Journaline

Anytime News & Hot-Button Interaction with your DAB+ Listeners

2013-11-14 TNO @ Hilversum.nl

NewsService *Journaline*®

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Outline

■ Fraunhofer IIS

■ DAB+ Multimedia Services in Germany

■ Journaline – The DAB+ Advanced Text application

 ■ Interactivity & Listener Targeting

 ■ Content Examples

 ■ Receiver Examples – Desktop, PC, Mobile, In-Car

 ■ Content Generation & Service Setup Demo

■ Summary

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Fraunhofer
Europe's Largest Organization for Applied Research
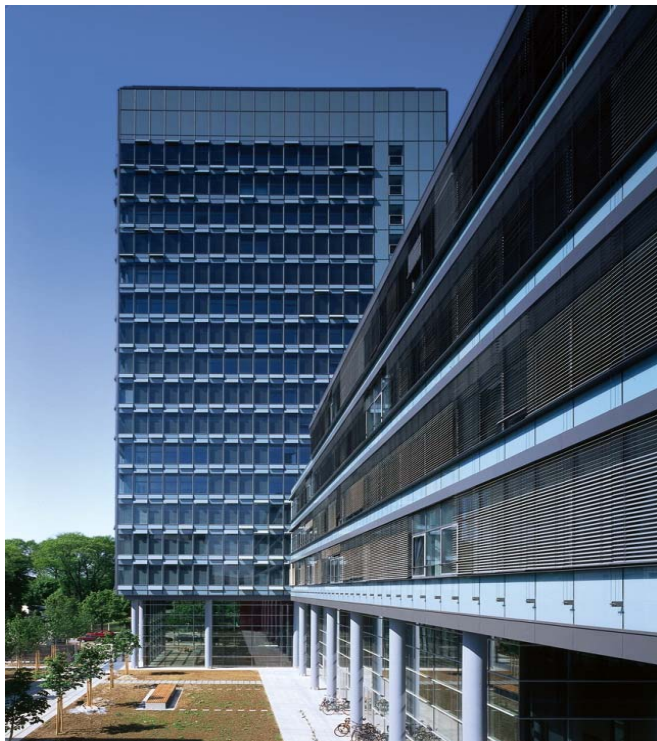
- Fraunhofer IIS
  is part of Fraunhofer-Gesellschaft

- Roughly 22.000 employees;
  over 1,9 billion Euro annual research budget,
  > 70% from industry contract research

- 66 research units in Germany;
  additional sales representatives in Europe, U.S.,
  Asia and Middle East

- Numerous multimedia key technologies were
  developed or co-developed by Fraunhofer:

  mp3, AAC, H.264 or
  SIP protocol for VoIP telephony

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Fraunhofer IIS
Enabling True Audio & Multimedia Experiences

Main inventors of **mp3**

Co-developers of AAC

Fraunhofer IIS is the worldwide authority and source in the field of audio and multimedia technologies and products.

Software provided to more than **1,000 companies** enabling more than **6 billion devices** worldwide.

One-stop shopping for digital radio.

> 750 employees.

Experience since 1985.

www.iis.fraunhofer.de/amm

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DAB+ Multimedia Services
Current Status – Example Germany

- 14 nation wide programs (first in history!):
  4x DRadio, 10 private stations

- Per Bundesland (regional):
  - ARD stations (60+ programs)
  - Private broadcasters

DAB+ Multimedia Services
Overview DAB+ Applications

- Most important DAB+ data services on-air today:

  - **Dynamic Label / DL+**
    programme accompanying text snippets

  - **Journaline**
    text based info service (Unicode),
    for all types of DAB+ receivers,
    triggers interactivity and geo-awareness

  - **MOT Slideshow**
    programme accompanying images

  - **EPG – Electronic Program Guide**
    What's up now & next;
    Search programs, schedule recordings

  - **TPEG –** Traffic Information

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DAB+ Multimedia Services
Clarification DAB+ Text Applications

```
You are listening to
My Life by Sharkura
```

```
You are listening to
My Life by Sharkura
```

```
News[5] – Latest[1]:
Queen to give away
cash...
```

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■ **Dynamic Label**
Short broadcaster-triggered messages
(max. 128 chars, updated e.g. every 20 sec),
typ. program related content (part of audio)

Enhancements to Dynamic Label application:

● **DL+**
tags DL information: e.g. constantly display song title/artist
● **Intellitext**
adds visual category structure,
user can access messages received in the past

■ **Journaline**
WorldDMB's **advanced text application**:
interactive access to detailed textual information
→ "electronic magazine" / "teletext for radio"

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DAB+ Multimedia Services
Current Status – Example Germany

**NOXON
DAB-Stick**

Digital Radio Receiver for PC.

