A Declarative Approach to Broadcast TV

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Identifying value
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- More programmatic effort to achieve on the web application side
- Increase communication & binding constraints between JavaScript object / plugin and middleware
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Connected Labs
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- How to handle DRM, CA, CI+,...
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  • Isn’t XML aimed to store such information?
Our proposal

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• Create an obvious and ubiquitous way to integrate data from heterogeneous sources such as DVB, ATSC, IP & others, handling all of them under the same paradigm.
What it could look like
Engine parsers should understand that type of page as an informational page for tv

```xml
<?xml version="1.0"?>
<webtv xmlns='http://www.w3.org/2011/webtv'
      xmlns:dvb='http://www.w3.org/2011/webtvdvb'
      xmlns:iptv='http://www.w3.org/2011/webviptv'>

</webtv>
```
An hard-coded example of channels*
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```xml
<dvb:channel id='chann1'>
  <name>ABC</name>
  <dvb:source>onid,pid,sid</dvb:source>
  <dvb:ait>
    <application>http://www.appToLaunch.com</application>
    <state>signalled</state>
  </dvb:ait>
</dvb:channel>

<iptv:virtualChannel id='chann2'>
  <name>ZDF</name>
  <iptv:channel id='chann2hd'>
    <iptv:source>http://.../streamingSD/video.m3u</iptv:source>
  </iptv:channel>

  <iptv:channel id='chann2sd'>
    <iptv:source>http://.../streamingSD/video.m3u</iptv:source>
  </iptv:channel>
</iptv:virtualChannel>
```

* don't do that
WebTV Object
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<body>
<div class="video">
<video>
<source="#WebTVObject" type="video/x-webtv">
<div class="panel"></div>
</video>
</div>
</body>
</html>
Example of a LCN/Virtual Channel

<video><source="#WebTVObject" type="video/x-webtv">
<track kind="broadcast_hd" src="chann1HD">
<track kind="broadcast_sd" src="chann1SD">
<track kind="subtitles" src="chann1subtitle">
<div class="panel"></div>
</video>
<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description in our specific case</th>
</tr>
</thead>
<tbody>
<tr>
<td>*channelTuning</td>
<td>onid, pid, sid triplet or equivalent</td>
</tr>
<tr>
<td>*aitTable</td>
<td>AIT Table information (DVB specific)</td>
</tr>
<tr>
<td>*EPGInformationObject</td>
<td>In case an EPG data has been linked with the <code>dvb:channel</code> object, or with an higher level, it will also be made available to the panel class for display &amp; processing purpose</td>
</tr>
<tr>
<td>*eitObject</td>
<td>Object including informations retrieved from the eit (DVB specific)</td>
</tr>
</tbody>
</table>
## Video object

<table>
<thead>
<tr>
<th>Attribute</th>
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</tr>
</thead>
<tbody>
<tr>
<td>readyState</td>
<td>yes or no</td>
</tr>
<tr>
<td>seeking</td>
<td>N/A if channel is viewed live (it could be used in PVR mode, still to be determined)</td>
</tr>
<tr>
<td>currentTime</td>
<td></td>
</tr>
<tr>
<td>startTime</td>
<td>N/A (PVR)</td>
</tr>
<tr>
<td>duration</td>
<td></td>
</tr>
<tr>
<td>paused</td>
<td>N/A (PVR)</td>
</tr>
</tbody>
</table>
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<table>
<thead>
<tr>
<th>Attribute</th>
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</tr>
</thead>
<tbody>
<tr>
<td>defaultPlaybackRate</td>
<td>N/A (PVR)</td>
</tr>
<tr>
<td>playbackRate</td>
<td>N/A (PVR)</td>
</tr>
<tr>
<td>TimeRange played</td>
<td></td>
</tr>
<tr>
<td>TimeRange seekable</td>
<td></td>
</tr>
<tr>
<td>ended</td>
<td>N/A</td>
</tr>
</tbody>
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<tr>
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<tr>
<td>autoplay</td>
<td>true</td>
</tr>
<tr>
<td>loop</td>
<td>N/A</td>
</tr>
<tr>
<td>play</td>
<td>N/A (PVR)</td>
</tr>
<tr>
<td>pause</td>
<td>N/A (PVR)</td>
</tr>
<tr>
<td>controls</td>
<td>enhanced panel with specific channel managements controls (program +/-, …)</td>
</tr>
<tr>
<td>volume</td>
<td></td>
</tr>
<tr>
<td>muted</td>
<td></td>
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Thank you