

Changing the TV-experience through HbbTV - now and in future

1st Winter School on Multimedia Processing and Applications
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Agenda

- Introducing **rbb** and **rbb** Innovation Projects
- HbbTV – What's that? Where? What for?
- Our innovations in HbbTV: From „Science Slam“ to „Subtitles according to your taste“ to „Interactive TV News“
- Looking to the Future of the Hybrid World: FP7 Project HBB-NEXT



RBB Rundfunk Berlin-Brandenburg - Basics

- Public service broadcaster for Berlin and Brandenburg
 - *Local catchment area: 30,000 KM² / Population: 6 million*
- One TV station, six radio channels, wide range of multimedia services, online, videotext & mobile
- Member of ARD (Europe's largest broadcasting network)
- Hosting ARD Digital Play Out Center/Interactive Services





rbb Innovation Projects

- Small team of nine in RBB's Department "Production and Operation"
- Dedicated to conceiving, testing and implementing novel interactive TV services in the context of European projects (FP7, FI-PPP, eContentPlus, ICT-PSP, ESA Artes)
- Cooperation inhouse with different editorial departments: ARD Digital Play Out Center, rbb multimedia department, news department and others

Current topics:

- HbbTV and accessibility/Interactive TV: *Coordinator of FP7 project HBB-NEXT, WP leader in ICT-PSP –project HBB4ALL*
- HbbTV and Second Screen: *WP leader in PPP-project FIContent2*
- HbbTV and Social Media: *WP Leader in ICT-PSP Project TVRing*
- HbbTV and Interactive TV News: *Partner in FP7 project LinkedTV*

HbbTV – What's that?

The Idea



HbbTV=HybridBroadcastBroadbandTeleVision („Smart TV“)

- Pan-European standard for
 - Integration of broadcast and web content
 - Web-like applications for the TV Screen
- Aim: Harmonise (linear) broadcast and (non-linear) broadband delivery of content and services to consumers who use connected TVs / set-top boxes
- Open and business neutral technology platform for hybrid entertainment services based on CE-HTML, DVB, W3C and OIPF
- Major E uropean business initiative

The Consortium



- Founding members: broadcasters and CE companies
- Currently about 70 members
- Common goal:
 - Create services that explore the capabilities of today's CE devices and address changed consumer demands and habits
 - Provide an alternative to proprietary technologies
 - Deliver an open platform for broadcasters to deliver value-added on-demand services to the end customer.