Tool to familiarize listeners with **extra DAB+ benefits**.

> 70.000 distributed.

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Journaline
The DAB+ Advanced Text Application

- **Full text** information:
  "Electronic Magazine" / "Teletext for Digital Radio"

- **Push & store service** for **any type of radio device**
  → Content immediately available for interactive use

- Provides:

  - flexible menu structure for easy access

  - detailed text information
    (headline, body text)

  - list type messages (automatically updated,
    e.g. sports results, stock market)

  - ticker messages (categorized information)

  - bookmarking (favourites feature)
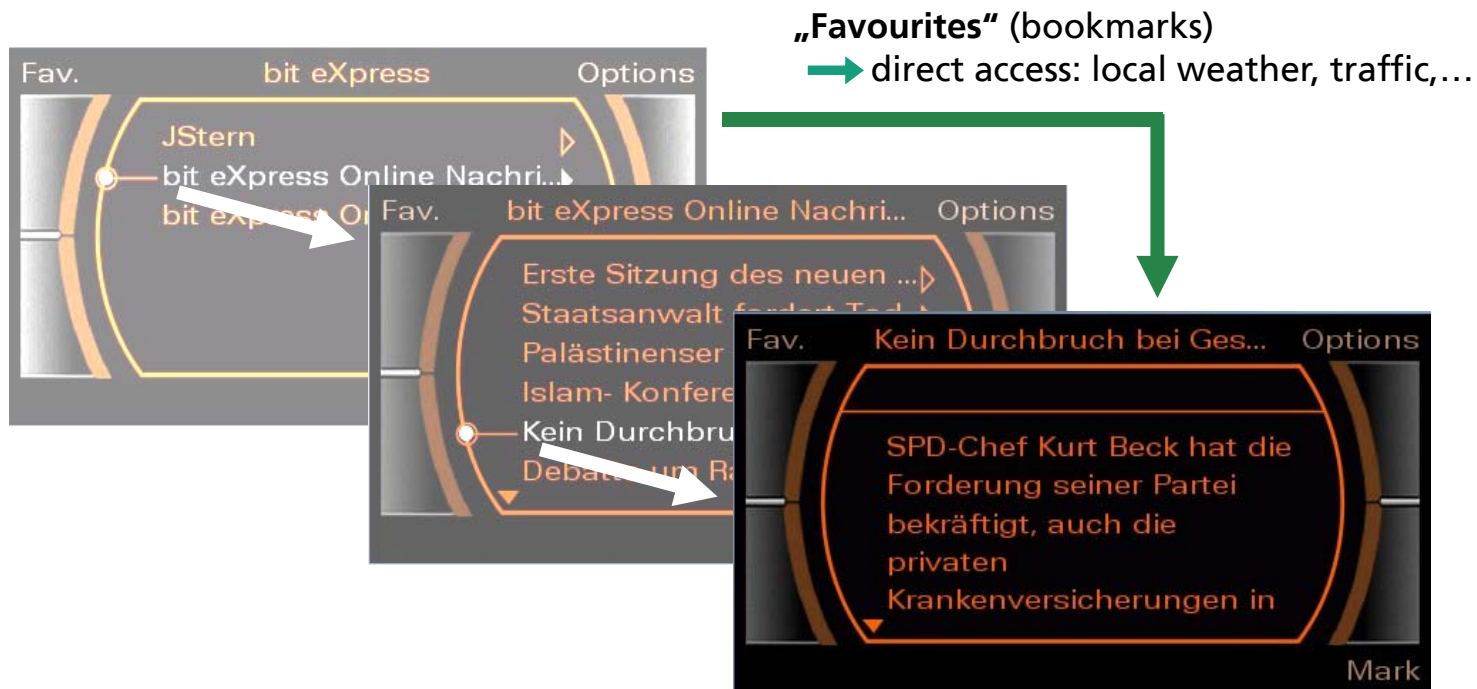
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Journaline
User Experience – Audi MMI Prototype

Source: Fraunhofer IIS (Audi MMI)

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Journaline
User Experience – Audi MMI Prototype

