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| --- | --- | --- | --- | --- |
|  | | **International Telecommunication Union** | | |
|  | |  | | |
| **ITU-T** | **Technical Paper** | |
| TELECOMMUNICATION STANDARDIZATION SECTOR OF ITU | | (30 July 2010) |
|  | SERIES H: AUDIOVISUAL AND MULTIMEDIA SYSTEMS Infrastructure of audiovisual services ‑ Communication procedures | | | |
|  | **HSTP.CONF-H.762 (ex H.IPTV-CONF.6) Conformance testing specification for H.762** | | | |
|  |  | | | |

Summary

The purpose of conformance testing is to increase the probability that different implementations are able to interconnect. Conformance testing in this document explains test specifications regarding the IPTV terminal device specified in ITU-T Rec.H.721 “IPTV Terminal Device (Basic Model)”. The test involves testing both the capabilities and behaviour of an implementation, and checking what is observed against the conformance requirements in the Recommendation and against what the implementer states the implementation capabilities are.

Change Log

This document contains Version 1 of the ITU-T Technical Paper on "*Conformance testing specification for H.762*" approved at the ITU-T Study Group 16 meeting held in Geneva, 19-30 July 2010.

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ITU-T Technical Paper HSTP.CONF-H.762

Conformance testing specification for H.762

Summary

This Technical Paper defines the conformance testing items for ITU-T Rec. H.762 “Lightweight Interactive Multimedia Environment (LIME)”. It gives testing properties and the sample codes to be tested. It is intended to be included in the Annex of [ITU-T H.762] when the testing procedures are deemed complete.

Introduction

This document defines the conformance testing items for ITU-T Rec. H.762 “Lightweight Interactive Multimedia Environment (LIME)”. It gives testing properties and the sample codes to be tested.

# Scope

This document defines the conformance testing items for ITU-T Rec. H.762 “Lightweight Interactive Multimedia Environment (LIME)”.

# References

[ITU-T Rec. H.721] ITU-T Recommendation H.721 (2009) *IPTV Terminal Device (Basic Model)*

[ITU-T Rec. H.762] ITU-T Recommendation H.762 (2009) *Lightweight Interactive Multimedia Environment*

[ITU-T Rec. H.763.1] ITU-T Recommendation H.763.1 (2010) *Cascading Style Sheet for IPTV Services*

# Definitions

For further study.

## Terms defined elsewhere

N/A

## Terms defined in this Recommendation

N/A

# Abbreviations and acronyms

This Technical Paper uses the following abbreviations and acronyms:

|  |  |
| --- | --- |
| BML | Broadcasting markup language |
| CSS | Cascading style sheets |
| DOM | Document Object Model |
| HTML | Hypertext markup language |
| LIME | Lightweight interactive multimedia environment |
| NA | Not Applicable |
| UA | User agent |
| SVG | Scalable vector graphics |
| URI | Universal resource identifier |
| W3C | World Wide Web Consortium |
| XML | Extensible markup language |

# Conventions

N/A

# Introduction

This document describes those points of [ITU-T H.762] that should be tested for conformance and interoperability. The details of the testing are to be done using the test suites provided in the Annex of this document. Testing procedures and sequences are for further study.

# LIME-HTML

A LIME-HTML document defines the structural properties of LIME content. Note that any non-structural element needs to have its style specified in order to be displayable. The specification of style is done using LIME-CSS.

## Structural Elements

### Document Element

The LIME-HTML document, whose root is <bml>, consists of a head <head> and a body <body>. The head contains the title and other optional elements. The body is a text flow consisting of paragraphs and other elements.

### Head: HEAD

The head of an LIME-HTML document is a collection of information about the document.

### Title: TITLE

Every LIME-HTML document is recommended to contain a TITLE element.

### Body: BODY

The BODY element contains the text flow of the document, including headings, paragraphs, objects, etc.

## Hypertext Element

### Anchor: A

The A element indicates a hyperlink anchor.

### Link: LINK

The LINK element represents a hyperlink.

**Text Elements**

### Line Break: BR

The BR element specifies a line break between words

### Paragraph: P

The P element indicates a paragraph. In LIME-HTML, P element is the general purpose element that contains textual information. The exact indentation, leading space, etc. of a paragraph is not specified and is a function of style sheets.

### Grouping elements: the DIV and SPAN elements

The DIV and SPAN elements, in conjunction with the id and class attributes, offer a generic mechanism for adding structure to documents. These elements define content to be inline (SPAN) or block-level (DIV) but impose no other presentational idioms on the content.

## Form Elements

### Input Field: INPUT

The INPUT element represents a field for user input.

## OBJECT element

LIME-HTML's multimedia features may allow authors to include images and video. The OBJECT element allows LIME-HTML authors to specify an object.

## Associated Meta-information: META

The META element is an extensible container for use in identifying specialized document meta-information.

## The SCRIPT element

The SCRIPT element places a script, in general assumed to be LIME-Script, within a document. This element may appear once in the HEAD of an LIME-HTML document. The script may be defined within the contents of the SCRIPT element or in an external file. In LIME-HTML, the script element is declared as having #PCDATA content. As a result, < and & will be treated as the start of markup, and entities such as &lt; and &amp; will be recognized as entity references by the XML processor to < and & respectively. Wrapping the content of the script element within a CDATA marked section avoids the expansion of these entities.

## The STYLE element

The STYLE element allows authors to put style sheet rules in the head of the document. LIME-HTML permits one STYLE element in the HEAD section of a document. In LIME-HTML, the style element is declared as having #PCDATA content. As a result, < and & will be treated as the start of markup, and entities such as &lt; and &amp; will be recognized as entity references by the XML processor to < and & respectively. Wrapping the content of the style element within a CDATA marked section avoids the expansion of these entities.

### Attributes

For further study.

