COMPETITIVENESS AND INNOVATION FRAMEWORK PROGRAMME

ICT Policy Support Programme (ICT PSP)

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Table of Contents

1. Executive Summary

Just as in 2009, in 2010 DTV4All participated in two important trade fairs having great relevance for the consumer electronics and broadcasting worlds, namely the "International Radio Fare" IFA ("*Internationale Funkausstellung*") in Berlin, Germany and the "International Broadcast Convention" IBC in Amsterdam, the Netherlands.

DTV4All was present at both events with some demonstrators. Concerning the access services that are the focus of the DTV4All project, the following were shown:

- a demonstrator for Video Signing based on a HbbTV (Hybrid Broadcast Broadband TV) application
- a demonstrator for Enhanced Text Services based on a HbbTV application
- a demonstrator for DVB-Subtitling
- a demonstrator for Reduced Playback Speed
- a demonstrator for Audio Description
- a demonstrator for Video Signing with a Human Signer on a PDA

Both fairs were consulted by high ranking politicians and by a wide audience participating in the numerous demonstrations provided by partners in DTV4All, associated partners of DTV4All and others.

2. DTV4All at the "Internationale Funkausstellung Berlin 2010"

2.1 Introduction

As in previous years the 50th IFA attracted industry representatives from all over the world and numerous consumers[1]. This trade fare addresses both professionals and consumers, and is thus open to the general public. It took place in Berlin, Germany between 3rd and 7th September 2010. More than 1400 exhibitors participated setting a new record. The number of visitors who attend the 50th IFA was about 235,000 which also set a new record. The volume of orders placed mounted up to 3.5 billion Euros exceeding last year's figures.

The 50th IFA was once again an ideal source of information and contacts for experts and those with a technical interest. One of the main themes concerned the next stage in the development of television, HbbTV (Hybrid Broadcast Broadband TV), which ARD presented to the public in the framework of the so-called "Digital World" and which met with a very good response. ARD also used this forum to inform visitors not only about the introduction of High Definition Television but also about the termination of analogue satellite transmissions in Germany on 30th April 2012 - another important step into the digital future.

2.2 DTV4All at ARD Digital Worlds (rbb and IRT)

The joint IRT/rbb DTV4All presentation at IFA was prepared in close cooperation with ARD Digital. ARD Digital is responsible for ARD's digital programme bouquet including a number of interactive services. In 2010, ARD Digital's Presentation at IFA, "Digitale Welten"/Digital Worlds focused on the following topics:

- Digitalisation, digital TV (high definition television and the analogue switch off)
- HbbTV (presenting a number of ARD interactive applications)
- Future Trends including accessibility

The last topic "future trends including accessibility" was targeted especially to experts and the various ARD broadcasting commissions

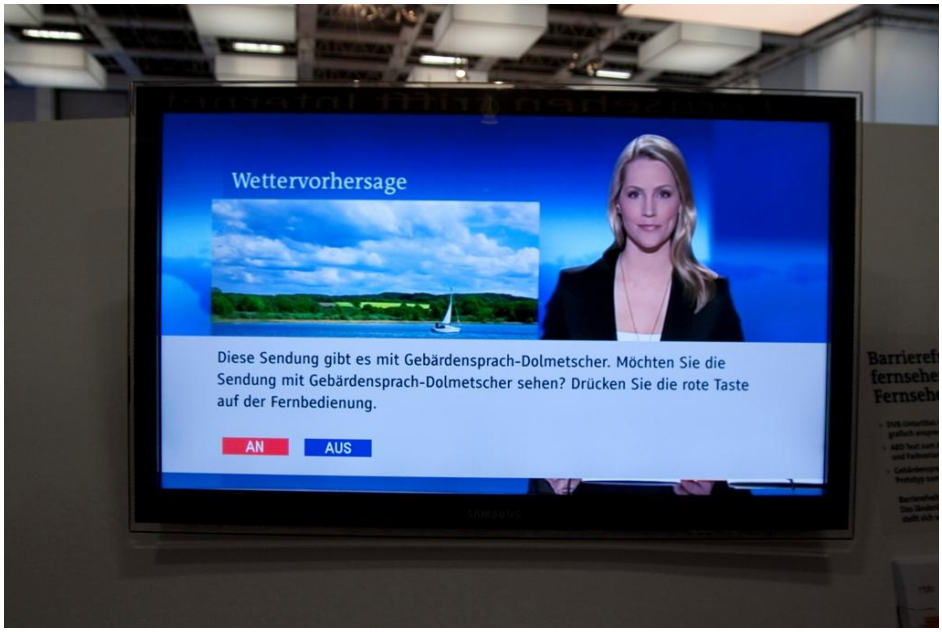
[1] Ref. http://www1.messe-berlin.de/vip8_1/website/Internet/Internet/www.ifa-berlin/englisch/index.html