The Consortium – Some members



- Device manufacturers



- Broadcast industry



- Telecommunication industry

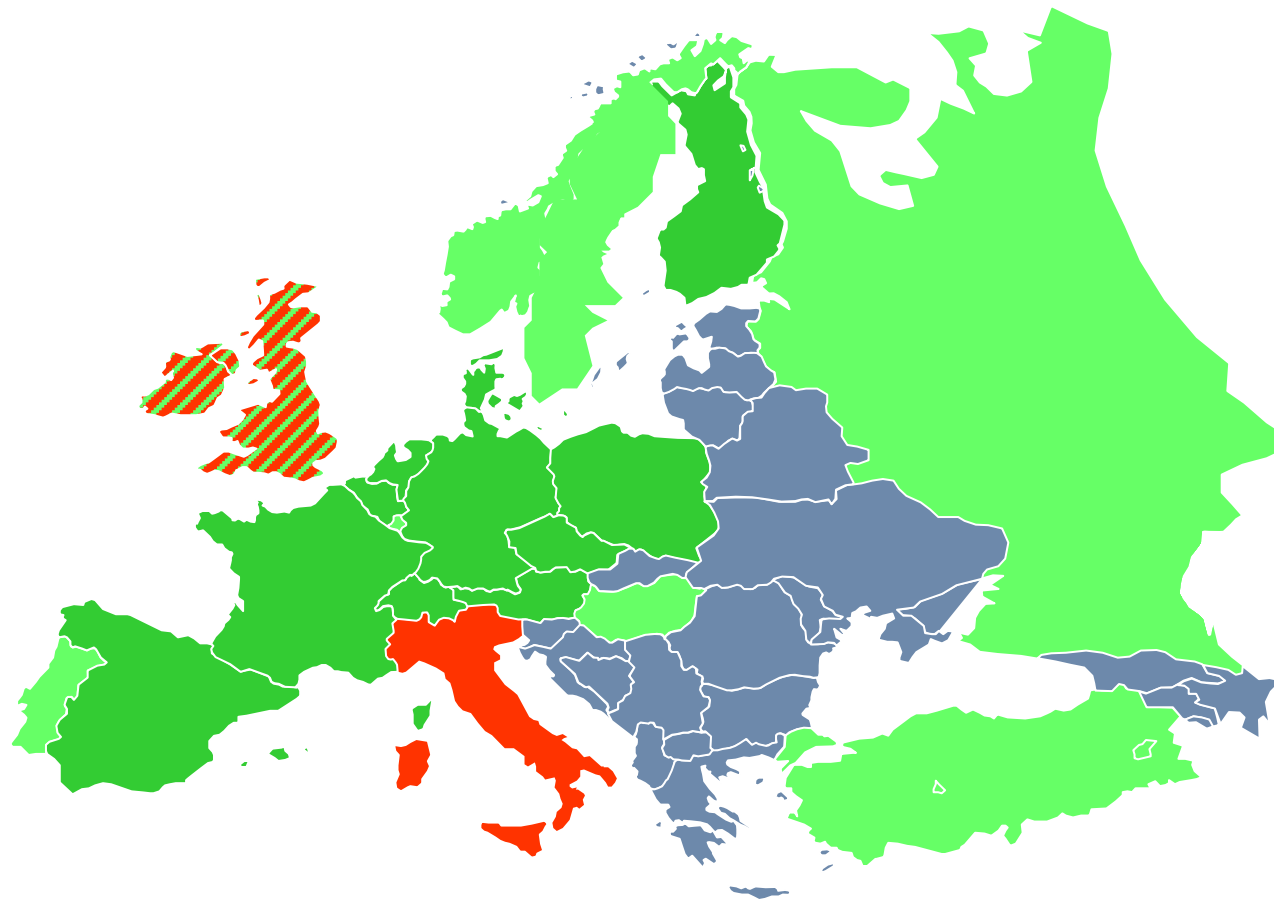


- Developers/Programmers



HbbTV – Where?

HbbTV in Europe



Operation

Announced / Tests

No Information

Other Systems

HbbTV – What for?

Making TV interactive – Consumer Benefits

- Serious return channel option for the first time ever
- Large variety of value-added services, modern look and feel
- Novel services:
 - Catch-up TV: video on demand (VoD) – time independent TV
 - Programme-related services like EPGs and added info
 - Customisation features
 - Voting options for interactive shows (quiz, talk, news)
 - Interactive and programme-related advertising
- Interactive TV **free of charge**
- Open, horizontal and non discriminative – its a standard

How I get there: The Red Button Principle




Jump from one service to the next: The Launcher Bar



Good old teletext in attractive new clothes

rbbtext[®]
12.09.2013 | 11:14 Uhr

- Startseite
- Nachrichten regional
- tagesschau
- Wetter
- Sport
- IFA 2013 Berlin
- Verkehr
- Untertitelte Sendungen
- Alles auf einen Blick
- Auf 2. Gerät öffnen



Nachrichten

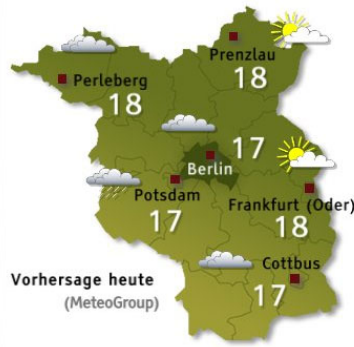
Debatte: Wohnen und Wasserpreise

- Grüne kritisieren Veolia-Deal
- Picasso-Schau wird eröffnet
- Wahl: Sozialthemen entscheidend
- Kabeldiebstahl störte S 25
- Umfrage: CDU bei Wahl knapp vorn
- Warnstreiks im Einzelhandel
- Schlösserstiftung wird erweitert

Fußball Bundesliga

Hilfe & Tipps zu rbbtext

Wetter heute



Vorhersage heute (MeteoGroup)

Aussichten (5 Tage)

