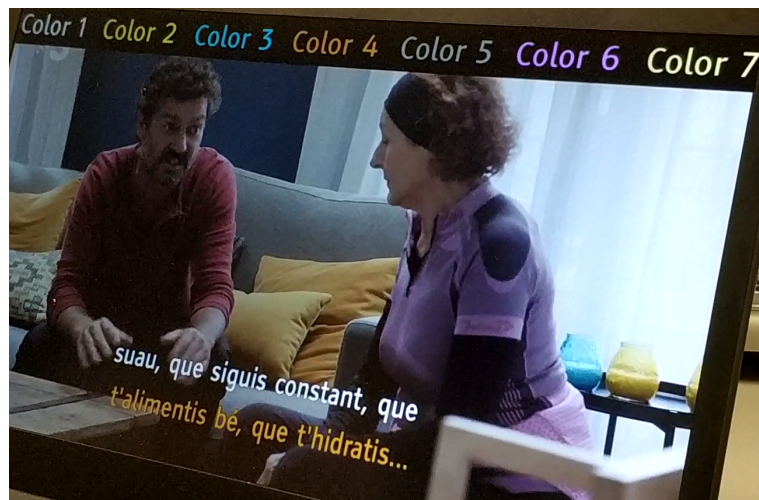


Fig. 75 Colorblind subtitles test session (2)



Fig. 76 Colorblind subtitles test session (3)



Fig. 77 Colorblind subtitles test session (4)



Fig. 78 Colorblind subtitles test session (5)



Fig. 79 Speech platform test session (1)



Fig. 80 Speech platform test session (2)



Fig. 81 Intermediate tests in the Centre of Greek Sign Language (1)



Fig. 82 Intermediate tests in the Centre of Greek Sign Language (2)

7.23. New ethics certificate

EasyTV

Informació requerida per la CEEAH de la UAB

Num. CEEAH: 4036R

Data: 14-03-2019

1. Títol del procediment de recerca

EasyTV

2. Breu descripció del projecte

The goal of the H2020 funded project EasyTV (Easing the access of Europeans with disabilities to converging media and content) is to foster wider availability of accessible media offerings to everybody and to provide equal access to audio-visual services for all users, especially for persons with various degrees of disabilities (focused to visual, hearing and mobility impaired). The project aims at developing media improved access services and making distribution of novel accessibility features with enhanced multimedia visual and sound experience more cost-efficient and yet more flexible to use, and also easier to use. EasyTV aims to innovate and kick-start the breakthrough of breaking the language barrier for all by developing technologies which can enhance the interaction and perform sign translations towards an inclusive media interaction. The heart of EasyTV is an improved personalization of the content experiencing and interaction, towards a hyper-personalized experience to all. The project will test access services using different methodologies and through different tasks and pilots.

Àrea del procediment d'experimentació amb humans

Ciències Socials i Polítiques

3. Dades de l'investigador responsable

Nom i cognoms	Pilar Orero Clavero
NIF	19836927W
Departament / Centre	Dept. Traducció
Telèfon	(+34)935813360
Adreça electrònica	Pilar.Orero@uab.cat
Es doctor/a? (recordeu que la comissió només avalua projecte de recerca dirigits per doctors/es)	Si

4. Objectius del procediment d'experimentació amb humans

Descriure els principals objectius que es pretenen assolir amb la realització d'aquest procediment d'experimentació

The aim of the user tests carried out in EasyTV is to obtain quantitative and qualitative data about the user experience in relation to the interaction and consumption of access services such as subtitling, audio description, audio subtitling and sign language. The accessibility will be done through different technology such as: voice commands, personalised remote control, automatised translation services such as sign language, and other developments that will take place during the life of the project.

The information gathered from users will be used to determine the optimal parameters for user experience and to provide feed-back to project partners in order to customize and adapt existing technologies, and prepare new developments.

Users will include populations with no impairments but also vulnerable populations such as persons with disabilities (persons with hearing impairments or deaf, blind and low sighted people, persons with reading disabilities), and the elderly more specifically, non-dependant old people because it is considered that after 65 most people have a loss

EasyTV

in their sensorial abilities. Special care will be taken to cater for their needs, providing assistance when necessary. Special care will be taken to cater for their needs, providing assistance when necessary.