Picture 1: Politicians at IFA Digital Worlds of ARD Digital: Centre right Kurt Beck, Prime Minister of Rhineland-Palatinate and Head of the Broadcasting Committee of the German Laender, centre left Michael Albrecht (DVB-coordinator of ARD Digital)

Impressions from IFA 2010:

Picture 2: Christoph Dosch and Michael Probst (IRT) at the DTV4All booth

Picture 3: Klaus Merkel, Michael Probst (both IRT) and Bettina Heidkamp (rbb) as part of the team at the booth



Picture 4: Screenshot of HbbTV signing prototype (launcher application) at the booth

The DTV4All demonstrations encompassed the following elements:

- The prototype demonstration for an on demand HbbTV-based Video Signing application that was developed jointly by IRT and rbb (see **Picture 4**). This demonstration was played via a local play out server (playing a transport-stream loop including signalisation of the HbbTV-signer launch application) to a hybrid set top box which displayed both this transport stream and the signed on demand video (delivered over the IP channel). (For a detailed description of this service prototype please see Deliverable D3.6.)
- The HbbTV based demonstration for an Enhanced Text Service, ARD Text, (rbb & IRT) (Live play out via Satellite to the same set top box (for a detailed description of this service please see Deliverable D3.5.). This barrier-free version of ARD Text relying on the results of DTV4All that was launched officially by ARD and also promoted in different contexts of the ARD Digital presentation.
- A demonstrator for DVB-Subtitling (rbb) showing the different design options for these (pre-produced transport stream loop including DVB-subtitle data played out locally directly to TV set).

For dissemination purposes, IRT and rbb issued a joint press release which was distributed through IRT's large distribution list of experts and journalists. Furthermore, a German flyer on DTV4All and its IFA demonstrations was issued jointly and distributed at the booth. Both publications are contained in the **Annex** of this deliverable. IRT and rbb invited expert visitors and also all former testers and the umbrella organisations for disabled people in Berlin and Brandenburg with dedicated mailings. Press coverage was positive, resulting in a series of specific publications on the DTV4All IFA demonstrations. Some examples can be found in the following media:

- http://www.pressebox.de/pressemeldungen/institut-fuer-rundfunktechnik-gmbh/boxid/367903
- http://www.satundkabel.de/index.php?option=com_content&view=article&id=73781&Itemid=156
- http://www.pb-powerboard.com/board/index.php?showtopic=76312
- http://satnews.w4trend.com/hr/ifa-2010-barrierefreiheit-im-digitalen-fernsehen/
- http://www.infosat.de/Meldungen/?msgID=59837
- http://www.satelliteforum.net/satellite/showthread.php?9681-Sat-News-Deutschland/page2

Of course, the DTV4All demonstrations were also covered in all official ARD Digital press releases, flyers and publications. A dedicated DTV4All IFA text was published on the IFA Dossier of rbb-online.de. For the full seven days of IFA, there was always one IRT and one rbb DTV4All representative present at the booth, guiding the visitors through the applications and introducing DTV4All to them.