## Monomedia

The following monomedia objects should be supported:

* JPEG
* PNG
* MNG
* Video objects: As described in [ITU-T H.721]

### Audio objects

As described in [ITU-T H.721]

# LIME-CSS

The following CSS functions should be supported, as described in [ITU-T H.763.1]

## Syntax and basic data types

* Selectors
* Universal selector
* Type selectors
* Class selectors
* ID selectors
* The dynamic pseudo-classes: ':active' and ':focus'

## Properties

* Summary of the applicability of properties to elements

Table 8.4- The 'border-top-color, border-right-color,   
border-left-color, border-bottom-color' properties

|  | div | P | br | span | A | input | object | Body |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Width | Y | Y | - | - | - | Y | Y | - |
| Height | Y | Y | - | - | - | Y | Y | - |
| line-height | - | Y | \* | \* | \* | Y | - | - |

NOTE: \* indicates the value is fixed. - indicates the property is not applicable to the element

**Properties applicable to :focus and :active classes**

|  | div | P | br | span | A | input | object | Body |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Width | Y | Y | - | - | - | Y | Y | - |
| Height | Y | Y | - | - | - | Y | Y | - |
| line-height | - | - | - | - | - | - | - | - |

* Assigning property values, Cascading, and Inheritance
* Media types

## Box model

* Margin properties: 'margin'
* Padding properties: 'padding-top', 'padding-right', 'padding-bottom', 'padding-left'
* Border properties

## Visual formatting model

* The 'display' property
* Choosing a positioning scheme: 'position' property
* Box offsets: 'top', 'left'
* Layered presentation

## Visual formatting model details

* Content width: the 'width' property
* Content height: the 'height' property

## Visual effects

* Overflow: the 'overflow' property
* Visibility: the 'visibility' property

## Colors and Backgrounds

* Color: the 'color-index' property
* Background color: the ‘background-color-index’ property
* Grayscale-color-index
* Background properties: 'background-image'

**Fonts**

* Font family: the 'font-family' property
* Font boldness: the 'font-weight' property
* Font size: the 'font-size' property

## Text

* Alignment: the 'text-align' property
* Letter and word spacing: the 'letter-spacing' property
* Whitespace: the 'white-space' property
* line-height property

## Navigation and Focus

## Extended Properties for IPTV

* used-key-list
* resolution
* display-aspect-ratio

# LIME-DOM

The following for accessing document object is required to be supported.

## Accessing through ID

document.getElementById(“*ID*”)

## Accessing current event

document.currentEvent

## Accessing current focus

document.currentFocus

# LIME-Script

The following objects of LIME-Script, as described in [ITU-T H.762] are required to be supported.

## Native Objects

* Object
* Boolean
* Array
* Function
* String
* Date
* Number

## Browser pseudo-Object

* sleep()
* setInterval()
* clearTimer()
* pauseTimer()
* resumeTimer()
* setCurrentDateMode()
* random()
* subDate()
* addDate()
* formatNumber()
* trasmitTextDataOverIP ()
* reloadActiveDocument()
* getBrowserVersion()
* getActiveDocument()
* lockScreen()
* unlockScreen()
* getBrowserSupport( )
* launchDocument( )
* quitDocument( )
* getBrowerStatus()
* playRomSound()

## Methods for IPTV

The following methods specifically for IPTV services are required to be supported.

### Content

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ● | launchIPTVContent(): to launch an IPTV content | | | |
|  | Syntax: |  |  |  |
|  |  | Number launchIPTVContent( input String content\_uri  ,input String ret\_uri  ,input Number start\_npt  [,input String license\_id] ) | | |

### License related Interfaces

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ● | getIPTVLicense( )：to get a license for content | | | |
|  | Syntax: |  |  |  |
|  |  | Number getIPTVLicense(input String drm\_system  ,input String id  ,input Array license\_id ) | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ● | getIPTVLicenseInfo( ): to get information related to the specified license： | | | |
|  | Syntax |  |  |  |
|  |  | Array getIPTVLicenseInfo( input String license\_id  ,input Number search\_type ) | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ● | getDRMID ( ): to get the client identifier for the specified content protection mechanism。 | | | |
|  | Syntax: |  |  |  |
|  |  | String getDRMID ( input String drm\_system ) | | |

### Customer Service Related

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ● | setContentPackageInfo(): set the information about the purchased content package | | | |
|  | Syntax: |  |  |  |
|  |  | Number setContentPackageInfo ( input String id  ,input Date valid\_start\_date  [,input Date valid\_end\_date] ) | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ● | updatePackageLicenseInfo (): to update all the package information | | | |
|  | Syntax: |  |  |  |
|  |  | Number updatePackageLicenseInfo( input String id ) | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | setIPTVServiceRegistrationInfo(): set the information related to the basic IPTV service, i.e. Linear TV and VOD | | | |
|  | Syntax: |  |  |  |
|  |  | Number setIPTVServiceRegistrationInfo(  input String id  ,input String key  ,input Date expire\_date  [,input String license\_uri  ,input String signature  ,input String certificate\_uri]) | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ● | checkIPTVServiceRegistrationInfo(): to look up the information related to the basic IPTV service, i.e. Linear TV and VOD | | | |
|  | Syntax： |  |  |  |
|  |  | Array checkIPTVServiceRegistrationInfo( input String id ) | | |

### Service Related Interfaces

**For parental control**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ● | checkParentalCtrlPassword() : to set the password for parental control | | | |
|  | Syntax: |  |  |  |
|  |  | Number checkParentalCtrlPassword () | | |

# Communication Functions and Cookies

Communication functions and Cookies as described in [ITU-T H.762] are required to be supported.

Annex A:  
Test Suites

A.1 Software for Test Suite 0

The following software for Test Suite 0 can be found at:<URL>.