„Favourites" (bookmarks)
→ direct access: local weather, traffic,…
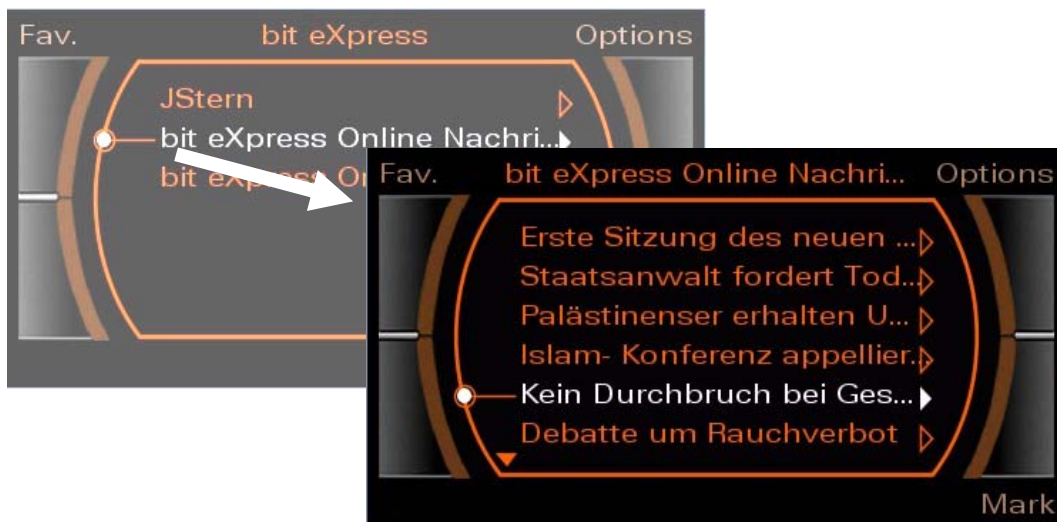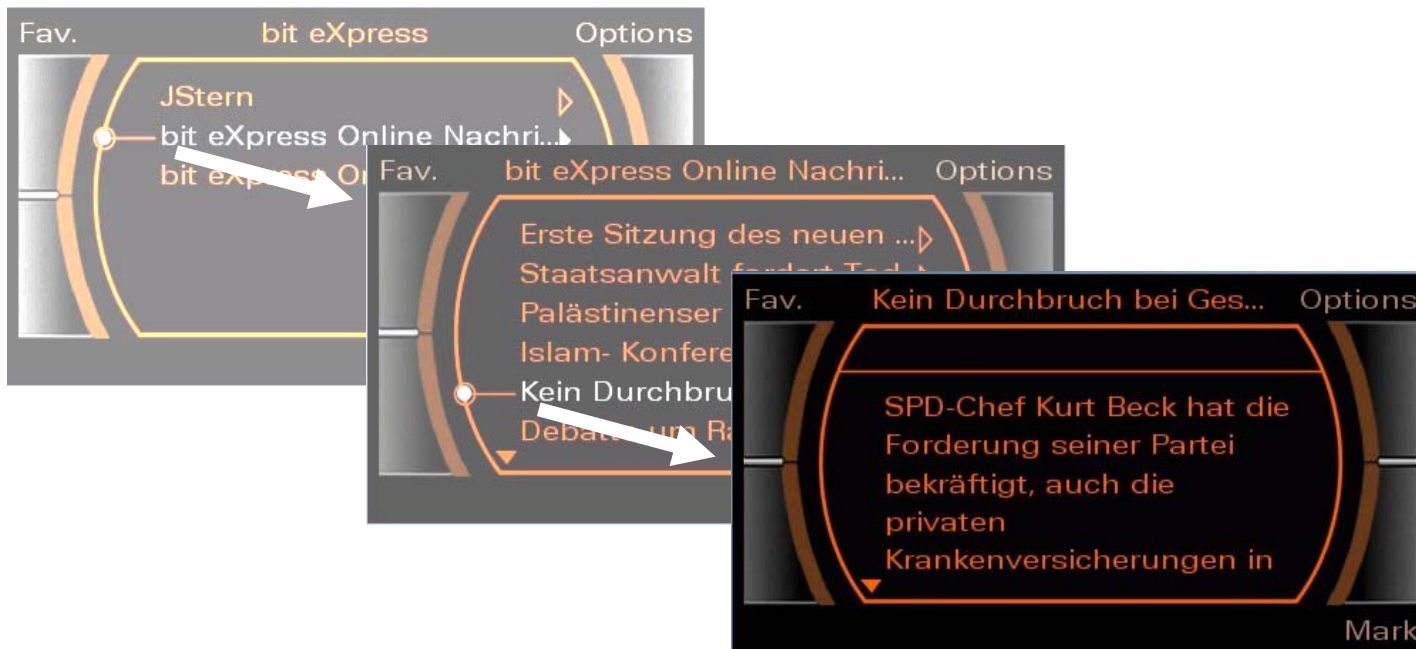
Source: Fraunhofer IIS (Audi MMI)

Journaline
Service Scope

```
Station List
_____

• My Radio          J!
• Hot Station
• WRXZFLK North
• Radio Antarctic  J!
• Radio FhG         J!
• Chat Radio        J!
_____

• AAA Member Service
• ADAC Journaline
```