2.3 Feedback of Visitors

The group of visitors at our booth was quite mixed. There were expert visitors, CE-Device Manufacturers, colleagues from public and private broadcasting corporations, and representatives of disability organisations for the hard of hearing, deaf, and sight impaired people and many members of the general public. Feedback was generally very positive. Visitors were very positive about accessibility issues being tackled and the demonstrations and services offers for accessibility which were praised by many.

General public including hearing and sight impaired people:

Many visitors praised the HbbTV concept of hybrid services, in particular ARDText (enhanced in DTV4All and the "Mediathek" (ARD's Video on Demand Platform - directly accessible via the TV screen) met with approval. Those people who were thinking about purchasing a new TV set were very interested in receiving detailed information on the new hybrid devices.

Four of our DTV4All-Testers visited the booth and were interested to see the barrier-free settings of the new ARDText and the prototype of the on demand signing solution. They really valued the ARDText options for better access which were derived from the DTV4All user tests. The deaf visitors were enthusiastic about the on demand signing solution and would have used that service on the spot. They said they would purchase a hybrid box for this if it were on offer.

One deaf visitor wanted to know why High Definition-subtitles on ARD and ZDF are not synchronous. He said "they start too early". IRT explained the background to him. Two other deaf visitors asked if they could witness the production of subtitles, they got our contact details.

Expert visitors:

Mr. Wegge (blind), Head of the Siemens Accessibility Center: He was accompanied by a seeing assistant and was guided through the two demonstrations targeting blind users. He was very positive about both solutions and would like to cooperate with rbb.

Mr Rebele: He is the responsible coordinator for sight impaired people in the Berlin Association for the Blind (ABSV). He cooperated very closely with us in preparing the test of an ARDText

Prototype for sight impaired people (contrast guidelines, eye diseases, collating a representative user group). He had also been one of the testers. At IFA, we detailed the test results to him. He was very positive about the current new version of ARDText based on these results which he saw for the first time as it was launched on the occasion of IFA.

Four gentlemen representing the German Ministry for Science and Education (BMWi) were present at the invitation of IRT and had a detailed presentation on HbbTV with special focus on accessibility by Mr. Dosch of IRT. They were very interested and positive in their feedback.

Mr Frank Zimnik of Eviado (HbbTV-Set top box-manufacturer) was quite interested in the on demand signing solutions and would be interested participating in a joint project.

A member of staff of one of the CE-manufacturers present at IFA was critical about the ARDText demonstration. He stated that he did not understand how ARD could provide personalised colour settings as this was "against the idea of corporate design". It was explained to him that for the very first time the consumers were empowered to change the appearance of a visual component of the broadcast service according to their personal taste or needs.

The most frequent questions from visitors were: Are these boxes on the market already? How much do they cost? What do I need if I want to use this (Analogue switch off)? Can we already use these DVB-subtitles (yes from next year onwards)? Can we already use the ARDText with accessibility options (yes, on air now)? Can we already use the hybrid signing solution (no, not yet, is only a prototype)?

Talks with the visitors lasted from five to 30 minutes.

Direct tours (presentations) to our DTV4All booth included: rbb management, rbb broadcasting committee, two guided tours especially for sight impaired people, one guided tour especially for deaf people.

Our feeling was that it was very fruitful to have the DTV4All presentation integrated in the booth of the ARD Digital World as visitors had already gained general knowledge of the topic of hybrid services or digitalisation once they approached our booth and could then get familiarised with the more specific aspects of accessibility to digital TV.

3. DTV4All at the "International Broadcast Convention 2010"

3.1 Introduction

The International Broadcasting Convention IBC was held from 9th to 14th September 2010 in Amsterdam[2]. IBC is Europe's largest professional broadcast show stage for those involved in content creation, management and delivery.

In 2010, the event attracted more than 48,000 attendees from 140 countries around the world, exhibiting more than 1,300 technology suppliers and providing a debate-leading conference.

The IBC takes place annually in the RAI Exhibition and Convention Centre Amsterdam. The new exhibition area "Connected World" addresses multimedia domains beyond traditional broadcasting such as Digital Signage, IPTV and Mobile TV. Access to IBC is limited to professional visitors.