### A.1.1 Basic Element Test

| No. | File name | Description |
| --- | --- | --- |
| 1 | docstr0.bml | TBD |
| 2 | body-element-test.bml | TBD |
| 3 | body-element-test0.bml | TBD |
| 4 | body-element-test1.bml | TBD |
| 5 | p-element-test.bml | TBD |
| 6 | p-element-test0.bml | TBD |
| 7 | br-element-test0.bml | TBD |
| 8 | div-element-test.bml | TBD |
| 9 | div-element-test1.bml | TBD |
| 10 | span-element-test0.bml | TBD |
| 11 | span-element-test1.bml | TBD |
| 12 | a-element-test0.bml | TBD |
| 13 | a-element-test1.bml | TBD |
| 14 | input-element-test.bml | TBD |
| 15 | input-element-test1.bml | TBD |
| 16 | link-css.bml | TBD |

### A.1.2 Object Element Test Series 0

| No. | File name | Description |
| --- | --- | --- |
| 1 | object-element-test.bml | TBD |
| 2 | object-element-test1.bml | TBD |
| 3 | object-element-test2.bml | TBD |

### A.1.3 Navigation and Focus Test Series0

| No. | File name | Description |
| --- | --- | --- |
| 1 | nav-focus-link.bml | TBD |
| 2 | nav-focus.bml | TBD |

### A.1.4 DOM Test Series0

| No. | File name | Description |
| --- | --- | --- |
| 1 | DOM-accessKey-test.bml | TBD |
| 2 | DOM-object-test1.bml | TBD |
| 3 | DOM-p-test1.bml | TBD |
| 4 | DOM-test1.bml | TBD |

### A.1.5 Media (VOD) Test Series0

| No. | File name | Description |
| --- | --- | --- |
| 1 | media-sample1-a.bml | TBD |
| 2 | media-sample1-b.bml | TBD |

Appendix I:  
H.762 conformance checklist

The following is a preliminary checklist for basic terminal device conformance testing. It is intended to be gradually incorporated to the main text of this draft recommendation as contributions on testing procedures are made.

1. **Attributes**

The following HTML attributes are used in a LIME-HTML document.

Table I-1: HTML Attributes used in LIME-HTML document

| **Elements** | **Attributes** | **Operation** | **Restrictions for operation** |
| --- | --- | --- | --- |
| Common Attributes Core Attributes | | |  |
|  | Id | R1 | Character string with a maximum of 128 bytes |
|  | Class | R1 |  |
|  | Title | - |  |
| I18N Attributes | | |  |
|  | xml:lang | R2 |  |
| Events Attributes | | |  |
|  | Onclick | R1 |  |
|  | Ondbclick | - |  |
|  | Onmousedown | - |  |
|  | Onmouseup | - |  |
|  | Onmouseover | - |  |
|  | Onmousemove | - |  |
|  | Onmouseout | - |  |
|  | Onkeypress | - |  |
|  | Onkeydown | R1 |  |
|  | Onkeyup | R1 |  |
| Style Attributes | | |  |
|  | Style | R1 |  |
| Core Modules Structure Module | | |  |
| Body | %Common.attrib |  |  |
|  | %Core.attrib | R1 |  |
|  | %I18n.attrib | R2 |  |
|  | %Events.attrib | - |  |
|  | %Style.attrib | R1 |  |
| Head | %I18n.attrib | R2 |  |
|  | Profile | - |  |
| Title | %I18n.attrib | R2 |  |
| Text Module | | |  |
| Br | %Core.attrib | R1 |  |
|  | %Style.attrib | R1 |  |
| Div | %Common.attrib | R1 |  |
| P | %Common.attrib | R1 |  |
| Span | %Common.attrib | R1 |  |
| Hypertext Module | | |  |
| A | %Common.attrib | R1 |  |
|  | Accesskey | R1 |  |
|  | Charset | R2 |  |
|  | Href | R1 |  |
|  | Hreflang | - |  |
|  | Rel | - |  |
|  | Rev | - |  |
|  | tabindex | - |  |
|  | type | - |  |
| Forms Module | | |  |
| Input | %Common.attrib |  |  |
|  | %Core.attrib | R1 |  |
|  | %I18n.attrib | R2 |  |
|  | %Events.attrib | R1 | Cannot be specified when “inputmode attribute” is “direct” or “indirect” |
|  | %Style.attrib | R1 |  |
|  | accesskey | R1 |  |
|  | checked | - |  |
|  | disabled | R1 |  |
|  | readonly | R1 |  |
|  | maxlength | R1 | From 1 to 40 |
|  | alt |  |  |
|  | name | - |  |
|  | size | - |  |
|  | src | - |  |
|  | tabindex | - |  |
|  | accept | - |  |
|  | type | R1 | Either “text” or “password” |
|  | value | R1 |  |
|  | inputmode | R1 |  |
|  | charctertype | R1 |  |
| Client-side Image Map | | |  |
| a& | cords | - |  |
| shape | - |  |
| input& | usemap | - |  |
| object& | usemap | - |  |
| Server-side Image Map | | |  |
| input& | ismap | - |  |
| Object Module | | |  |
| Object | %Common.attrib | R1 |  |
| archive | - |  |
| classid | - |  |
| codebase | - |  |
| codetype | - |  |
| data | R1 |  |
| declare | - |  |
| height | - |  |
| name | - |  |
| standby | - |  |
| tabindex | - |  |
| type | R1 |  |
| width | - |  |
| Target Module | | |  |
| a& | target | - |  |
| Intrinsic Events Module | | |  |
| a& | onblur | R1 |  |
| onfocus | R1 |  |
| body& | onload | R1 |  |
| onunload | R1 |  |
| input& | onfocus | R1 |  |
| onblur | R1 |  |
| onselect | - |  |
| onchange | R1 |  |
| Metainformation Module | | |  |
| Meta | %I18n.attrib | R2 |  |
|  | http-equiv | - |  |
| name | R1 |  |
| content | R1 |  |
| scheme | - |  |
| Scripting Module | | |  |
| script | charset | R2 |  |
| type | R2 |  |
| src | R1 |  |
| defer | - |  |
| xml.space | - |  |
| Style Sheet Module | | |  |
| Style | %I18n.attrib | R2 |  |
| type | R2 | Fixed to “text/css” |
| media | R2 | Fixed to “tv” |
| title | - |  |
|  | xml:space | - |  |
| Link Module | | |  |
| Link | %Common.attrib | - |  |
| charset | R2 |  |
| href | R1 |  |
| hreflang | - |  |
| media | R2 | Fixed to “tv” |
| rel | R2 | Fixed to “stylesheet” |
| rev | - |  |
| type | R2 | Fixed to “text/css” |
| LIME Module | | |  |
| Bml | %I18n.attrib | R2 |  |
| version | - |  |
| xmlns | - |  |
| Bevent | id | R1 |  |
| Beitem | id | R1 |  |
| type | R1 | One of the following is taken: “TimerFired”, “CCStatusChanged”, “MediaStopped”, “DataButtonPressed” |
| onoccur | R1 |  |
| es\_ref | R1 |  |
| message\_group\_id | R1 | It is “0” or “1”. When omitted, specification of “0” is assumed |
| message\_id | R1 |  |
| message\_version | R1 |  |
| module\_ref | R1 |  |
| language\_tag | R1 |  |
| register\_id | - |  |
| service\_id | - |  |
| event\_id | - |  |
| peripheral\_ref | - |  |
| time\_mode | R1 | The following is taken:  “absolute” |
| time\_value |  |  |
| object\_id | R1 | Only the object element ID that indicates data transmitted by carousel and type attribute is either “audio/X-arib-mpeg2-aac” |
| subscribe | R1 |  |
| iframe& | align | - |  |
| body& | invisible | R1 |  |
| div& | accesskey | R1 |  |
| onfocus | R1 |  |
| onblur | R1 |  |
| p& | accesskey | R1 |  |
| onfocus | R1 |  |
| onblur | R1 |  |
| span& | accesskey | R1 |  |
| onfocus | R1 |  |
| onblur | R1 |  |
| a& | effect | - |  |
| bdo& | orientation | - |  |
| object& | streamposition | R1 | The frame number is specified (type=”image/X-arib-mng”) when the monomedia that refers to the relevant object element is MNG. In case of other media, it is “0” |
| streamlooping | R2 | Fixed to “1” |
| streampositionnymerator | - |  |
| streampositiondenominator | - |  |
| streamstatus | R1 | An initial value must be specified depending on the monomedia referenced by the relevant object element |
| streamlevel | - |  |
| remain | R1 | Applicability depends on the monomedia referenced by the object element |
| accesskey | R1 |  |
| onfocus | R1 |  |
| onblur | R1 |  |

