



Living the TV Revolution: Unite MHP to the Web or Face IDTV Irrelevance!

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Automatic Transcoding of Web Contents for IDTV

- Need to devise an automatic transcoding service to convert Web contents for display on TV screens
- DVB-HTML has a specification which is too complex to be supported by actual STBs
- Actual Web pages cannot be displayed on TV screens, unless they are re-coded by scratch using DVB-HTML

Phase 1

XHTML Basic documents created:

1. closing all start-tags with the correspondent end-tags
2. putting all tags in lowercase
3. nesting all the XHTML elements

Phase 2

- XHTML tags are ***removed*** that cannot be displayed on IDTV screen
- This reduces the total amount of data
- As broadcasting several Web pages and media objects may saturate the bandwidth in the carousel, this has a positive effect

Phase 3

- *Internal links:*
 - links that point to contents contained in the carousel are modified to refer to correct objects within the carousel
- *External links:*
 - contents which are not comprised in the carousel are left in their original form to be managed through the Internet-based return channel

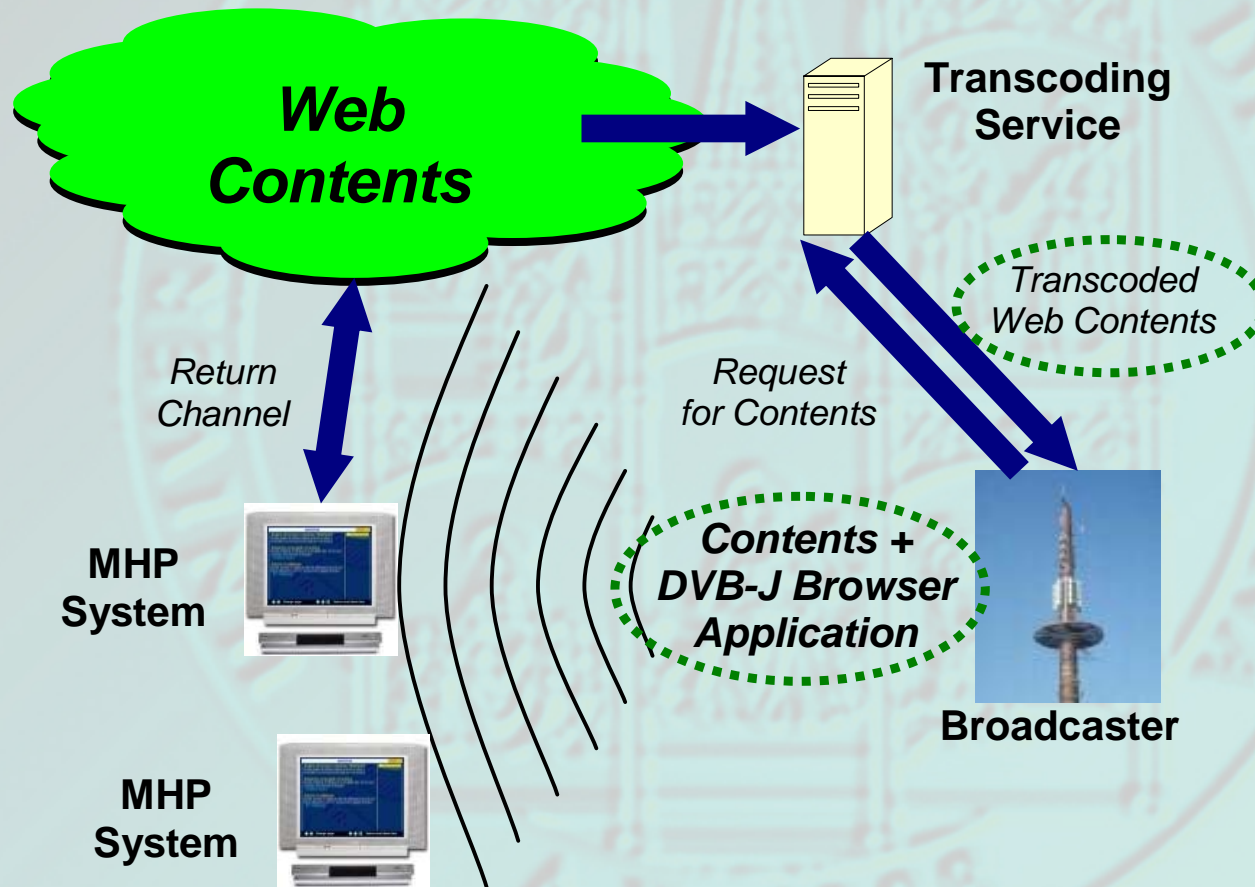
Browsing on the TV

- We developed a Xlet to be broadcast within the carousel
- The Xlet performs as a browser for the XHTML Basic documents produced by the transcoding service
- The Xlet provides a graphical interface through which typical visualization problems of low-end IDTV devices are fixed

Browsing on the TV

<i>Problem</i>	<i>Solution</i>
TV has a low resolution and is watched from a larger distance	Larger font sizes are used, Web page are fragmented over several TV screenshots
Tables can be too large to be displayed on TV	Tables are split into subtables
High flickering and visualization problems for (partially sighted) people	As a default: blue backgrounds and white fonts
The TV remote control has limited input modalities	Scroll bars are replaced by the use of TV remote control to navigate through different screenshots
Positions of links in the screen	Links are moved to a separate frame displayed on the top-right side of the screen


Scenario



Screenshots

Chicago Blackhawks, National Hockey League Page 1 / 4

**Blackhawks planned to be good...
...and they're not**



[Nikolai Khabibulin](#)
Chicago Blackhawks

Khabibulin, signed for \$27 million over four years, was the centerpiece of the Blackhawks' dramatic roster makeover and has become the biggest disappointment. The veteran was remarkably slow out of the gate and still has low-ranked numbers like an 3.29 goals-against average.

[Chicago Blackhawks](#)

← → Change page ↑ ↓ OK Select and follow link


on the TV

Chicago Blackhawks, National Hockey League - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

icehockey.html

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Done

on the Web

Documents Size Reduction

<i>Min Value</i>	<i>Max Value</i>	<i>Average Value</i>
- 4.5 %	- 43.50 %	- 33.07 %

The distribution of Web contents over IDTV broadcast channels may bring TV to a new life. A failure of this attempt may put traditional TV on a progressive track towards irrelevance!