Services based on Journaline can be setup as

- **Radio program accompanying (PAD)**:
  content provided by broadcaster for target audience, listener service and advertisements

- **Stand-alone DAB+ services**:
  enables commercial / group services (e.g. auto clubs), or closed user groups ('available to all ModelX cars')

➔ **Journaline is the platform to enable efficient text information services on DAB+ Digital Radio**

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Journaline
Content Types & Examples

General information:

- News
- Sports events and results
  (incl. result tables with real-time updates)
- Financial information / Stock market values
- Airport departure / arrival times
- Advertisement
  (with interactivity / Hot Button)
- Games / Lottery, …

Program related information:

- Station contact information for listener feedback
- Show background information
  (e.g. optionally with link to online-platform)
- Direct phone link
  to participate in chat show
- Song info+purchases, podcast downloads
- Captions (Mobile-TV subtitles /
  Radio for the impaired), …

➔ **Journaline can flexibly deliver all kinds of text content**

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Journaline
Broadcaster Benefits

Optimized for Efficiency & Simplicity all along the broadcast chain.

- Specifically designed for digital broadcast services: **low bitrate requirement** (e.g. 200 bps)

- Re-use of **existing data sources** (RSS/Atom, XML), Internationally applicable (Unicode/UTF-8)

- Optimized for **inexpensive consumer receivers** (low decoder and user interface requirements)

- Extensible hinting information for advanced receivers:
  - **back channel**: web, e-mail, phone,…
  - **geo-tagging**: local content, get me there
  - **speech hinting** e.g. for in-car use

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DAB+ Emergency Warning Functionality

- Part of DAB's Emergency Warning Functionality for mass-alerts in case of pending disasters
  → **To inform widest public as quickly as possible**

- Combination of **announcements, audio, DL, Journaline**

- When triggered by authority:

  - DAB+ receivers switch automatically

  - Audio volume may be increased, screen flashing

  - **Detailed, multi-lingual information via Journaline for immediate look-up on the radio set**

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Journaline
DAB+ Emergency Warning Functionality

Examples for receiver screen renderings, emergency text content (Journaline):

```
ABC Emergency Broadcast
▶ Information in English
  हिन्दी में सूचना  (Hindi)
  在中国的信息  (Chinese)
  Info auf deutsch        ↓
```

```
Information in English
  What is going on?
▶ What do I need to do?
  Where can I get help?
```

```
What is going on?
A major tsunami is
expected for the Brisbane
region at 16:00 today.
The tsunami will hit the ↓
```

```
What do I need to do?
1. Move away from shore!
2. Evacuation has started.
Find the nearest meeting
point: Look for green    ↓
```

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Journaline
Open International Standard

- Initially developed in RadioMondo project:
  Atmel, Bosch, Fraunhofer IIS,
  Micronas, Sony, T-Systems

- Standardized and maintained by
  WorldDMB Forum and DRM Consortium

  → freely available ETSI standard TS 102 979

  → suitable for any broadcast platform

- See   www.worlddab.org/technology-rollout/
  standards/important-data-applications

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  - **Interactivity & Listener Targeting**

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DAB+ Multimedia Services – A Classification

You are listening to
,Papa Mia' by BAAB

- **Dynamic Labels**
  - passive offering (updates triggered by Bx)
  - low decoding / presentation Rx demand

- **MOT Slideshow**
  - passive offering (updates triggered by Bx)
  - medium decoding / presentation Rx demand

→ **Use-case:**
Provide useful information whenever
user glances at the receiver's screen

Advertisement Opportunity:
Interleave sponsored messages / images
(Slideshow: optional animated elements)

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Journaline
DAB+ Multimedia Services – A Classification

RSS

- **Journaline**
  - locally interactive text service
    (on-demand access to information)
  - low decoding / presentation Rx demand
  - **hybrid application**,
    linking broadcast and the Internet

➔ **Use-case:**
Serve on-demand need for specific information:
"Anytime News"

Advertisement Opportunity:

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Journaline
Interactivity & Listener Targeting

Innovative Ad Opportunities:

- Works on **all classes of radio sets** (connected or stand-alone)

- Ads should be linked with '**useful content**' for the listener:
    - **Sponsored information** (e.g. local weather forecast, sports)
    - **Service information** (e.g. music news; hotel/restaurant recommendations);
    - **Dedicated ad pages** (e.g. detailed info for on-air ads)