1. **used-key-list**

Table I-2: used-key-list

| **Items** | **Features** |
| --- | --- |
| Value of <key-group> | "special-1" is used for VOD playback control key group |
| Key code | To be eventually added in the Vendor dependent keys (key code 150 - ) |
| Access key characters | Not specified |
| Behaviour | When an LIME document contains a description of playback control procedure, it is desirable to mask "special-1", the VOD playback control <key-group>, to avoid confusion of the user. When masked, events from the VOD Playback control keys are received by the LIME browser. Since key codes depend on implementation, it is not recommended that such key information is included in a LIME content. |

Table I-3: Values Applicable to <key-group>

| **Value of <key-group>** | **Semantics** | |
| --- | --- | --- |
| Basic | Up, Down, Right, and Left arrow keys, Enter key, and Back key | |
| data-button | Keys for operations for data broadcasting (e.g. Red, Green, Blue, and Yellow colour keys) |  |
| numeric-tuning | Channel keypad (0 to 9, or 0 to 12) |  |
| Other-tuning | Other channel keys (e.g. Up/Down and Direct Selection) |  |
| special-1 | Special Key 1 |  |
| special-2 | Special Key 2 |  |
| special-3 | Special Key 3 |  |
| special-4 | Special Key 4 |  |
| Misc | Keys except the above keys and Power key (e.g. Volume control keys) |  |

Table I-4: Relationship among Remote Control Keys, Key Codes and Access Keys

| **Remote control key** | **Key code** | **Access key character** |
| --- | --- | --- |
| up arrow | 1 | N/A |
| down arrow | 2 | N/A |
| left arrow | 3 | N/A |
| right arrow | 4 | N/A |
| 0,1,2,3,4,5,6,7,8,9,10,11,12 | 5-17 | N/A |
| “Enter” | 18 | N/A |
| “Back” | 19 | “X” |
| “Data” | 20 | N/A |
| Color key (Blue) | 21 | “B” |
| Color key (Red) | 22 | “R” |
| Color key (Green) | 23 | “G” |
| Color key (Yellow) | 24 | “Y” |
| Data button 1 | 25 | “E” |
| Data button 2 | 26 | “F” |
| Data button 3 | 27 | N/A |
| Data button 4 | 28 | N/A |
| Reserved for ARIB data broadcast standard | 29-99 | reserved |
| “Bookmark” key | 100 | N/A |
| Reserved for future extended features | 101-149 | reserved |
| Vendor-dependent | 150- | Not defined |

1. **Media Types used in LIME**

**TableI-5: List of Media Types and Mono-media schemes**

| **Scheme** | **Media Type** | **Used** | **Operation (referenced by Object/ Element)** | **Remarks** |
| --- | --- | --- | --- | --- |
| http:, https: | multipart/mixed | Yes | － |  |
|  | text/css | Yes | － |  |
|  | text/X-arib-bml; charset=“ ” | Yes | － |  |
|  | text/X-arib-ecmascript; charset=“ ” | Yes | － |  |
|  | image/jpeg | Yes | Yes |  |
|  | image/X-arib-png | Yes | Yes |  |
|  | image/X-arib-mng | Yes | Yes |  |
|  | audio/X-arib-mpeg2-aac | Yes | Yes |  |
|  | application/X-arib-bmlclut | Yes | － |  |
|  | application/X-arib-btable | Yes | － |  |
|  | application/X-arib-resourceList | Yes | － |  |
|  | application/X-arib-contentPlayControl | Yes | Yes |  |
| Arib: | application/X-arib-mpeg2-tts | Yes | Yes |  |
| romsound: | audio/X-arib-romsound | Yes | － |  |

1. **Display control of Linear IPTV streaming**

Table I-6: Use of Attribute for Displaying Stream

| **type attribute** | **Streamposition** | **streamstatus** | **Streamlooping** |
| --- | --- | --- | --- |
| application/X-arib-mpeg2-tts | Not used | play stop | 1 (fixed) |