Temperaturen
Frankfurt bedeckt 13°C

Startleiste 0 Hilfe 1 Ausblenden Programm Mediathek

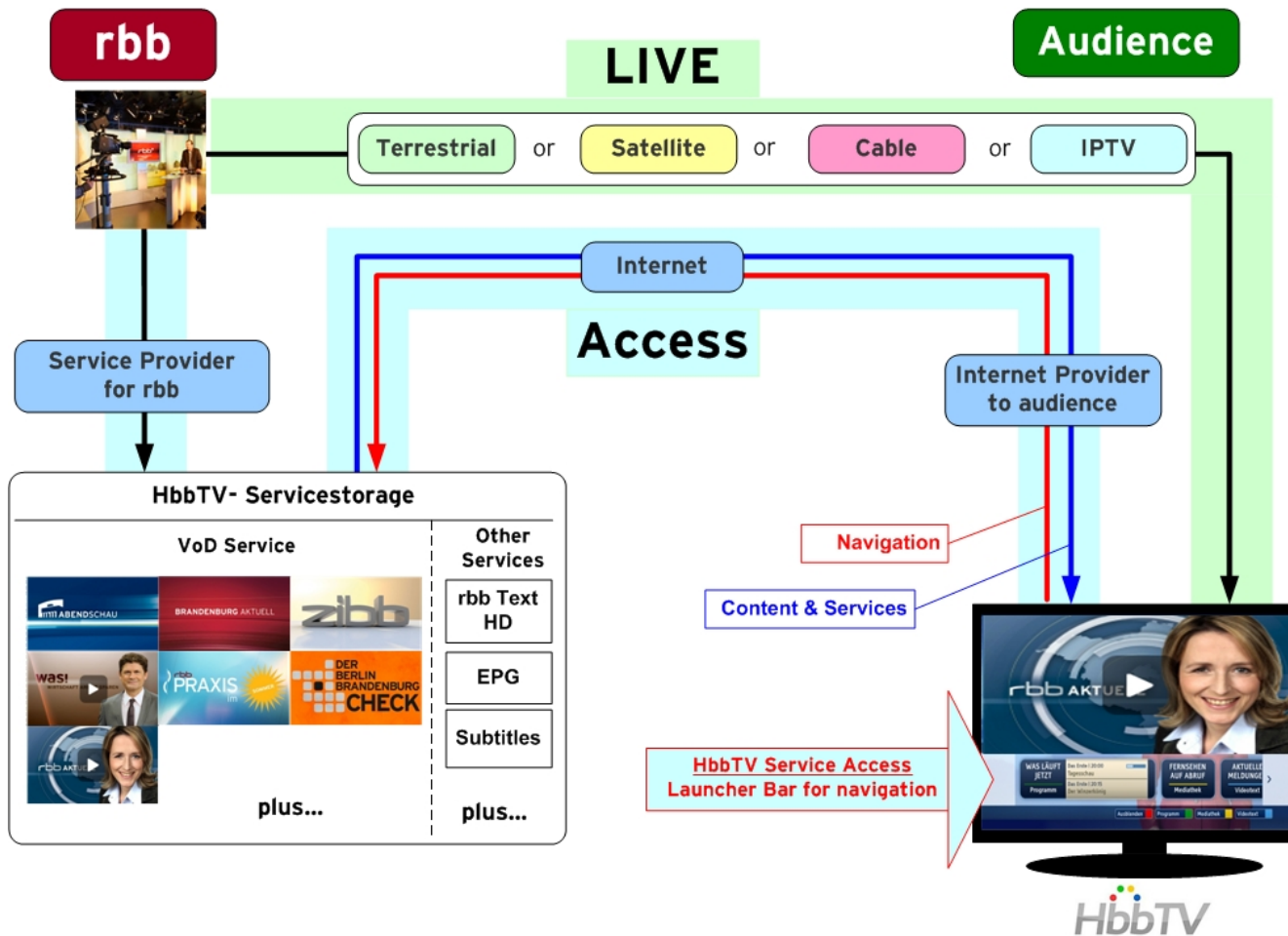
Missed a programme? Video on Demand PC, Tablet or TV

The screenshot displays the rbb MEDIATHEK website interface. At the top left, the logo 'rbb¹ MEDIATHEK' is visible, and at the top right, the date and time '12.09.2013 | 11:00 Uhr' are shown. Below the logo is a navigation menu with the following items: HOME, SENDUNG VERPASST? (highlighted in red), SENDUNGEN A - Z, MERKLISTE, SUCHE, HILFE, and IMPRESSUM. The main content area features a grid of six program thumbnails: 'ABENDSCHAU' (blue background with a white building icon), 'BRANDENBURG AKTUELL' (red background), 'rbb AKTUELL' (blue background with a globe), 'Geheimnisvolle Orte' (dark background with a stormy sky), 'rbb DOKUMENTATION & REPORTAGE' (blue background with a lens), and 'THADEUSZ' (orange background with a portrait of a man). Navigation arrows are present on the left and right sides of the grid. At the bottom, there is a control bar with icons and labels: a square icon, '0 Startleiste', '1 Schriftgröße', a red square for 'Ausblenden', a green square for 'Programm', a yellow square for 'Mediathek wählen', and a blue square for 'Videotext'.

EPG –Second Screen helps first screen



How its done by whom – example RBB



Our Innovations in HbbTV



Interactive TV Show

- First interactive programme-related service via HbbTV live on air at ARD
- TV-live show „Science Slam“ 31. Mai 2013, 22:00
- Getting additional info and vote for your favourite via remote control
- DTV regional, DVB-S nationwide
- Very successful: 16 percent of all online votes via the TV!
- Programme makers RBB, IRT, innovation projects, ARD POC