3.2 DTV4All booth in the EBU Village

The "EBU Village" in hall 10 was the exhibition space of IBC demonstrations showing the depth of media technology innovation and experience amongst EBU Members.

Generally the focus of the IBC this year was 3D-TV. For that reason the EBU showed some interesting tests with 3D footage, demonstrated by Ed Wilson who also was the booth manager. DTV4All got a booth in modern style having a size of approximately 3m x 4 m, see **Picture 3**. Enough space to demonstrate the whole range of set ups of DTV4All.

As to the joint IRT/rbb presentation, the same demonstrations were shown as at IFA (please see Section 2.2. Instead of the DVB-subtitle loop which had already been presented in 2009 (in an earlier version) another subtitling solution was shown by UAB on the 7" display of a Personal Digital Assistant (PDA).

Also to be seen were two demonstrators for so-called "reduced playback speed" which do what the name implies: they reduce the play-out speed of (instantly) recorded AV content by a certain factor in order to allow disabled persons to follow the content more easily (slower speech as

[2] Ref. http://www.ibc.org/

well as better intelligibility of subtitles). The demonstrator prepared by IRT, with content from TVC and tested by UAB, used pitch correction to sustain the pitch in the voice, in this case in the Spanish language. The price for reduced playback speed is a prolongation of the total duration of the content playout by the same factor as the playout speed reduction. This leads the user to potentially miss the next broadcast transmission unless the follow-up programme is similarly recorded. NHK, an associated partner of DTV4All, demonstrated a solution for the Japanese language, where only the spoken audio (but not the video) was stretched in time (making use of those parts of the AV material where no spoken sound was present.

Picture 5: The DTV4All booth in the EBU Village at IBC-10

RAI demonstrated an interesting solution for displaying a virtual interpreter for sign language, a so-called avatar, together with High Definition content. A human signer was also to be seen on a small PDA (iPhone). This latter solution was aimed more to museum and cinema visitors than TV viewers.

The booth at stand 10D.21 was visited by numerous visitors representing a wide range of stakeholders, like broadcasters, CE manufacturers, regulators, infrastructure vendors, and members of the press. Some visitors were not aware of the existence of accessible TV services or of barriers to their roll out. Mostly, questions regarding regulatory and ethical issues with subtitling were discussed, as well as technical questions concerning synchronisation of IP-based signers and subtitles, technical requirements for implementing features for a reduced playback speed and the demand for international harmonisation and coordination of technological and political activities towards barrier-free television. There was interest in new interactive approaches like the HbbTV demonstrator for barrier-free television. DTV4All was featured in the conference magazine „The Daily IBC“

4. Further Events

A local event called "MEDIENTAGE MÜNCHEN 2010" was held between 13th and 15th October 2010 in Munich. Panel Discussions, Lectures and Workshops on TV, Radio, Internet, Print, Media Politics, Advertising, Film/Production, Journalism and Media Education took place at the "Messe München", the Munich Trade Fair Centre. The Media Fair of MEDIENTAGE MÜNCHEN features exhibits from the leading media companies. On more than 6,500 square metres of exhibition space, the latest products, projects, and ideas are displayed to an interested and relevant expert public, see **Picture 6**.

Picture 6: HbbTV at the Münchner Medientage, presented by Dr. Illgner-Fehns, the Director of the Institut für Rundfunktechnik

IRT presented its HbbTV solutions which were launched in DVB-T for the first time. The founders of the "Hybrid Broadcast Broadband TV" are ANT Software Limited, EBU, France Television, Institut für Rundfunktechnik GmbH, OpenTV Inc, Koninklijke Philips Electronics N.V Inc., Samsung, SES Astra S.A, Sony Corporation, Television Francaise 1 – TF1.

Access Services using the HbbTV standard were presented at the booth of IRT under the flag of DTV4All, see Picture 7. The same demonstrations were given as at the previous fairs, IFA and IBC 2010, namely:

- The prototype demonstration for an on demand HbbTV-based Video Signing application that was developed jointly by IRT and rbb
- The HbbTV based demonstration for an Enhanced Text Service, ARD Text, (rbb & IRT) (see Deliverable D3.5.) with respect to access services
- A demonstrator for DVB-Subtitling (rbb) showing the different design options for these, a pre-produced transport stream loop including DVB-subtitle data played out locally directly to a TV set.