1. **Display control of VOD streaming**

Table I-7: Use of Attribute for Displaying Stream

| **Type** | **Streamposition** | **streamstatus** | **Streamlooping** |
| --- | --- | --- | --- |
| application/X-arib-contentPlayControl | Read only | play/stop/pause | 1 (Fixed) |

1. **Use of LIME-CSS in LIME**

Table I-8: Profile of CSS properties in LIME

| **Property** | **Operation** |  | **Property** | **Operation** |
| --- | --- | --- | --- | --- |
| Selector | |  | Visual formatting model | |
| \* | R1 |  | Position | R1 |
| E | R1 |  | Left | R1 |
| EF | - |  | Top | R1 |
| E:focus | R1 |  | Width | R1 |
| E:active | R1 |  | Height | R1 |
| E:myclass | R1 |  | z-index | R1 |
| #myid | R1 |  | line-height | R1 |
| Value assignment/ Inheritance | |  | vertical align | - |
| @import | - |  | Display | R1 |
| !important | - |  | Bottom | - |
| Media type | |  | Right | - |
| @media | R1 |  | Float | - |
| Box model | |  | Clear | - |
| margin-top | - |  | Direction | - |
| margin-right | - |  | unicode-bidi | - |
| margin-bottom | - |  | min-width | - |
| margin-left | - |  | max-width | - |
| Margin | R1 |  | min-height | - |
| padding-top | R1 |  | max-height | - |
| padding-right | R1 |  | Other visual effects | |
| padding-bottom | R1 |  | Visibility | R1 |
| Padding-left | R1 |  | Overflow | R1 |
| Padding | - |  | Clip | - |
| border-top-width | - |  | Generated content / Auto numbering list | |
| border-right-width | - |  | Content | - |
| border-bottom-width | - |  | Quotes | - |
| border-left-width | - |  | counter-reset | - |
| border—width | R1 |  | counter-increment | - |
| border-top-color | - |  | marker-offset | - |
| border-right-color | - |  | list-style-type | - |
| border-bottom-color | - |  | list-style-image | - |
| border-left-color | - |  | list-style-position | - |
| border-color | - |  | list-style | - |
| border-top-style | - |  | Page media | |
| border-right-style | - |  | “@page” | - |
| border-bottom-style | - |  | Size | - |
| border-left-style | - |  | Marks | - |
| border-style | R1 |  | page-break-before | - |
| border-top | - |  | page-break-after | - |
| border-right | - |  | page-break-inside | - |
| border-bottom | - |  | Page | - |
| border-left | - |  | Orphans | - |
| Border | - |  | Widows | - |
| Background | |  | User interface | |
| Background | - |  | outline-color | - |
| background-color | - |  | outline-width | - |
| background-image | R1 |  | outline-style | - |
| background-repeat | R1 |  | Outline | - |
| background-position | - |  | Cursor | - |
| background-attachment | - |  | Voice style sheet | |
| Font | |  | Volume | - |
| Color | - |  | Speak | - |
| font-family | R1 |  | pause-before | - |
| font-style | - |  | pause-after | - |
| font-size | R1 |  | Pause | - |
| font-variant | - |  | cue-before | - |
| font-weight | R1 |  | cue-after | - |
| Font | - |  | Cue | - |
| font-stretch | - |  | play-during | - |
| font-size-adjust | - |  | Azimuth | - |
| Text | |  | Elevation | - |
| text-indent | - |  | speech-range | - |
| text-align | R1 |  | voice-family | - |
| text-decoration | - |  | Pitch | - |
| text-shadow | - |  | pitch-range | - |
| letter spacing | R1 |  | Stress | - |
| word-spacing | - |  | Richness | - |
| text-transform | - |  | speak-punctuation | - |
| white-space | R1 |  | peak-numeral | - |
| Pseudo class/ Pseudo element | |  | Extended property | |
| :link | - |  | Clut | R1 |
| :visited | - |  | color index | R1 |
| :active | R1 |  | background-color-index | R1 |
| :hover | - |  | border-color-index | - |
| :focus | R1 |  | border-top-color-index | R1 |
| :lang | - |  | border-right-color-index | R1 |
| :first-child | - |  | border-bottom-color-index | R1 |
| :first-line | - |  | border-left-color-index | R1 |
| :first-letter | - |  | outline-color-index | - |
| :before | - |  | resolution | R1 |
| :after | - |  | display-aspect-ratio | R1 |
| Table | |  | grayscale-color-index | R1 |
| caption-side | - |  | nav-index | R1 |
| border-collapse | - |  | nav-up | R1 |
| border-spacing | - |  | nav-down | R1 |
| table-layout | - |  | nav-left | R1 |
| empty-cells | - |  | nav-right | R1 |
| speak-header | - |  | used-key-list | R1 |