Veure Annex 3 (application/pdf - 84.98046875 kB)

5. Metodologia del procediment d'experimentació

Descriure breument la metodologia emprada justificant les dades, mostres biològiques i o respostes conductuals obtingudes de les persones sota experimentació

The general procedure for user testing will be to present users with a content (for instance, films, clips, audio files, software, hardware, etc.) and gather user responses to a number of variables. Users can also be asked to comment on different scenarios or perform certain actions (like activating access services through the remote by voice commands), depending on the specific test.

Different qualitative and quantitative techniques will be taken into account (for instance, questionnaires, focus groups or interviews). If needed, objective data may also be gathered through eye-tracking or electrophysiological tools. Even though the eye-tracking we have now is not invasive, and there is no difference between looking at a screen with/without eye-tracking, at all times we shall take care of the end user comfort, and they will be able to leave the test if they feel the slight discomfort. Given the fact that some of the testers will be people with sensorial disabilities or the elderly, special care will be taken to cater for their needs, providing assistance when necessary.

Alternative means of communication will be provided if needed, both for the data gathering tools and for information sheet and consent forms. For instance, for blind and visually impaired persons an oral information sheet and consent form can be administered orally if this is better suited for end user needs (see sample consent sheet- oral version). Other adaptations can be made if necessary to suit end user needs. For instance, translations into the language of the participants will also be provided if needed.

End users will be recruited through official channels, for instance sending information to associations and institutions related to persons with disabilities. Two end user associations are partners in the project the CNSLE in Spain and the UICI in Italy. They will also secure end user participation.

It is expected that tests will take place in Italy, Greece, and Spain, and for that reason translation of questionnaires will be made.

If the test session is to be recorded, users will be requested to sign an additional for giving permission to this aim.

Tests will be mostly developed in the project partner premises (research rooms, etc.) but other spaces will be considered (for instance, end user association premises) if this guarantees a better comfort and access for participants.

Veure Annex 4 (application/pdf - 85.189453125 kB)

6. Informació a les persones participants

Supòsit	Si	No	
S'annexa un full d'informació del projecte de recerca que inclou de forma entenedora els objectius de la investigació, els investigadors/res responsables i la forma d'obtenir fàcilment més informació?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Annex 1
S'annexa un full de consentiment informat signat per l'investigador/a i la persona en qüestió on queda clarament expressat que la participació és voluntària, que disposa de la informació suficient i que es podrà retirar en qualsevol moment sense donar explicacions i sense que això tingui cap mena de conseqüència?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Annex 2

EasyTV

7. Compensació

Supòsit	Si	No
Està previst algun tipus de compensació per la participació en el projecte?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>Si la resposta es Si, explicar i justificar-ne les característiques, la quantia (si és econòmic) i l'adequació amb el risc i/o molèstia ocasionats al subjecte participant</i> The project will pay a compensation to people attending the testing for covering their transportation. The user will get the compensation regardless of whether they complete the test or not. The only criteria for getting the compensation is that they attend the test.		

8. Gestió i emmagatzematge de les dades obtingudes

Supòsit	Si	No
Està prevista l'anonimització de les dades obtingudes? Recordeu que s'entén per anonimització la desvinculació permanent i irreversible entre les dades i la identitat del subjecte de recerca	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>Si la resposta es Si, explicar les activitats realitzades</i> Data from participants will be stored with a code in order to keep personal information anonymous. This code, which will be generated randomly, will not make it possible to relate the participant's data with the information provided by the participant. The name of the participant will only be available on the consent forms, which will be kept locked in room MRA/126 at Universitat Autònoma de Barcelona.		
Està previst l'emmagatzematge de les dades amb mesures de seguretat?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>Si la resposta es Si, donar detalls del procediment de seguretat</i> All data will be anonymous.		

9. Feedback

Supòsit	Si	No
Està prevista alguna forma de feedback a les persones participant un cop finalitzat el projecte?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>Si la resposta es Si, quina?</i> Participants will be informed that they can ask for information about the project results in case they are interested.		