Picture 7: DTV4All at the Münchner Medientage

Annexes:

A) The joint press release by IRT and rbb concerning the demonstrations at IFA 2010

B) The flyer for distribution with the DTV4All demonstrations at IFA 2010

Annex A:

The joint press release by IRT and rbb concerning the demonstrations at IFA 2010

Presseinformation

IFA 2010: Barrierefreiheit im digitalen Fernsehen

[München/Berlin, 24. August 2010]

Digitales Fernsehen mit seinen vielfältigen neuen Möglichkeiten ist attraktiv – keine Frage. Sind die neuen Angebote aber auch nutzbar für alle, ungeachtet von Alter oder Behinderung? Sind es vielleicht gerade die besonderen technischen Möglichkeiten des digitalen Fernsehens, die behinderten oder auch älteren Menschen einen verbesserten Zugang zum Fernsehen bieten könnten? Das sind die Fragen, denen sich das europäische Projekt DTV4All stellt. Das Institut für Rundfunktechnik (IRT) und der Rundfunk Berlin-Brandenburg (rbb) sind Partner in diesem Projekt und zeigen auf der IFA 2010 ganz konkret, wie Barrierefreiheit im digitalen Fernsehen aussehen könnte. Am Messestand „Digitale Welt" der ARD in Halle 2.2 präsentieren sie Dienste, die von behinderten Nutzern aus Berlin und Brandenburg getestet wurden.

In Europa leben heute 38 Millionen Menschen mit leichteren oder schwereren Behinderungen. Für sie ist die Teilhabe an der Informationsgesellschaft deutlich erschwert. Aber nicht nur Menschen mit Behinderungen sondern auch ältere Menschen stoßen beim Umgang mit Rundfunk- und Medientechnik zunehmend auf Barrieren. Schon heute sind 20 Prozent der Bevölkerung über 60 Jahre alt – Tendenz steigend. Programmveranstalter und Gerätehersteller stehen gleichermaßen vor der Herausforderung, die Fernsehnutzung für Menschen mit physischen, altersbedingten oder mentalen Behinderungen zu erleichtern.

Der Projektname DTV4All steht für „Digital Television for All" – digitales Fernsehen für alle. Vier öffentlich-rechtliche europäische Rundfunkanstalten, darunter der rbb, haben sich hier mit dem IRT und weiteren Partnern aus Technologie und Wissenschaft zusammengeschlossen. Ihr Ziel: Die neuen technischen Möglichkeiten des Digitalen Fernsehens zu nutzen, um gehörlosen, schwerhörigen, blinden und sehbehinderten Menschen den Zugang zum Fernsehen

Nr. 06/2010 24. August 2010 Sperrfrist: keine

zu erleichtern. Hochaufgelöstes Fernsehen (HDTV) und hybride TV-Empfänger ermöglichen verbesserte Darstellungsoptionen für den Bildschirm und Internet-Zugang per Knopfdruck. DVB-Untertitel und neuartige Textangebote sind optisch attraktiver und leichter bedienbar als der herkömmliche Videotext. Sie sind teilweise auch individuell in Größe und Farbe einstellbar.