1. **Use of LIME-Script**
2. **Profile of built-in objects**

Table I-9: Profile of the LIME-Script Built-in Objects

| **Built-in object** | **Method/Property** | **Operation** | **Remarks** |
| --- | --- | --- | --- |
| (global) | |  |  |
|  | NaN | R1 |  |
|  | Infinity | - |  |
|  | eval(x) | - |  |
|  | parseInt(string, radix) | R1 |  |
|  | parseFloat(string) | - |  |
|  | escape(string) | - |  |
|  | unescape(string) | - |  |
|  | isNaN(number) | R1 |  |
|  | isFinite(number) | - |  |
| Object | |  |  |
|  | Prototype | R1 |  |
|  | Object([value]) | R1 |  |
|  | new Object([value]) | R1 |  |
| Object.prototype | |  |  |
|  | Constructor | R1 |  |
|  | toString() | R1 |  |
|  | valueOf() | R1 |  |
| Function | |  |  |
|  | Prototype | R1 |  |
|  | Length | R1 |  |
|  | Function(p1,p2,…pn,body) | - |  |
|  | new Function(p1,p2,…pn,body) | - |  |
| Function.prototype | |  |  |
|  | Constructor | R1 |  |
|  | toString() | R1 |  |
| Array | |  |  |
|  | Prototype | R1 |  |
|  | Length | R1 |  |
|  | Array(item0, item1, …) | R1 |  |
|  | new Array(item0, item1,…) | R1 |  |
|  | new Array([len]) | R1 |  |
| Array.prototype | |  |  |
|  | Constructor | R1 |  |
|  | toString() | R1 |  |
|  | join([separator]) | R1 |  |
|  | reverse() | R1 |  |
|  | sort([comparefn]) | R1 |  |
| String | |  |  |
|  | Prototype | R1 |  |
|  | Length | R1 |  |
|  | String([value]) | R1 |  |
|  | new String([value]) | R1 |  |
|  | String.fromCharCode(char0[,char1, …]) | R1 |  |
| String.prototype | |  |  |
|  | Constructor | R1 |  |
|  | toString() | R1 |  |
|  | valueOf() | R1 |  |
|  | charAt(pos) | R1 |  |
|  | charCodeAt(pos) | R1 |  |
|  | indexOf(searchString, position) | R1 |  |
|  | lastIndexOf(searchString, position) | R1 |  |
|  | split(separator) | R1 |  |
|  | substring(start[,end]) | R1 |  |
|  | toLowerCase() | R1 |  |
|  | toUpperCase() | R1 |  |
| Boolean | |  |  |
|  | Prototype | R1 |  |
|  | Boolean([value]) | R1 |  |
|  | new Boolean([value]) | R1 |  |
| Boolean.prototype | |  |  |
|  | Constructor | R1 |  |
|  | toString() | R1 |  |
|  | valueOf() | R1 |  |
| Number | |  |  |
|  | Prototype | R1 |  |
|  | MAX\_VALUE | R1 |  |
|  | MIN\_VALUE | R1 |  |
|  | NaN | R1 |  |
|  | NEGATIVE\_INFINITY | - |  |
|  | POSITIVE\_INFINITY | - |  |
|  | Number([value]) | R1 |  |
|  | new Number([value]) | V |  |
| Number.prototype | |  |  |
|  | Constructor | R1 |  |
|  | toString([radix]) | R1 |  |
|  | valueOf() | R1 |  |
| Math | |  |  |
|  | E | - |  |
|  | LN10 | - |  |
|  | LN2 | - |  |
|  | LOG 2E | - |  |
|  | LOG 10E | - |  |
|  | PI | - |  |
|  | SQRT1 2 | - |  |
|  | SQRT2 | - |  |
|  | abs(x) | - |  |
|  | acos(x) | - |  |
|  | asin(x) | - |  |
|  | atan(x) | - |  |
|  | atan2(y, x) | - |  |
|  | cos(x) | - |  |
|  | exp(x) | - |  |
|  | floor(x) | - |  |
|  | log(x) | - |  |
|  | max(x, y) | - |  |
|  | min(x, y) | - |  |
|  | pow(x, y) | - |  |
|  | random() | - |  |
|  | round(x) | - |  |
|  | sin(x) | - |  |
|  | sqrt(x) | - |  |
|  | tan(x) | - |  |
| Date | |  |  |
|  | Prototype | R1 |  |
|  | Date([year, month [, date [, hours [, minutes [, seconds [, ms]]]]]]) | R1 |  |
|  | new Date([year, month [, date [, hours [, minutes [, seconds [, ms]]]]]]) | R1 |  |
|  | Date(value) | - |  |
|  | new Date(value) | - |  |
|  | Date.parse(string) | - |  |
|  | Date.UTC([year, month [, date [, hours [, minutes [, seconds [, ms]]]]]]) | - |  |
| Date.prototype | |  |  |
|  | Constructor | R1 |  |
|  | toString() | R1 |  |
|  | valueOf() | - |  |
|  | getTime() | - |  |
|  | getYear() | - |  |
|  | getFullYear() | R1 |  |
|  | getUTCFullYear() | R1 |  |
|  | getMonth() | R1 |  |
|  | getUTCMonth() | R1 |  |
|  | getDate() | R1 |  |
|  | getUTCDate() | R1 |  |
|  | getDay() | R1 |  |
|  | getUTCDay() | R1 |  |
|  | getHours() | R1 |  |
|  | getUTCHours() | R1 |  |
|  | getMinutes() | R1 |  |
|  | getUTCMinutes() | R1 |  |
|  | getSeconds() | R1 |  |
|  | getUTCSeconds() | R1 |  |
|  | getMilliseconds() | R1 |  |
|  | getUTCMilliseconds() | R1 |  |
|  | getTimezoneOffset() | R1 |  |
|  | setTime(time) | - |  |
|  | setMilliseconds(ms) | R1 |  |
|  | setUTCMilliseconds(ms) | R1 |  |
|  | setSeconds(sec, [, ms]) | R1 |  |
|  | setUTCSeconds(sec, [, ms]) | R1 |  |
|  | setMinutes(min [, sec, [, ms]]) | R1 |  |
|  | setUTCMinutes(min [, sec, [, ms]]) | R1 |  |
|  | setHours(hour [, min [, sec, [, ms]]]) | R1 |  |
|  | setUTCHours(hour [, min [, sec, [, ms]]]) | R1 |  |
|  | setDate(date) | R1 |  |
|  | setMonth(mon [, date]) | R1 |  |
|  | setUTCMonth(mon [, date]) | R1 |  |
|  | setFullYear(year [, mon [, date]]) | R1 |  |
|  | setUTCFullYear(year [, mon [, date]]) | R1 |  |
|  | setYear(year) | - |  |
|  | toLocaleString() | R1 |  |
|  | toUTCString() | R1 |  |
|  | toGMTString() | - |  |