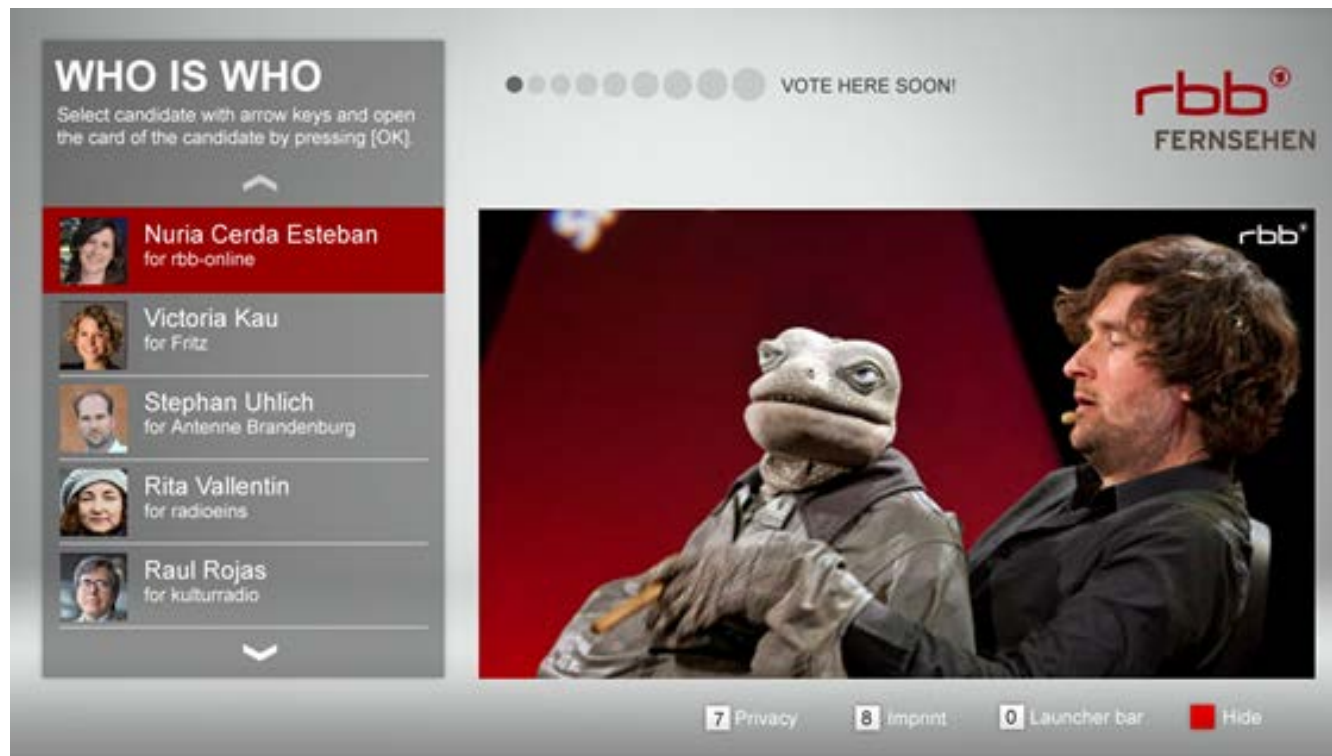
Interactive TV Show – Red Button with Add On



Interactive TV Show - Launch Toolbar Widget




Interactive TV Show – Candidate Information and Countdown



Interactive TV Show – Candidate Information, Countdown Complete

The screenshot shows an interactive TV show interface. On the left, a candidate information panel for Nuria Cerda-Esteban is displayed. The panel includes her name, a photo, and biographical details. On the right, a large video frame shows a man holding a frog puppet. The interface features a 'VOTE NOW!' button with a progress indicator, a user login status, and a footer with navigation options.

Nuria Cerda-Esteban
für rbb-online



29 Jahre
Diplom-Biochemikerin
Max Delbrück Zentrum für Molekulare Medizin
Berlin-Buch
Leidenschaft: Swing Tanzen
Innovation: Internet
Motto: Man hört nie auf zu lernen
Soundtrack: "Everybody Needs Somebody" -
Blues Brothers


Close [OK]

●●●●●●●● VOTE NOW!