Journaline
Interactivity & Listener Targeting
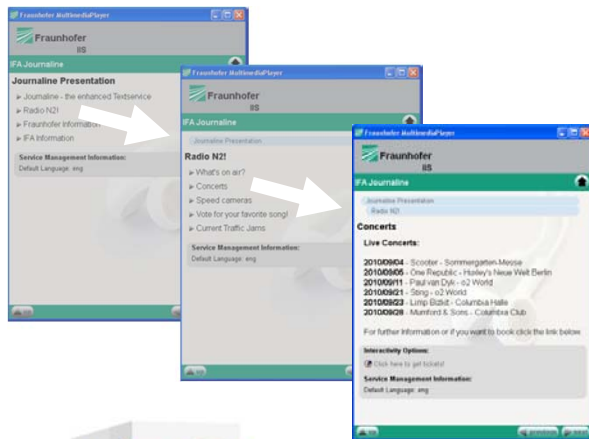
Listener Targeting Opportunities

For instance by **careful menu design**:

1. Language selection
2. Region selection
3. Topic of Interest selection

→ At this point a lot of information was collected through user's choices

→ Specific ads placed on target page

→ **Strongly personalized ads – over a broadcast medium**

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Interactivity & Listener Targeting

**'Connected Devices' –
Enhanced opportunities**

- Any number of **"Hot Button" triggers** per page

  → Enables simple **listener interactivity**
  e.g. with radio station or ad partners

- Default interactivity targets:

  - Links to **other Journaline pages**
    e.g. jump from ticker news to full story

  - **Web pages (Internet URLs)**
    e.g. to order current or past songs, concert tickets

  - **Telephone numbers**
    e.g. to participate in talk shows

  - **SMS** e.g. to participate in votes, polls, lotteries

  - **E-mail**

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Journaline
Interactivity & Listener Targeting

**'Location-Aware Radios' –
Enhanced opportunities**

- Every Journaline page can indicate

  - one or multiple **geo locations**

  - one or multiple **regions**

- Possible use cases (receiver dependent):

  - **Show on map**
    Link a news article, recommended hotel, etc. to a graphical map (e.g. by the navigation module)

  - **Navigate-me-there**
    Hand over geo location as target to navigation system (e.g. for advertised restaurants)

  - **What's around**
    Show only Journaline pages which carry locally relevant content (theatre, cinema, weather, …)

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    - **Content Examples**

    - Receiver Examples – Desktop, PC, Mobile, In-Car

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Journaline
Content Examples – On-Air Journaline Services

- Public and private broadcasters
- National and regional DAB+ multiplexes in Germany
- Internationally gearing up (Norway, Poland, Austria, …)

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Content Examples – Public Broadcaster Offering

Example:
- Extensive news, sea weather updates, program info, etc.
- **Direct podcast downloads**

Journaline
Content Examples – Listener Interactivity
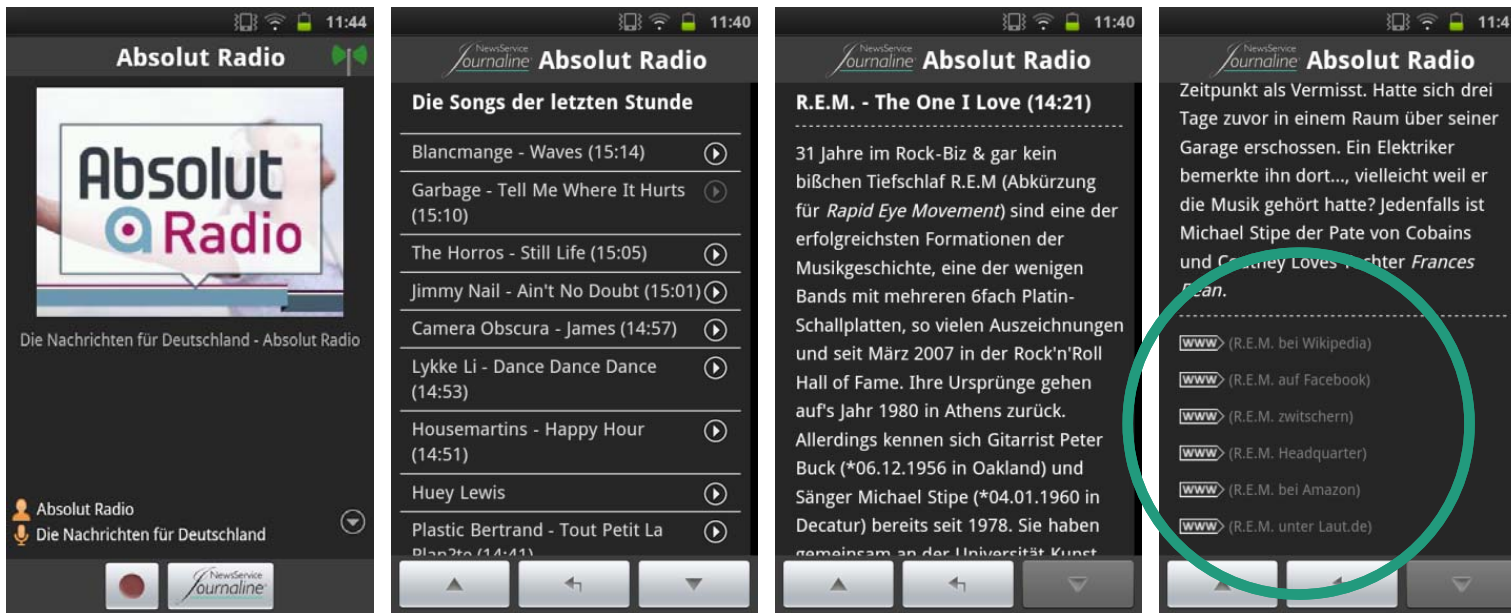
Example:
Song background & purchase service