1. **Extensions to ECMAScript**

Table I-10: Browser pseudo object of LIME-Script

|  | **Function** | **Operation** | **Remarks** |
| --- | --- | --- | --- |
| EPG functions | |  |  |
|  | epgGetEventStartTime() | R1 |  |
|  | epgGetEventDuration() | R1 |  |
|  | epgTune() | R1 |  |
|  | epgTuneToDocument() | R1 |  |
|  | epgIsReserved() | R1 |  |
|  | epgReserve() | R1 |  |
|  | epgCancelReservation() | R1 |  |
|  | epgRecIsReserved() | R1 |  |
|  | epgRecReserve() | R1 |  |
|  | epgRecCancelReservation() | R1 |  |
| Interaction channel communication-TCP/IP | |  |  |
|  | setISPParams() | R1 |  |
|  | getISPParams() | R1 |  |
|  | connectPPP() | R1 |  |
|  | connectPPPWithISPParams() | R1 |  |
|  | disconnectPPP() | R1 |  |
|  | getConnectionType() | R1 |  |
|  | isIPConnected() | R1 |  |
|  | sendTextMail() | optional |  |
|  | sendMIMEMail() | optional |  |
|  | trasmitTextDataOverIP () | R1 |  |
|  | setCacheResourceOverIP() | optional |  |
| Operational control functions | |  |  |
|  | reloadActiveDocument | R1 |  |
|  | getNPT() | R1 |  |
|  | getProgramRelativeTime() | R1 |  |
|  | isBeingBroadcast() | R1 |  |
|  | lockModuleOnMemory() | R1 |  |
|  | unlockModuleOnMemory() | R1 |  |
|  | setCachePriority() | R1 |  |
|  | getIRDID() | R1 |  |
|  | getBrowserVersion() | R1 |  |
|  | getProgramID() | R1 |  |
|  | getActiveDocument() | R1 |  |
|  | lockScreen() | R1 |  |
|  | unlockScreen() | R1 |  |
|  | getBrowserSupport() | R1 |  |
|  | launchDocument() | R1 |  |
|  | launchDocumentRestricted () | R1 |  |
|  | quitDocument() | R1 |  |
|  | launchExApp() | optional |  |
|  | getFreeContentsMemory() | R1 |  |
|  | isSupportedMedia() | R1 |  |
|  | detectComponent() | R1 |  |
|  | lockModuleOnMemoryEx() | R1 |  |
|  | unlockModuleOnMemoryEx() | R1 |  |
|  | unlockAllModulesOnMemory() | R1 |  |
|  | getLockedModuleInfo() | R1 |  |
|  | getBrowerStatus() | R1 |  |
|  | isResidentAppVersion() | R1 |  |
|  | isRootCertificateExisting() | R1 |  |
|  | getRootCertifiacteInfo() | R1 |  |
|  | startResidentApp() | optional |  |
| Receiver audio control | |  |  |
|  | playRomSound() | R1 |  |
| Tmer functions | |  |  |
|  | sleep() | R1 |  |
|  | setInterval() | R1 |  |
|  | clearTimer() | R1 |  |
|  | pauseTimer() | R1 |  |
|  | resumeTimer() | R1 |  |
|  | setCurrentDateMode() | R1 |  |
| External character functions | |  |  |
|  | loadDRCS() | R1 |  |
| Other functions | |  |  |
|  | random() | R1 |  |
|  | subDate() | R1 |  |
|  | addDate() | R1 |  |
|  | formatNumber() | R1 |  |
| Closed caption display control functions | |  |  |
|  | setCCDisplayStatus() | R1 |  |
|  | getCCDisplayStatus() | R1 |  |
|  | getCCLanguageStatus() | R1 |  |

1. **Use of DOM in LIME**

Table I-11: DOM Core Fundamental interfaces

| **Interface** | **Operation** |
| --- | --- |
| Basic interface group | |
| DOMException | - |
| DOMImplementation | R1 |
| DocumentFragment | - |
| Document | R1 |
| Node | R1 |
| NodeList | - |
| NamedNodeMap | - |
| CharacterData | R1 |
| Attr | - |
| Element | R1 |
| Text | R1 |
| Comment | - |
| Extended interface group | |
| CDATASection | R1 |
| DocumentType | - |
| Notation | - |
| Entity | - |
| EntityReference | - |
| ProcessingInstruction | - |

Table I-12: DOM Core Basic Interface Attributes of LIME-DOM

| **Interface** | **Attribute/Method** | **Operation** | **Restriction** |
| --- | --- | --- | --- |
| DOMImplementation |  |  |  |
|  | hasFeature() | R1 |  |
| Document |  |  |  |
|  | Doctype | - |  |
|  | Implementation | R1 | R |
|  | documentElement | R1 | R |
|  | createElement() | - |  |
|  | createDocumentFragment() | - |  |
|  | createTextNode() | - |  |
|  | createComment() | - |  |
|  | createCDATASection() | - |  |
|  | createProcessingInstruction() | - |  |
|  | createAttribute() | - |  |
|  | createEntityReference() | - |  |
|  | getElementByTadName() | - |  |
| Node |  |  |  |
|  | nodeName | - |  |
|  | nodeValue | - |  |
|  | nodeType | - |  |
|  | parentNode | R1 | R |
|  | childNodes | - |  |
|  | firstChild | R1 | R |
|  | lastChild | R1 | R |
|  | previousSibling | R1 | R |
|  | nextSibling | R1 | R |
|  | Attributes | - |  |
|  | ownerDocument | - |  |
|  | insertBefore | - |  |
|  | replaceChild | - |  |
|  | removeChild | - |  |
|  | appendChild | - |  |
|  | hasChildNodes() | - |  |
|  | cloneNode() | - |  |
| CharacterData |  |  |  |
|  | Data | R1 | RW |
|  | Length | R1 | R |
|  | substringData() | - |  |
|  | append Data() | - |  |
|  | insert Data() | - |  |
|  | delete Data() | - |  |
|  | replace Data() | - |  |
| Element |  |  |  |
|  | tagName() | R1 | R |
|  | getAttribute() | - |  |
|  | setAttribute() | - |  |
|  | removeAttribute() | - |  |
|  | getAttributeNode() | - |  |
|  | setAttributeNode() | - |  |
|  | removeAttributeNode() | - |  |
|  | getElementsByTagName() | - |  |
|  | normalize() | - |  |
| Text |  |  |  |
|  | splitText() | - |  |
| CDATASection |  |  |  |