10. Registre dades

Supòsit	Si	No
Les dades obtingudes es troben en un registre aprovat per l'Autoritat Catalana de Protecció de Dades?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<i>Si la resposta es Si, indicar codi del registre:</i>		

Nom i cognoms Lloc i data

Signatura



MARIA PILAR
ORERO
CLAVERO - DNI
19836927W

Digitally signed by
MARIA PILAR ORERO
CLAVERO - DNI
19836927W
Date: 2019.04.03
15:59:53 +02'00'

EasyTV

Annex (1)

INFORMATION SHEET

Project: EasyTV (*Easing the access of Europeans with disabilities to converging media and content*)

Main researcher: Federico Álvarez (UPM)

Ethical adviser: Pilar Orero

The aim of the tests is to get feed-back on the interaction between end users and access services and its technology. This will allow us to identify the needs and expectations of diverse audiences and research how the quality of experience, the quality of the service, and personalisation can be improved.

During the test, which can take various forms (experiment with questionnaire, focus groups, interviews, etc.), you will be asked to provide some demographic data. Then, you will be asked to watch an input, perform a task or give your opinion on various aspects. If needed, objective data will be recorded during the session. The researcher will give you more details of the specific test assigned to you and the data collection methods. Please ask as many questions as needed to clarify the procedure.

The project will pay a compensation to people attending the testing for covering their transportation. The user will get the compensation regardless of whether they complete the test or not. The only criteria for getting the compensation is that they attend the test.

If your specific test can cause you any type of discomfort, the researcher will explain it thoroughly and you can stop at any time without prior justification.

Now please read the consent form.

EasyTV

Annex (2)

INFORMATION SHEET

Project: EasyTV (*Easing the access of Europeans with disabilities to converging media and content*)

Main researcher: Federico Álvarez (UPM)

Ethical adviser: Pilar Orero

The aim of the tests is to get feed-back on the interaction between end users and access services and its technology. This will allow us to identify the needs and expectations of diverse audiences and research how the quality of experience, the quality of the service, and personalisation can be improved.

During the test, which can take various forms (experiment with questionnaire, focus groups, interviews, etc.), you will be asked to provide some demographic data. Then, you will be asked to watch an input, perform a task or give your opinion on various aspects. If needed, objective data will be recorded during the session. The researcher will give you more details of the specific test assigned to you and the data collection methods. Please ask as many questions as needed to clarify the procedure.

If your specific test can cause you any type of discomfort, the researcher will explain it thoroughly and you can stop at any time without prior justification.

Now please read the consent form.

CONSENT FORM (written version)

Project: EasyTV (*Easing the access of Europeans with disabilities to converging media and content*)

Your participation in the tests is absolutely voluntary.

You can discontinue your involvement in the study at any time without prior justification. This shall have no repercussions or negative consequences of any sort.

The information you provide will be used in the project but it will remain anonymous.

Easy TV is a European project led by Federico Álvarez, from the Universidad Politécnica de Madrid (Spain). The ethical adviser responsible of ethical procedures in this H2020 EC funded project is Pilar Orero. You can contact Pilar Orero at pilar.orero@uab.cat and ask her for more information about the project and the project results.

In the case that some physiological or eye-tracking apparatus are used to gather data, you will not experience any discomfort, since the apparatus used are the latest generation and are not invasive. Tests will be mostly developed in the project partner premises (research rooms, etc.) but other spaces will be considered (for instance, end user association premises) if this guarantees a better comfort and access for participants.

If the session is recorded, you will be asked to sign an additional consent form to this aim.

The researcher administering the test is ((NAME and SURNAME)).

If you are willing to participate, please confirm the following statements by signing at the end of this document.

- I have read and understood the information given for this research or have had the information read to me,
- I have had the opportunity to ask questions about the research.
- I consent to take part in the research sessions.
- (if applicable) I consent to being recorded in audio/video/(...) form.

Name of the participant	Date	Signature
-------------------------	------	-----------

Name of the researcher	Date	Signature
------------------------	------	-----------

Name of the ethical adviser	Date	Signature
-----------------------------	------	-----------

CONSENT FORM (alternative oral version, to be recorded)

Project: EasyTV (*Easing the access of Europeans with disabilities to converging media and content*)

Your participation in the tests is absolutely voluntary.