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  - **Receiver Examples – Desktop, PC, Mobile, In-Car, Chipsets**

  - Content Generation & Service Setup Demo

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Receiver Examples – Desktop Radio

- Full Journaline support (non-connected)
- Available since Q1/2013
- Product info:
  http://www.terratec.net/en/products/
  NOXON_Journaline_166726.html

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Receiver Examples – PC Reception

- PC USB device for DAB live reception

- First device providing rich support for advanced DAB+ features:

  - Journaline

  - MPEG Surround

  - DL+, Intellitext, SLS, BWS, …

- Very successful both in retail as well as with broadcasters (give-away!)

- Radio Software continuously enhanced

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Receiver Examples – PC Reception

USB DAB sticks as broadcaster give-aways

→ **Great promotion tool for DAB+ extra features!**

Radio software branding examples

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Receiver Examples – Mobile Reception

- Samsung Galaxy S WiFi 5.0 DAB

- mp3/multimedia player with DAB/DAB+/DMB receiver module

- Free 'digitalradio' receiver app by Syngenio

www.samsung.de, www.syngenio.de
Available since 2012-09
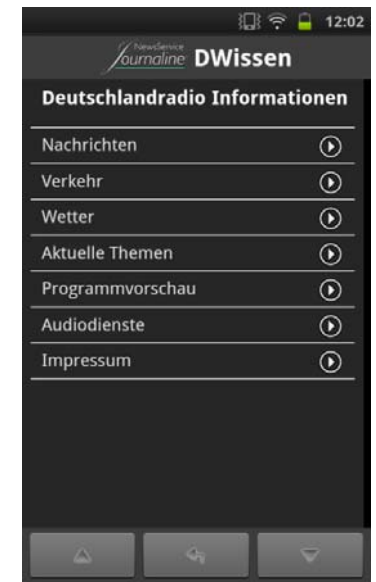
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Receiver Examples – In-Car Radio

- Standard feature in BMW's DAB radio sets starting 2013-07
- Support for Journaline text-to-speech output, Hot-Button interactivity

worlddabeureka.org/2013/09/05/bmw-a-car-manufacturers-view-on-digital-radio-in-car/

Journaline   --:--   DWissen   TP

Syrien: Russland hält schnelle Resolution für verfrüht

Vom: 28.08.2013 15:00 Uhr

Russland hält es zum jetzigen Zeitpunkt für verfrüht, im UNO-Sicherheitsrat über eine Syrien-Resolution zu entscheiden. Der stellvertretende Außenminister Titow sagte nach Angaben der Nachrichtenagentur Interfax, der Rat solle sich erst dann mit dem Thema befassen, wenn der Bericht der UNO-Chemiewaffen-Experten vorliege. Der

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Journaline
Receiver Examples – Chipsets

- Embedded DAB/DAB+/DMB receiver module with integrated Journaline decoding/rendering
http://www.prweb.com/releases/2012/10/prweb9989556.htm

- Bluetooth Radio Wizard – Journaline decoding on mobile phones/media players
http://www.prweb.com/releases/2012/8/prweb9842032.htm

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Journaline
Content Generation

RSS   XML   Real Time

NewsService Journaline®

**One-time setup –
Automatic updates**

→ **Internet content
on the radio set!**

Simple re-use of existing content sources:

- **XML files**
  for static content and menu structure definitions;
  Journaline specific XML format;
  triggered or scheduled updates

- **RSS / Atom feeds**
  for half-dynamic content
  with periodic update from the Internet

- **Real-time feeds**
  for highly dynamic content
  such as sports results table / tickers / etc.;
  updates individual page with every re-transmission