Am Stand "Digitale Welt" können sich Messebesucher die besonderen Gestaltungsmöglichkeiten von Untertiteln im DVB-Standard anschauen. Anders als bei den bekannten Videotextuntertiteln lassen sich diese Untertitel zeitgemäß und HD-kompatibel in unterschiedlichen Schrifttypen ohne „Pixelschrift" und mit optisch angenehmen Hintergrundvarianten gestalten. Im Rahmen von DTV4All strahlt der rbb erstmals testweise DVB-Untertitel über DVB-T aus. Begleitend haben 50 schwerhörige und gehörlose Nutzer aus Berlin und Brandenburg über neun Monate die Gestaltungsmöglichkeiten von DVB-Untertiteln in einem groß angelegten Feldtest bewertet. Ergebnis sind Gestaltungsempfehlungen für die Umsetzung von DVB-Untertiteln in der ARD.
Ein Beispiel für ein attraktives barrierefreies Textangebot ist der neue ARDText im Standard HbbTV (Hybrid Broadcast Broadband TV). Er wurde für so genannte hybride Geräte, die neben dem herkömmlichen Fernsehen auch Inhalte über eine Internetverbindung empfangen können, entwickelt. Das Textangebot ist speziell auf die Belange sehbehinderter Tester abgestimmt. Es wurde gemeinsam vom IRT, rbb und ARDText entwickelt und mit sehbehinderten Rundfunkteilnehmern ausführlich getestet. Eine Zoomfunktion und verschiedene Farbvarianten sollen auch Zuschauern mit unterschiedlichsten Augenkrankheiten einen Zugang zu dem neuartigen Textangebot der ARD ermöglichen.

Eine weitere Anwendung für solche hybriden Fernsehgeräte mit Internetanschluss zeigt, wie man sich eine Fernsehsendung mit Gebärdensprachbegleitung „on demand" über das Internet auf den Fernsehbildschirm holen kann. Diese vom IRT entwickelte prototypische Anwendung wurde mit gehörlosen Zuschauern getestet.

Die Berliner und Brandenburger Beiräte für behinderte Menschen unterstützen das Projekt in enger Kooperation mit dem rbb. So wurden auch die Nutzergruppen für alle Tests des rbb in DTV4All durch Vermittlung der beiden Landesbeiräte gewonnen.

Nr. 06/2010 24. August 2010 Sperrfrist: keine

Am Ende von DTV4All steht eine umfassende Analyse des Status Quo der Barrierefreiheit in der europäischen Rundfunklandschaft. Empfehlungen an die entscheidenden Industrie- und Standardisierungsgremien sollen Impulse für eine flächendeckende Einführung der Technologien und Dienste geben. Das Vorhaben findet auch die Unterstützung der EBU. In DTV4All kooperieren acht Partner aus Deutschland, Großbritannien, Italien, England, Dänemark und Spanien. Das Projekt wird im sogenannten "ICT Policy Support Programme", einem Rahmenprogramm für Informations- und Kommunikationstechnologien, von der Europäischen Kommission gefördert.

Für mehr Information zu DTV4All und seinen europäischen Partnern siehe www.psp-dtv4all.org/

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Nr. 06/2010 24. August 2010 Sperrfrist: keine

Annex B:

The flyer for distribution with the DTV4All demonstrations at IFA 2010

rbb RUNDFUNK BERLIN-BRANDENBURG

DTV4All

Institut für Rundfunktechnik IRT

DIGITALES FERNSEHEN FÜR ALLE

DTV4All ist ein europäisches Projekt. Vier öffentlich-rechtliche europäische Rundfunkanstalten, darunter der rbb, haben sich hier mit dem IRT und Partnern aus Technologie und Wissenschaft zusammengeschlossen. Ihr Ziel: Die neuen technischen Möglichkeiten des Digitalen Fernsehens zu nutzen, um gehörlosen, schwerhörigen, blinden und sehbehinderten Menschen den Zugang zum Fernsehen zu erleichtern.

DVB-UNTERTITEL

Untertitel im DVB-Standard bieten neue Möglichkeiten. Anders als bei Videotextuntertiteln (z. B. Seite 150 im ARDText) lassen sich diese Untertitel zeitgemäß und HD-kompatibel in unterschiedlichen Schrifttypen ohne „Pixelschrift" und mit optisch angenehmen Hintergrundvarianten gestalten. DVB-Untertitel werden direkt über eine Taste auf der Fernbedienung aufgerufen.
Rundfunkanstalten können die DVB-Untertitel grafisch frei gestalten, die Zuschauer profitieren von grafisch ansprechenden Untertiteln. In DTV4All strahlt der Rundfunk Berlin-Brandenburg DVB-Untertitel testweise über DVB-T aus.