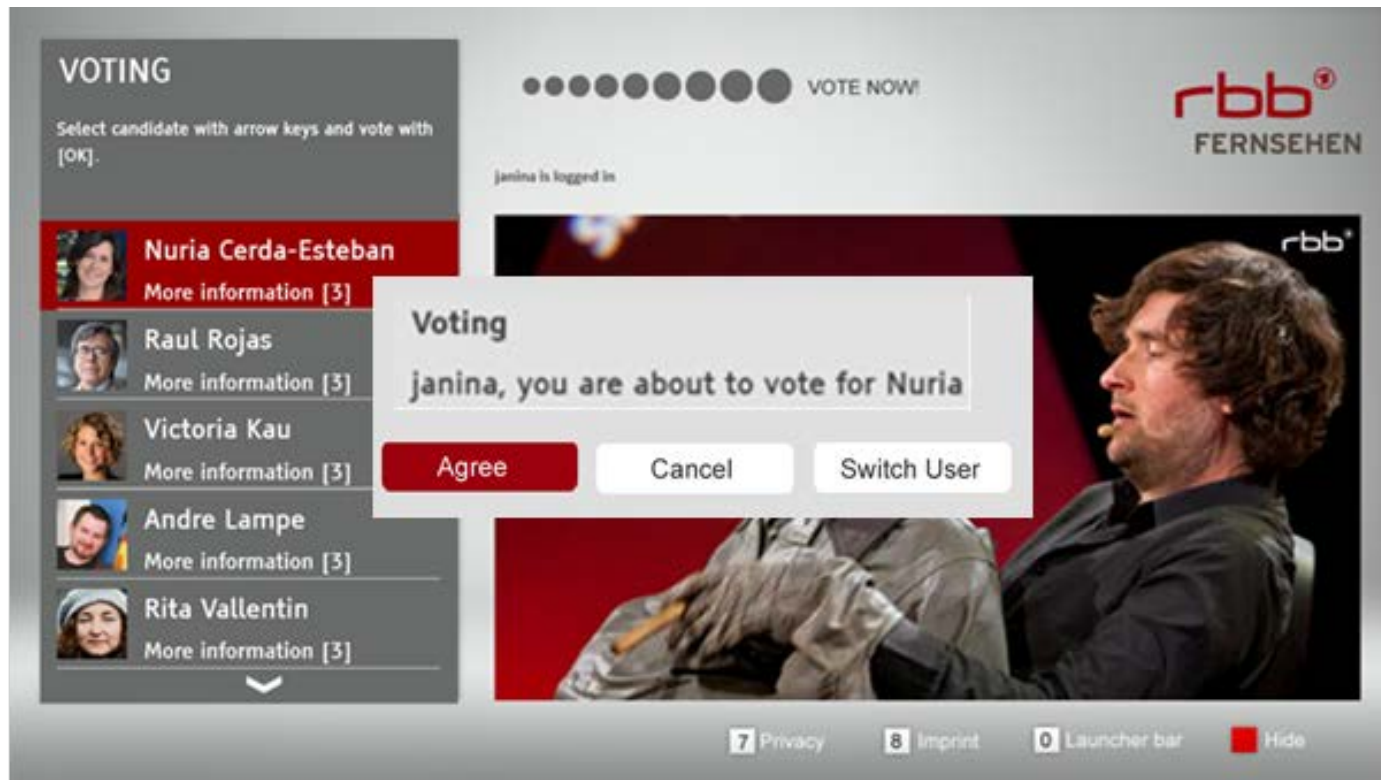
janina is logged in

rbb¹
FERNSEHEN

rbb¹

7 Privacy 8 Imprint 0 Launcher bar  Hide

Interactive TV Show – Voting Dialog



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rbb[®]

**„Wissenschaft bühnenreif - Der rbb Science Slam“
Interaktive Sendungsbegleitung via HbbTV**

Putting Second Screen on Stage - rbbtext HD on Second Screen



Putting in the Second Screen

- rbbtext (HbbTV) can be used in sync on two devices (TV-Tablet/Smartph.):
 - Simultaneously on both devices: Tab is „extended remote control“, easy navigation, others see what you do on TV screen
 - Only on Second Device: TV programme undisturbed while text is used on Second Device
 - Direct access to weblinks in TV Text Service via Second Screen

The connection

- Done once: User scans in QR-Code on TV via Tablet >> QR-Code links to server = Devices are connected.
- IDs of connected devices are coupled in database: Ist clear which devices belong together.
- Generic framework – more than one service ahead
- Pilot tests with 40 users from this month



Subtitles according to your needs



- Users asked us introduce something like that!
- In addition to teletext and DVB-subtitles

HbbTV Subtitles: On/off + Context-Sensitive Help

The screenshot shows a settings menu for subtitles. At the top, there are four tabs: 'An/Aus', 'Schriftgröße', 'Hintergrund', and 'Position'. The 'An/Aus' tab is selected. Below the tabs, there is a text instruction: 'Schalten Sie die Untertitel an und gestalten Sie anschließend Ihre Untertitel. Mit [OK] bestätigen Sie die Auswahl.' Below this, there are two options: 'Untertitel an' (checked) and 'Untertitel aus' (unchecked). A yellow help box is overlaid on the 'Untertitel an' option, containing the text: 'OK-Taste: UT anschalten. Rechts-Pfeiltaste: Merkmale (Schriftgröße, Hintergrund, Position) ansteuern.' At the bottom of the menu, there is a footer with the text 'Funktion mit Zahlen oder Farbtasten auf Ihrer Fernbedienung aufrufen:' followed by four items: '0 Startleiste', '1 Hilfe ausblenden', '2 Bedienung, Datenschutz, Impressum', and a red square icon followed by 'Ausblenden'.

An/Aus | Schriftgröße | Hintergrund | Position

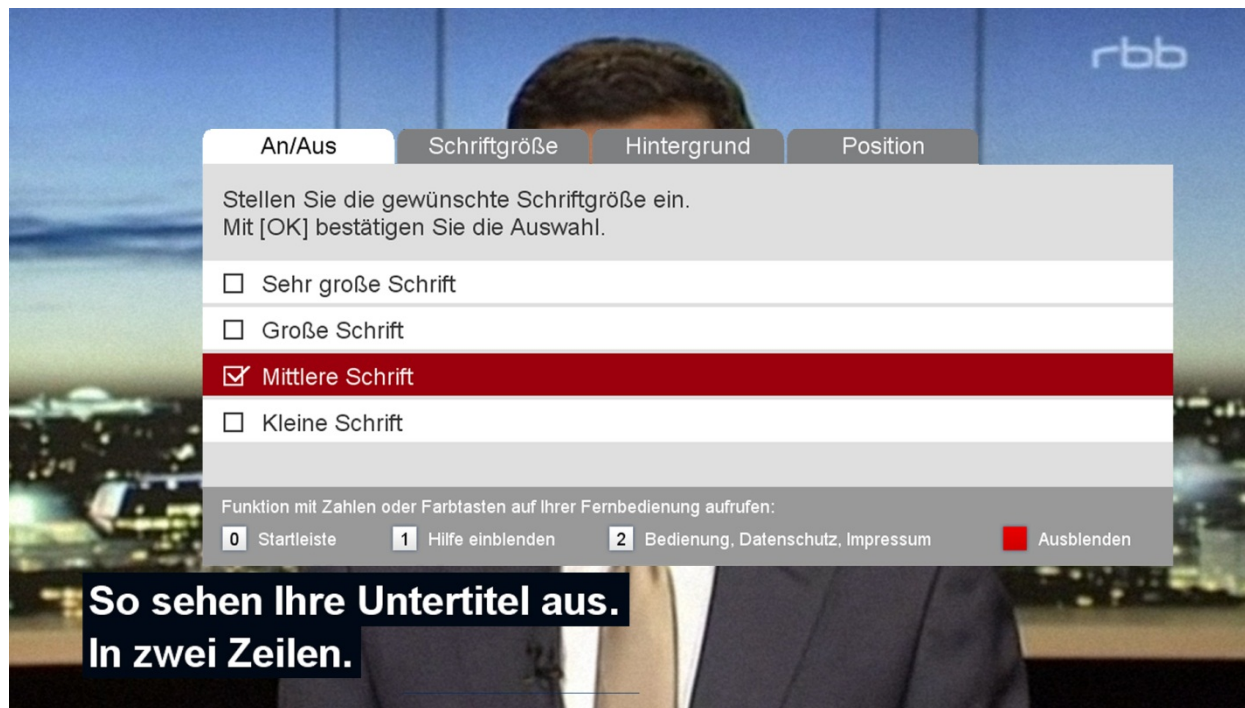
Schalten Sie die Untertitel an und gestalten Sie anschließend Ihre Untertitel.
Mit [OK] bestätigen Sie die Auswahl.

