LG – HbbTV Symposium 2021

Conformance Regimes and Interoperability (pt2)

Meeting the challenge of Interoperability in the horizontal market
HbbTV has achieved great things
Interoperability = ‘twas ever thus

HTML5 support

See also: Comparison of layout engines (HTML5)

The specifications for HTML5 are still under development, but many current browsers already support many of the features in the draft specifications. An HTML5 test suite is also under development that, while it does not test all new features nor the functionality of those it does detect, rates browsers’ support. New tests are expected to be added to the suite as time goes by.[105]

<table>
<thead>
<tr>
<th>Browser</th>
<th>HTML5 score[105]</th>
<th>HTML5 accessibility score[105]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apple Safari 11</td>
<td>452/555</td>
<td>97%</td>
</tr>
<tr>
<td>Google Chrome 62</td>
<td>528/555</td>
<td>98%</td>
</tr>
<tr>
<td>Avant Secure Browser 61</td>
<td>525/555</td>
<td>97%</td>
</tr>
<tr>
<td>Internet Explorer 11</td>
<td>312/555</td>
<td>58%</td>
</tr>
<tr>
<td>Microsoft Edge 88</td>
<td>549/555</td>
<td>100%</td>
</tr>
<tr>
<td>Mozilla Firefox 68</td>
<td>513/555</td>
<td>94%</td>
</tr>
</tbody>
</table>

As new tests are added, bogus ones removed, etc., new versions of html5test.com[105] become available as pre-release beta[2] or even alpha[3] versions. These are great to test development versions (e.g. nightly builds) of web-browsers, but their results should be taken with a grain of salt. Especially when considering that some browsers have experimental features built in which may be switched off by default.
Interoperability for Device Manufacturer

LG TV HbbTV Browser

HbbTV Application Alpha
HbbTV Application Beta
HbbTV Application Gamma
HbbTV Application Zeta

ONE to MANY
Interoperability for HbbTV Application Developer

- HbbTV Browser Device 1
- HbbTV Browser Device 2
- HbbTV Browser Device 3
- HbbTV Browser Device 4

MANY to ONE
Interoperability for All

HbbTV Browser Device 1

HbbTV Application Alpha

HbbTV Browser Device 2

HbbTV Application Beta

HbbTV Browser Device 3

HbbTV Application Gamma

HbbTV Browser Device 4

HbbTV Application Zeta

MANY to MANY
Interoperability for All

One Test Environment to Unite All
HbbTV Core Specification Test Suite 2021-2

87% Approved
HbbTV Op Apps and Targeted Advertising Test Suite 2021-2

53% Approved
Op Apps

58% Approved
Targeted Advertising
The dictionary identifies how to spell words correctly, but not how they all combine to make sense

Alice met le sel dans le bol du Michel
Alice met le bol dans le sel du Michel
Alice le sel met dans le bol du Michel
Alice met Michel dans le bol du le sel
Michel met le sel dans le bol du Alice
Le sel dans le bol du Michel met Alice

HbbTV Test Suite “analogous” to the dictionary
Test Suite Unit Tests

World Cloud from front page of Sports Page
Regulatory or legal mandation isn’t helpful / isn’t a solution to interoperability

• A symptom of a failure to communicate
• What do you mandate?
• How do you prove it?
  • Test Suite has never fully covered a version of spec
• Dangers of mandating IPR
• Testing (test suite) is important and very helpful, but not a silver bullet.
  • HbbTV is complex, and very hard to achieve 100% pass
• Alone isn’t sufficient to guarantee in-market and future market apps will work.
  • Reference App, DASH Validator, Zoo Testing……
  • Something additional is needed...?

What Is Really Important
• In-market apps to work
  • Rather than passing all the tests of a local conformance regime.
  • App faults lead to customer calls, complaints etc. on our side,
  • Bad customer experience is what we ALL want to avoid in reality.
There is no perfect test suite

Interoperability for All

HbbTV Browser Device 1
HbbTV Browser Device 2
HbbTV Browser Device 3
HbbTV Browser Device 4

HbbTV Application Alpha
HbbTV Application Beta
HbbTV Application Gamma
HbbTV Application Zeta

There is no perfect reference implementation
Interoperability for All

HbbTV Browser Device 1
HbbTV Browser Device 2
HbbTV Browser Device 3
HbbTV Browser Device 4

HbbTV Application Alpha
HbbTV Application Beta
HbbTV Application Gamma
HbbTV Application Zeta
Thank You