GESTALTUNG IM TEST

In einem groß angelegten Feldtest haben 50 schwerhörige und gehörlose Nutzer über neun Monate DVB-Untertitel bewertet. Mit einem wöchentlichen Fragebogen benoteten sie die unterschiedlichsten Varianten im Hinblick auf Schriftgröße, Schriftart- und Hintergrund.
Ergebnis sind Gestaltungsempfehlungen für die Umsetzung von DVB-Untertiteln in der ARD. Die Berliner und Brandenburger Beiräte für behinderte Menschen haben diesen Test wie auch alle anderen rbb-Tests im Projekt in enger Kooperation unterstützt.

Gestaltungsvarianten von DVB-Untertiteln

BARRIEREFREIER HBBTV-TEXT FÜR SEHBEHINDERTE

Ein attraktives barrierefreies Angebot ist der ARDText im Standard HbbTV. Er wurde für hybride TV-Geräte, die auch Inhalte über das Internet empfangen können, entwickelt. Das Textangebot ist auf die Belange sehbehinderter Menschen abgestimmt. Es wurde gemeinsam vom IRT, rbb und ARDText entwickelt und mit sehbehinderten Nutzern getestet. Farbvarianten und Zoom sollen auch Zuschauern mit Augenkrankheiten Zugang zu dem neuartigen Textangebot ermöglichen.

Einstellungen barrierefreier Teletext

GEBÄRDENSPRACH-DOLMETSCHER ÜBER IP

Eine DTV4All-Anwendung für hybride Fernsehgeräte mit Internetanschluss beschäftigt sich mit dem Thema Gebärdensprachdolmetscher im digitalen Fernsehen.
Die vom IRT entwickelte prototypische Anwendung im neuen Standard HbbTV zeigt wie man sich eine Fernsehsendung mit Gebärdensprachbegleitung „on demand" über das Internet auf den Fernsehbildschirm holen kann. Die Anwendung wurde mit gehörlosen Zuschauern getestet.

Gebärdensprachdolmetscher

AUSBLICK UND PROJEKTPARTNER

Am Ende von DTV4All steht die Analyse des Status Quo der Barrierefreiheit in der europäischen Rundfunklandschaft. Alle Testergebnisse werden dokumentiert und gehen als Empfehlungen an Industrie- und Standardisierungsgremien. Ziel ist die flächendeckende Einführung barrierefrei standardisierter Technologien und Dienste. Das Projekt wird als ICT-PSP Projekt im CIP-Programm der EU gefördert.

Projektpartner:
Brunel University (GB) - Koordinator
Danmarks Radio (DK)
Institut für Rundfunktechnik GmbH (D)
RAI-Radiotelevisione italiana S.p.a (I)
Rundfunk Berlin-Brandenburg (D)
Red Bee Media (GB)
Televisio de Catalunya SA (E)
Universitat Autonoma de Barcelona (E)

www.psp-dtv4all.org

Annex C:

DTV4All flyer for TVC/UAB demonstrations at IBC 2010

Digital Television for All

Enhanced Audio Description Service

What is DTV4All?

DTV4All is a project funded by the European Commission to facilitate the provision of access services on digital television across the European Union.

What are access services?

People who are hard of hearing or deaf need subtitles or deaf signing to be provided with television programmes if they are to fully appreciate its dialogue. People who are partially sighted or blind need audio description provided with a television programme if they are to fully appreciate the context of what they hear. Such services enable their users to access the storyline of a television programme so are known as access services.

DTV4All promotes inclusivity.

Why has DTV4All been funded?

The switch-off of analogue television in Europe by 2012 represents both a challenge and an opportunity for access services. It represents a challenge for two very different reasons. Firstly, many people who have had no problems accessing analogue television will experience some difficulty in accessing digital television. The extent of this issue is such that approximately 15% of Europeans have difficulties in accessing digital television for reasons such as hearing impairments, dyslexia, visual impairments, the complexity of setting up a digital receiver or set-top box, remote controls they find difficult to use, Electronic Programme Guides (especially when there are over one hundred channels to choose from).