Untertitel an
 Untertitel aus

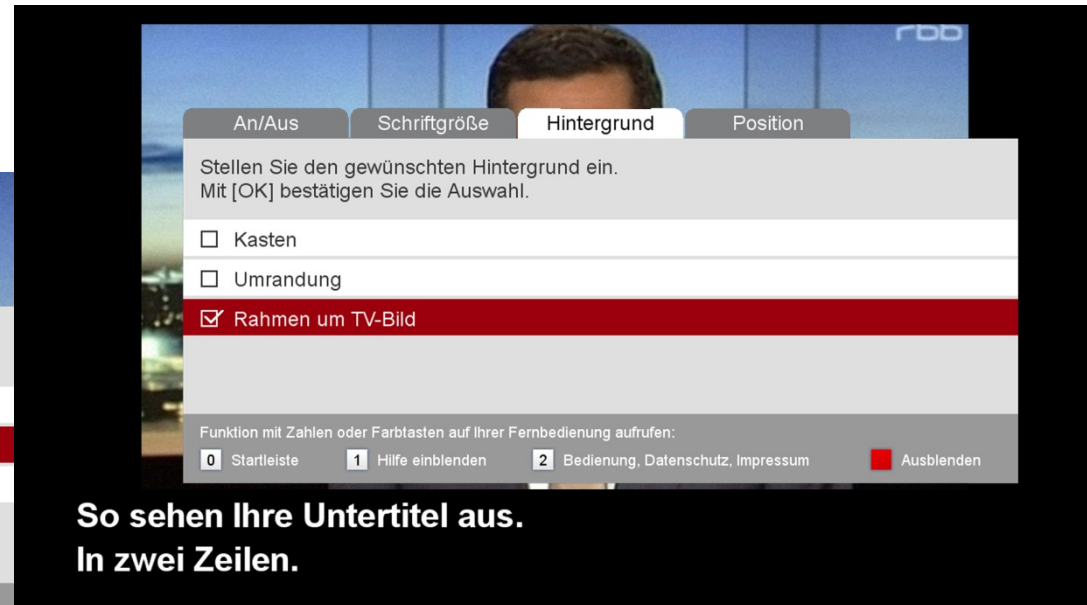
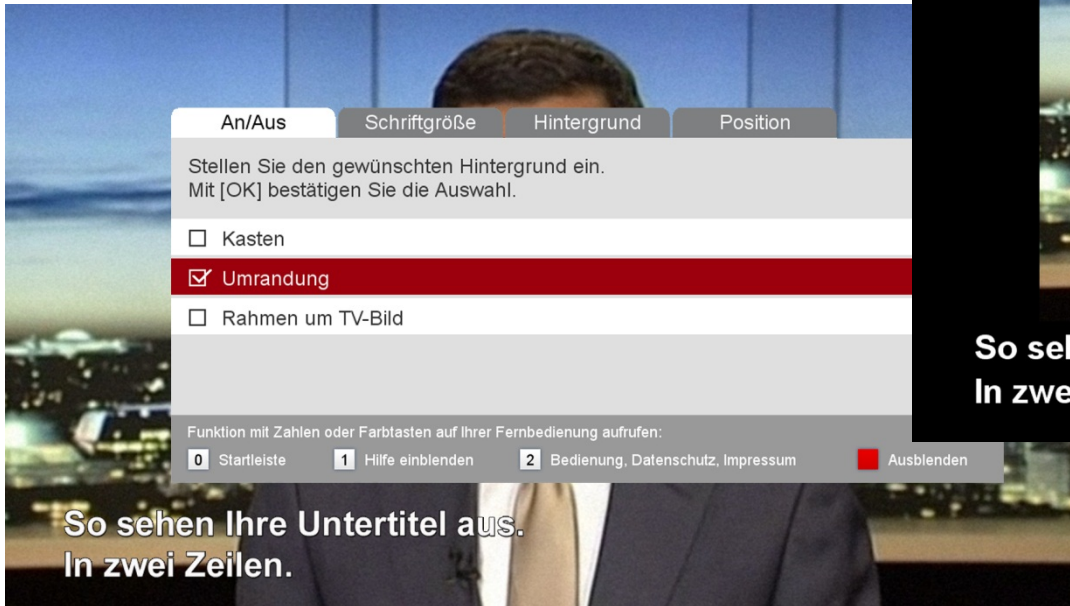
OK-Taste: UT anschalten.
Rechts-Pfeiltaste: Merkmale (Schriftgröße,
Hintergrund, Position) ansteuern.