You can discontinue your involvement in the study at any time without prior justification. This shall have no repercussions or negative consequences of any sort.

The information you provide will be used in the project but it will remain anonymous.

If the session is recorded, you must sign an additional consent form to this aim.

Easy TV is a European project led by Federico Álvarez, from the Universidad Politécnica de Madrid (Spain). The ethical adviser responsible of ethical procedures in this H2020 EC funded project is Pilar Orero. You can contact Pilar Orero at pilar.orero@uab.cat and ask her for more information about the project and the project results.

In the case that some physiological or eye-tracking apparatus are used to gather data, you will not experience any discomfort, since the apparatus used are the latest generation and are not invasive. Tests will be mostly developed in the project partner premises (research rooms, etc.) but other spaces will be considered (for instance, end user association premises) if this guarantees a better comfort and access for participants.

The researcher administering the test is ((NAME and SURNAME)).

If you are willing to participate, please reply at the end of each question:

- Have you been read the information about the project and have you understood it?
Please reply yes or no. (oral reply)
- Have you had the opportunity to ask questions about the research? Please reply yes or no. (oral reply)
- Do you consent to take part in the research sessions? Please reply yes or no. (oral reply)
- (if applicable) Do you consent to being recorded in audio/video/(...) format? Please reply yes or no. (oral reply)

Please indicate your name: (oral reply)

Please indicate the date: (oral reply)

Please indicate the researcher's name: (oral reply)

Please indicate the ethical adviser's name: (oral reply)

EasyTV

Annex (3)

CONSENT FORM (written version)

Project: EasyTV (*Easing the access of Europeans with disabilities to converging media and content*)

Your participation in the tests is absolutely voluntary.

You can discontinue your involvement in the study at any time without prior justification. This shall have no repercussions or negative consequences of any sort.

The information you provide will be used in the project but it will remain anonymous.

Easy TV is a European project led by Federico Álvarez, from the Universidad Politécnica de Madrid (Spain). The ethical adviser responsible of ethical procedures in this H2020 EC funded project is Pilar Orero. You can contact Pilar Orero at pilar.orero@uab.cat and ask her for more information about the project and the project results.

In the case that some physiological or eye-tracking apparatus are used to gather data, you will not experience any discomfort, since the apparatus used are the latest generation and are not invasive. Tests will be mostly developed in the project partner premises (research rooms, etc.) but other spaces will be considered (for instance, end user association premises) if this guarantees a better comfort and access for participants.

If the session is recorded, you will be asked to sign an additional consent form to this aim.

The project will pay you a compensation for attending the tests for covering your transportation regardless of whether you complete the test or not. The only criteria for getting the compensation is that you attend the test.

The researcher administering the test is ((NAME and SURNAME)).

If you are willing to participate, please confirm the following statements by signing at the end of this document.

- I have read and understood the information given for this research or have had the information read to me,
- I have had the opportunity to ask questions about the research.
- I consent to take part in the research sessions.
- (if applicable) I consent to being recorded in audio/video/(...) **form**.

Name of the participant	Date	Signature
-------------------------	------	-----------

Name of the researcher	Date	Signature
------------------------	------	-----------

Name of the ethical adviser	Date	Signature
-----------------------------	------	-----------

CONSENT FORM (alternative oral version, to be recorded)

Project: EasyTV (*Easing the access of Europeans with disabilities to converging media and content*)

Your participation in the tests is absolutely voluntary.

You can discontinue your involvement in the study at any time without prior justification. This shall have no repercussions or negative consequences of any sort.

The information you provide will be used in the project but it will remain anonymous.

If the session is recorded, you must sign an additional consent form to this aim.

The project will pay you a compensation for attending the tests for covering your transportation regardless of whether you complete the test or not. The only criteria for getting the compensation is that you attend the test.

Easy TV is a European project led by Federico Álvarez, from the Universidad Politécnica de Madrid (Spain). The ethical adviser responsible of ethical procedures in this H2020 EC funded project is Pilar Orero. You can contact Pilar Orero at pilar.orero@uab.cat and ask her for more information about the project and the project results.