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Journaline
Content Generation

- DAB+ broadcast equipment with Journaline support is readily available:

    - Stand-alone Journaline encoders and PAD inserters

    - Integrated with DAB Service Multiplexers and Head-End systems

    - From various manufacturers

uk043: DAB ensmux trunk - Fraunhofer DAB...   +

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DAB ContentServer
uk043: DAB ensmux trunk

System Status:
OK
2012-01-30 13:21:34 UTC

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<<< Hide System Menu

Main Menu

ℹ System Status

📡 **Broadcast Configuration** >

▶ Broadcast Activation >

ℹ Broadcast Information >

✖ System Management >

ℹ System Information >

⏻ System Commands >

✖ Tools >

📖 Documentation ...

🔍 [   ]   [>>]

On Air

System time (CET):
2012-01-30 14:21:42

Scheduler mode:
manual

Current Multiplex since
2012-01-30 13:41:45
AXIA Test

Redundancy Group

DAB Ensemble Multiplex Editor

(+ Add new Multiplex Configuration)   (! Check and Save Changes)

🔴 🟦   **# DAB National Standard**   (↑ Close) (Ø Remove) (! Check+Save)

[Multiplex Parameters] [DAB Services] **[Subchannels]** [Output Targets]

Multiplex Subchannel Configuration Overview

Available Capacity Units: **864** CUs   Unassigned CUs: **+168** CUs

| 96 kbps: | 96 kbps: | 96 kbps: | 128 kbps: D | 128 kbps: D | 40 | 48 k | 72 kbp | 32 | 56 kb | 56 kb | 32 | 8 | 32 | 168 CUs unassigned |

🎵 **DAB Audio Subchannel – Audio Dummy – Used by: LoungeFM**   (↑ Close)

Bitrate Configuration Overview of Output Stream

Net Bitrate in Stream: **88000** bps   Unassigned bitrate: **none**

| 88000 bps: Audio Dummy |

(! Show expert parameters)

General DAB Subchannel Parameters

Subchannel Bitrate: 96 kbps   ▾   (?) (→ Docu)

Protection level: EEP 3-A (72 CUs)   ▾   (?) (→ Docu)

Journaline
Broadcast Content Sources – Re-Using Content

Example: AIR All India Radio, **www.newsonair.com**

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Broadcast Content Sources – Re-Using Content

Example: AIR All India Radio, **www.newsonair.com**

AIR online
RSS feeds

Journaline
Broadcast Conte

Example: AIR All India Radi
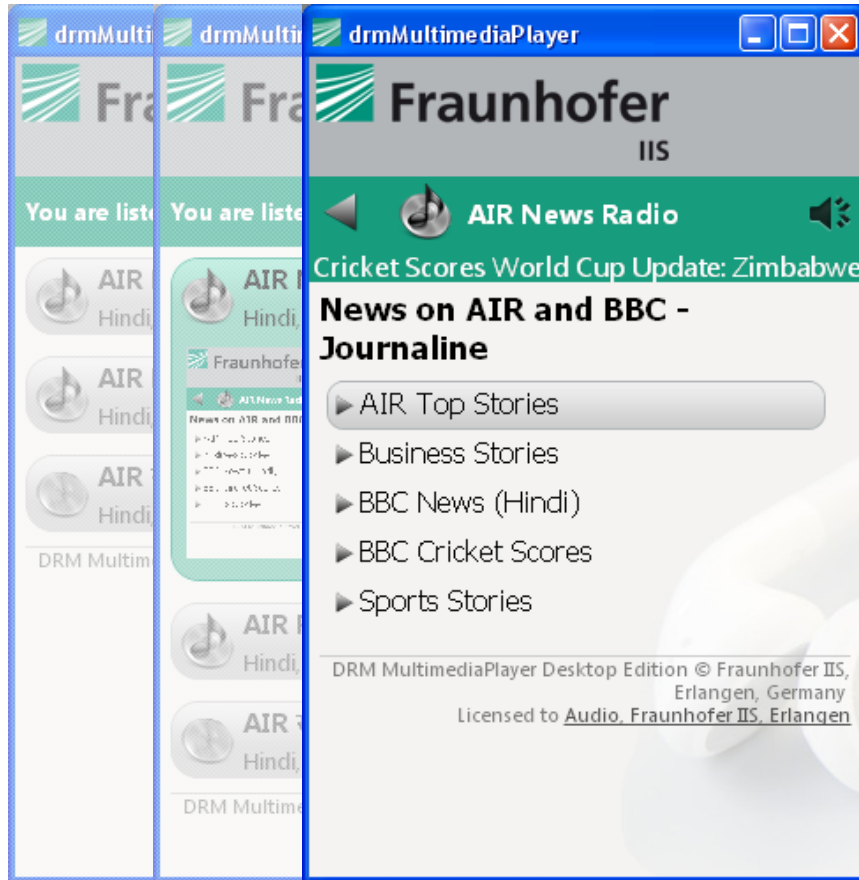
Journaline – Re-Using Content