Funktion mit Zahlen oder Farbtasten auf Ihrer Fernbedienung aufrufen:
0 Startleiste 1 Hilfe ausblenden 2 Bedienung, Datenschutz, Impressum ■ Ausblenden

HbbTV Subtitles: Font Size

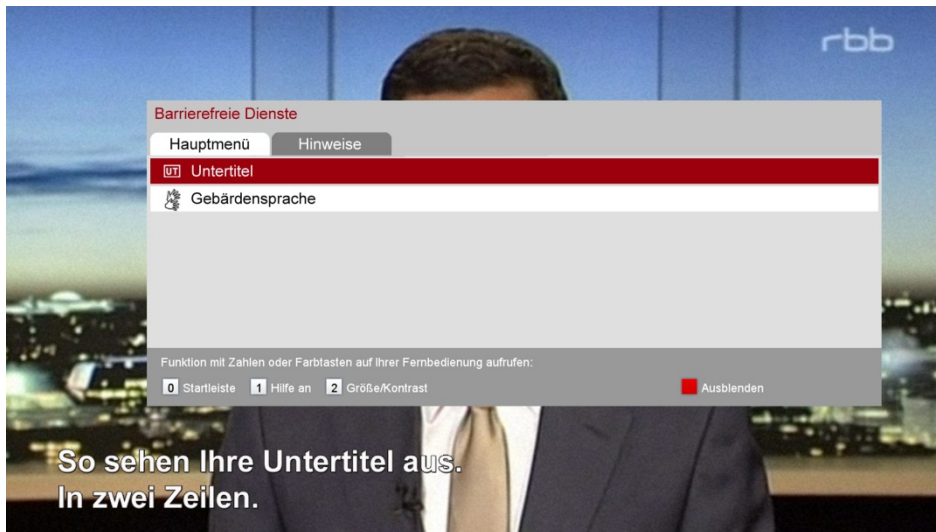


HbbTV Subtitles: Background



The Signer too?

- Possible: further services , e.g. sign language interpreter on demand



- HBB4ALL Project: Improved accessibility on TV through HbbTV just started

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Interactive News Service



LinkedNews Service - Motivation

- News, information, any news topic triggers more questions
 - If you are curious enough to watch a news or information programme, you will be curious enough to have new questions after learning/hearing something new
- Modern users – in our case TV viewers – will consult their smartphones or tablets to find answers
- We want to offer relevant answers to the questions we trigger directly related to the TV programme
- Enrichments, i.e. additional information



The LinkedNews Service - the Scenario



While LinkedNews are on the TV Screen (HbbTV-Application), additional information is available on the Second Screen (Tablet)



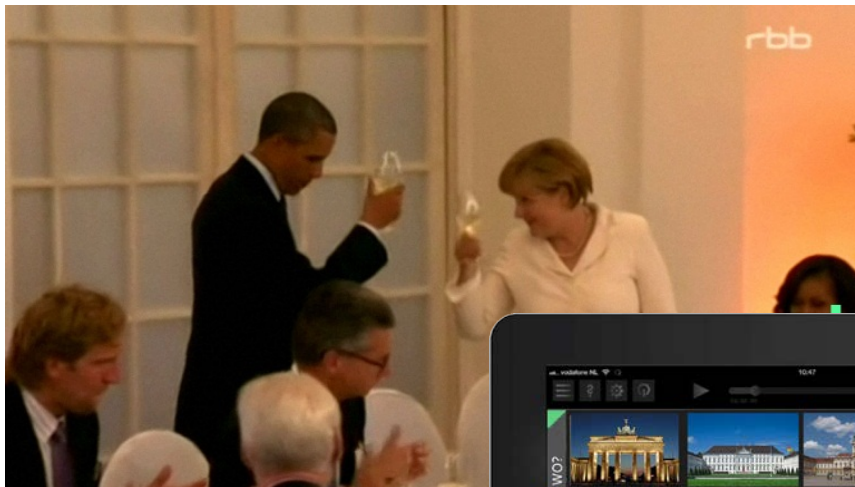
The LinkedNews Service - What happens on the TV Screen?



Whenever a new entity (person, place, topic) appears on the TV screen for which we offer additional information, There is a small notification on the TV screen



The LinkedNews Service- What happens on the Second Screen?



At the same moment a thumbnail appears on the Second Screen which refers to additional information. Double-click on such an item to find out more about Tim Raue and his restaurant, etc.