In the case that some physiological or eye-tracking apparatus are used to gather data, you will not experience any discomfort, since the apparatus used are the latest generation and are not invasive. Tests will be mostly developed in the project partner premises (research rooms, etc.) but other spaces will be considered (for instance, end user association premises) if this guarantees a better comfort and access for participants.

The researcher administering the test is ((NAME and SURNAME)).

If you are willing to participate, please reply at the end of each question:

- Have you been read the information about the project and have you understood it?
Please reply yes or no. (oral reply)
- Have you had the opportunity to ask questions about the research? Please reply yes or no. (oral reply)
- Do you consent to take part in the research sessions? Please reply yes or no. (oral reply)
- (if applicable) Do you consent to being recorded in audio/video/(...) format? Please reply yes or no. (oral reply)

Please indicate your name: (oral reply)

Please indicate the date: (oral reply)

Please indicate the researcher's name: (oral reply)

Please indicate the ethical adviser's name: (oral reply)

EasyTV

Annex (4)

CONSENT FORM (written version)

Project: EasyTV (*Easing the access of Europeans with disabilities to converging media and content*)

Your participation in the tests is absolutely voluntary.

You can discontinue your involvement in the study at any time without prior justification. This shall have no repercussions or negative consequences of any sort.

The information you provide will be used in the project but it will remain anonymous.

Easy TV is a European project led by Federico Álvarez, from the Universidad Politécnica de Madrid (Spain). The ethical adviser responsible of ethical procedures in this H2020 EC funded project is Pilar Orero. You can contact Pilar Orero at pilar.orero@uab.cat and ask her for more information about the project and the project results.

In the case that some physiological or eye-tracking apparatus are used to gather data, you will not experience any discomfort, since the apparatus used are the latest generation and are not invasive. Tests will be mostly developed in the project partner premises (research rooms, etc.) but other spaces will be considered (for instance, end user association premises) if this guarantees a better comfort and access for participants.

If the session is recorded, you will be asked to sign an additional consent form to this aim.

The researcher administering the test is ((NAME and SURNAME)).

If you are willing to participate, please confirm the following statements by signing at the end of this document.

- I have read and understood the information given for this research or have had the information read to me,
- I have had the opportunity to ask questions about the research.
- I consent to take part in the research sessions.
- (if applicable) I consent to being recorded in audio/video/(...) form.

Name of the participant	Date	Signature
-------------------------	------	-----------

Name of the researcher	Date	Signature
------------------------	------	-----------

Name of the ethical adviser	Date	Signature
-----------------------------	------	-----------

CONSENT FORM (alternative oral version, to be recorded)

Project: EasyTV (*Easing the access of Europeans with disabilities to converging media and content*)

Your participation in the tests is absolutely voluntary.

You can discontinue your involvement in the study at any time without prior justification. This shall have no repercussions or negative consequences of any sort.

The information you provide will be used in the project but it will remain anonymous.

If the session is recorded, you must sign an additional consent form to this aim.

Easy TV is a European project led by Federico Álvarez, from the Universidad Politécnica de Madrid (Spain). The ethical adviser responsible of ethical procedures in this H2020 EC funded project is Pilar Orero. You can contact Pilar Orero at pilar.orero@uab.cat and ask her for more information about the project and the project results.

In the case that some physiological or eye-tracking apparatus are used to gather data, you will not experience any discomfort, since the apparatus used are the latest generation and are not invasive. Tests will be mostly developed in the project partner premises (research rooms, etc.) but other spaces will be considered (for instance, end user association premises) if this guarantees a better comfort and access for participants.

The researcher administering the test is ((NAME and SURNAME)).

If you are willing to participate, please reply at the end of each question:

- Have you been read the information about the project and have you understood it?
Please reply yes or no. (oral reply)
- Have you had the opportunity to ask questions about the research? Please reply yes or no. (oral reply)
- Do you consent to take part in the research sessions? Please reply yes or no. (oral reply)
- (if applicable) Do you consent to being recorded in audio/video/(...) format? Please reply yes or no. (oral reply)

Please indicate your name: (oral reply)

Please indicate the date: (oral reply)

Please indicate the researcher's name: (oral reply)

Please indicate the ethical adviser's name: (oral reply)