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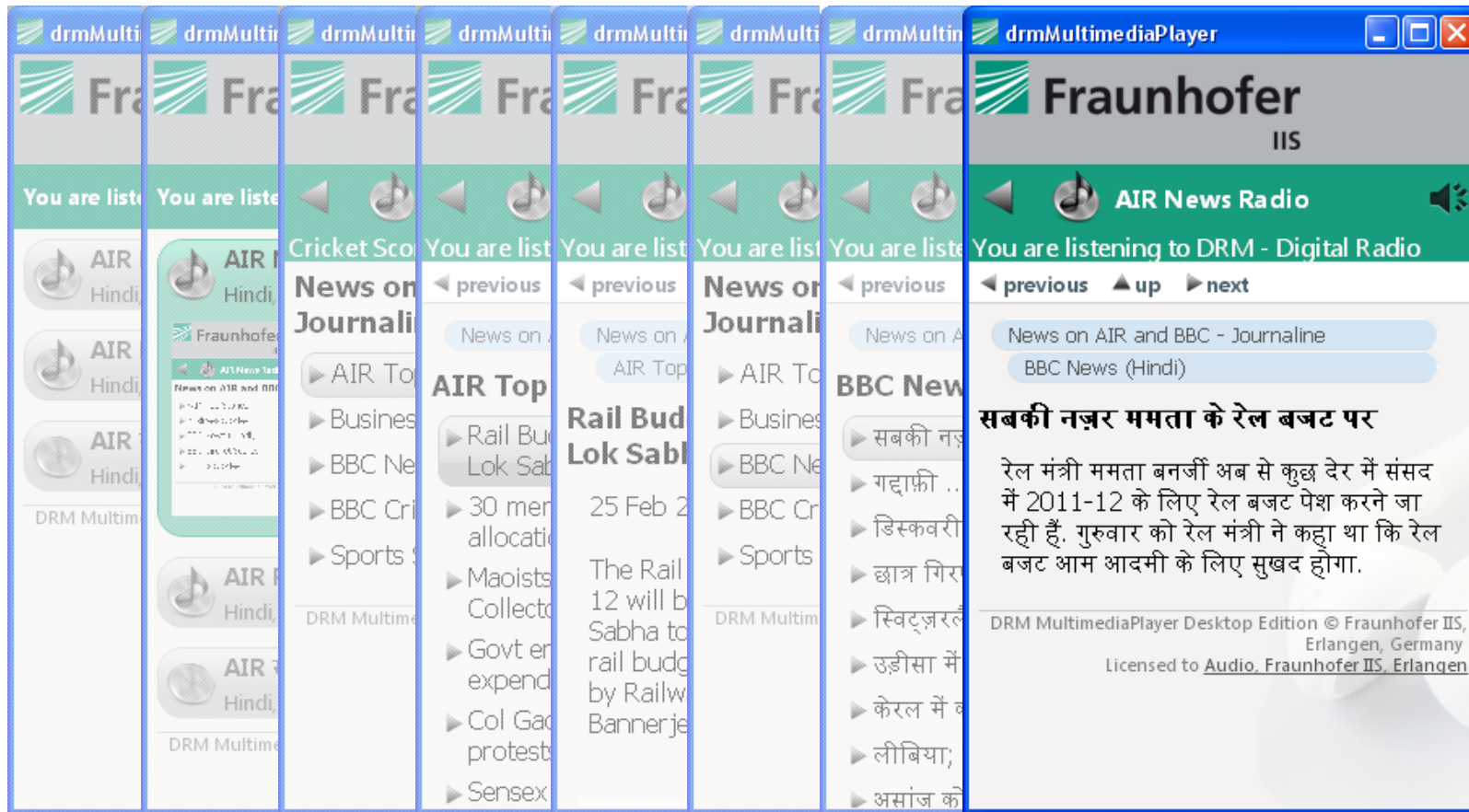

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Journaline –
DAB+ Anytime News + 'Hot-Button' Interactivity
Summary

- Journaline advanced text service gains support by broadcasters & receiver manufacturers

  → Gets the rich content available on the Internet to the radio set

  → **Listener targeting & Interactivity**

  → **Extra revenue opportunities**

- DAB+ allows to enhance Digital Radio

  → **Listener USP to buy DAB+ receivers**

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