LinkedNews Service - Video



LinkedNews Service – Media Fragments

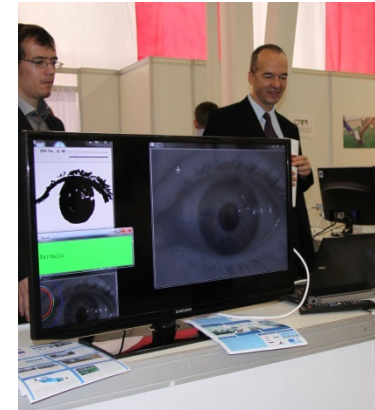
- Currently the LinkedNews Service refers to relevant sources on the web by linking to the complete source
- The Media Fragments technology will enable us to address the relevant fragment of such a source, e.g. a specific 3 minute-interview in a long talk show, etc.
 - Analysis mechanisms will identify fragments and their content
 - Enrichment tools will recommend which fragments are relevant and
 - The LinkedTV Player will refer to these fragments

Looking to the future of the hybrid world:
FP7 project HBB-NEXT



HBB-NEXT in a Nutshell

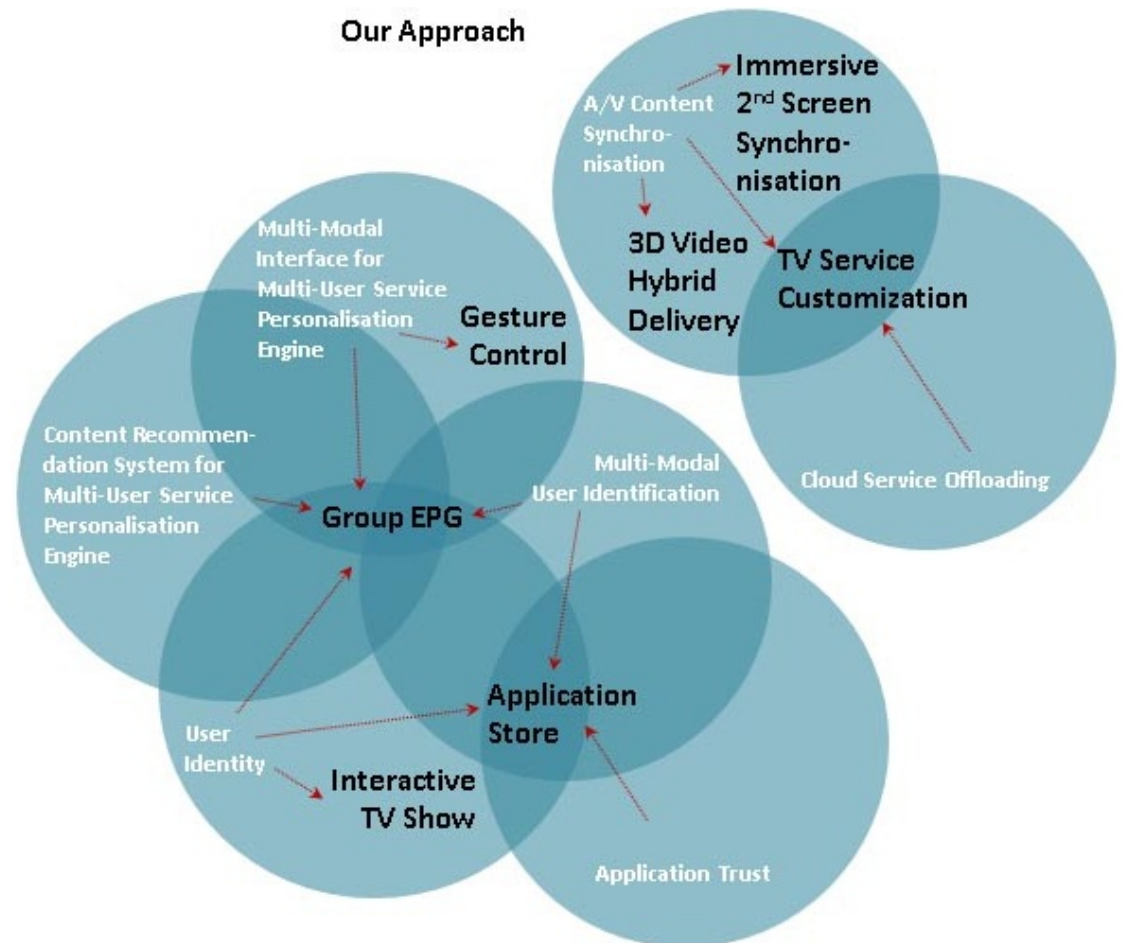
- Advanced services in the hybrid world
- Contribute to successful uptake of HbbTV
- Prototype with novel applications and functionalities
- Duration: 1.10.2011 to 31.3.2014 (30 months)



HBB-NEXT: Applications

- TV Service Customization
 - bundles access to a range of customizable services
- Application Store
 - multi-modal authentication with voice and face recognition
- Interactive TV Show
 - Vote on TV
- Group EPG
 - Tailored content recommendations
- Gesture Control
- 3D Video Hybrid Delivery
- Immersive Second Screen Synchronisation

Our Approach





Meet us in Munich at our Final Workshop!

- Exploring the Future of Connected TV
- Novel applications and innovative research
- Institut für Rundfunktechnik, **Munich, 27/02/2014**
- Presentations, Demos, Discussions

Thank you!

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