Secondly, the analogue switch-off will bring the widespread introduction of improvements to the quality of existing digital television programmes, collectively known as second generation digital television, such as high definition television (HDTV).

As the amount of information that can be sent by a digital television transmitter is limited, there will be pressure to reduce the bandwidth devoted to access services due to the demand for HD programmes.

Figure 1: Screenshot of a signing service provided on a virtual channel

An example of a service likely to come under such pressure is the provision of a virtual channel on which a signer is shown illustrated in Figure 1 above. This is a virtual channel because it is a substitute for the channel showing the programme without the signer. However, providing a signer in this way requires more information to be transmitted.

Objectives of DTV4All

1. Offer and evaluate mature access services (subtitling, audio description, audio subtitling and signing services) in a minimum of four EU countries for 12 months.
2. Identify improvements to existing access services and ways of addressing the main technical, organisational and legal obstacles to the sustainable take-up of these services in the timeframe 2008-2010.
3. Identify and prioritise significant emerging access services, and the devices and platforms needed to support them for the period 2010-2012 that are technologically feasible, have perceived value to their intended users, and for which there is a viable business model.
4. Make recommendations regarding mature and emerging access services to bodies representing stakeholders in the access service value chain.

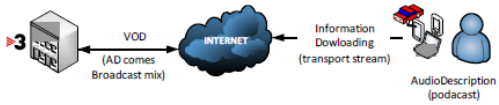
Enhanced Audio Description

Enhanced Audio Description is one of the emerging services prototyped by DTV4All. Audio Description (AD) is an additional audio track with narration for the blind and the visually impaired. Three emerging scenarios have been tested:

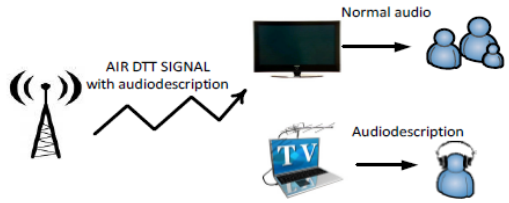
1. The ***Live Streaming Internet TV*** scenario is a prototype that emulates DTT broadcasting, but by means of the Internet using an IP channel instead of free to air broadcasting. The following diagram represents the distribution channel:

Users are able to view these contents on the TV screen. The contents are broadcast over the Internet via a streaming IP channel

2. In the ***Podcast*** scenario, users can download audio files in a portable format (MP3). These files contain the audio description audio channel of the selected programs. Users are be able to play these files in their portable audio player devices, for example, they are be able to listen to yesterday's episode of a particular TV series while travelling to work.



3. The ***simultaneous*** consumption of AD and non AD is a solution that has been devised for a family or group situation, where one or more members want to consume AD, while others may prefer other services.



AD synchronic and selective reception represents a new dimension enhancing the social aspect of AD consumption. For this scenario AD is received through a laptop with a DTT tuner, and the AD channel can be heard through headphones. This simultaneous reception of the visual narrative with optional reception of AD has been designed to ensure there are no audio synchronisation problems.

Results

Enhanced AD services are technically viable, though some attention needs to be directed towards the quality of the user experience, for example, screen navigation. The service was greeted with high levels of acceptance as an accessibility service, and indeed as a social tool.

Recommendations

Enhanced AD has a positive effect given the fact that it empowers users to consume audiovisual products in different social scenarios. Further research should be carried out to audio tag accessible contents through this service, and raise awareness of its existence among users and facilitators.

For the consumer electronics industry this study is a clear indicator that there is demand for enhanced AD, and if widely available it could be consumed according to user needs.

Internet protocol television (IPTV) is bringing greater focus to providing the end-user with control over their experience of broadcast television. DTV4All has shown that it is technologically feasible for IPTV and video on demand to incorporate enhanced AD services. User tests also indicate that there is a demand for these services, and that the philosophy of IPTV, which is user centric and based on a content pull instead of a content push model supports improved accessibility services

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