1. **DOM HTML interface group**

Table I-13: Profile of DOM HTML Interface Group

| **Interface** | **Operation** |  | **Interface** | **Operation** |
| --- | --- | --- | --- | --- |
| HTMLCollection | - |  | HTMLDListElement | - |
| HTMLDocument | R1 |  | HTMLOListElement | - |
| HTMLElement | R1 |  | HTMLUListElement | - |
| HTMLBlockquoteElement | - |  | HTMLLIElement | - |
| HTMLPreElement | - |  | HTMLButtonElement | - |
| HTMLHeadingElement | - |  | HTMLFieldSetElement | - |
| HTMLHRElement | - |  | HTMLFormElement | - |
| HTMLDivElement | R1 |  | HTMLInputElement | R1 |
| HTMLParagraphElement | R1 |  | HTMLLabelElement | - |
| HTMLQuoteElement | - |  | HTMLLegendElement | - |
| HTMLBRElement | R1 |  | HTMLOptGroupElement | - |
| HTMLModElement | - |  | HTMLOptionElement | - |
| HTMLAnchorElement | R1 |  | HTMLSelectElement | - |
| HTMLBaseElement | - |  | HTMLTextAreaElement | - |
| HTMLLinkElement | - |  | HTMLTableCaptionElement | - |
| HTMLTableColElement | - |  | HTMLFrameSetElement | - |
| HTMLTableElement | - |  | HTMLFrameElement | - |
| HTMLTableSectionElement | - |  | HTMLIFrameElement | - |
| HTMLTableCellElement | - |  | HTMLMetaElement | R1 |
| HTMLTableRowElement | - |  | HTMLTitleElement | R1 |
| HTMLImageElement | - |  | HTMLScriptElement | R1 |
| HTMLAreaElement | - |  | HTMLStyleElement | R1 |
| HTMLMapElement | - |  | HTMLBodyElement | R1 |
| HTMLObjectElement | R1 |  | HTMLHeadElement | R1 |
| HTMLParamElement | - |  | HTMLHtmlElement | R1 |

Table I-14: Profile of Attributes and Methods of DOM HTML Interface Group

| **Interface** | **Attribute/Method** | **Operation** | **Restriction** |
| --- | --- | --- | --- |
| Document |  |  |  |
|  | Title | - |  |
|  | Referrer | - |  |
|  | Domain | - |  |
|  | uRL | - |  |
|  | Body | - |  |
|  | Images | - |  |
|  | Applets | - |  |
|  | Links | - |  |
|  | Forms | - |  |
|  | Anchors | - |  |
|  | Cookie | - |  |
|  | open() | - |  |
|  | close() | - |  |
|  | write() | - |  |
|  | writeln() | - |  |
|  | getElementById() | R1 |  |
|  | getElementsByName() | - |  |
| HTMLElement |  |  |  |
|  | Id | R1 | R |
|  | Title |  |  |
|  | Lang |  |  |
|  | Dir |  |  |
|  | className | R1 | R |
| Node |  |  |  |
| HTMLDivElement |  |  |  |
| HTMLParagraphElement |  |  |  |
| HTMLBRElement |  |  |  |
|  | Accesskey | R1 | R |
|  | Charset | - |  |
|  | Cords | - |  |
|  | Href | R1 | RW |
|  | Hreflang | - |  |
|  | Name | - |  |
|  | Rel | - |  |
|  | Rev | - |  |
|  | Shape | - |  |
|  | tabIndex | - |  |
|  | Target | - |  |
|  | Type | - |  |
|  | blur() | R1 |  |
|  | focus() | R1 |  |
| HTMLInputElement |  |  |  |
|  | defaultValue | R1 | R |
|  | defaultChecked | - |  |
|  | Form | - |  |
|  | Accept | - |  |
|  | Accesskey | R1 | R |
|  | Alt | - |  |
|  | Checked | - |  |
|  | Disabled | R1 | RW |
|  | maxLength | R1 | R |
|  | Name | - |  |
|  | readOnly | R1 | RW |
|  | Size | - |  |
|  | Src | - |  |
|  | tabIndex | - |  |
|  | Type | R1 | R |
|  | useMap | - |  |
|  | Value | R1 | RW |
|  | blur() | R1 |  |
|  | focus() | R1 |  |
|  | select() | - |  |
|  | click() | - |  |
| HTMLObjectElement |  |  |  |
|  | Form | - |  |
|  | Code | - |  |
|  | Archive | - |  |
|  | Codebase | - |  |
|  | codeType | - |  |
|  | Data | R1 | RW (NOTE) |
|  | Declare | - |  |
|  | Height | - |  |
|  | Name | - |  |
|  | Standby | - |  |
|  | tabIndex | - |  |
|  | Type | R1 | R |
|  | useMap | - |  |
|  | Width | - |  |
| HTMLMetaElement |  |  |  |
|  | Content | R1 | R |
|  | httpEquiv | - |  |
|  | Name | R1 | R |
|  | Scheme | - |  |
| HTMLTitleElement |  |  |  |
|  | Text | R1 | R |
| HTMLScriptElement |  |  |  |
|  | Text | - |  |
|  | htmlFor | - |  |
|  | Event | - |  |
|  | Charset | - |  |
|  | Defer | - |  |
|  | Src | - |  |
|  | Type | - |  |
| HTMLStyleElement |  |  |  |
|  | Disabled | - |  |
|  | Media | - |  |
|  | Type | - |  |
| HTMLBodyElement |  |  |  |
| HTMLHeadElement |  |  |  |
|  | Profile | - |  |
| HTMLHtmlElement |  |  |  |
|  | Version | - |  |

1. **DOM interface specific to LIME-DOM**
2. **Profile of the DOM interface for LIME-DOM**

Table I-15: Profile of Interface (DOM Interface Group)

| **Interface** | **Operation** |
| --- | --- |
| BMLDocument | R1 |
| BMLElement | R1 |
| BMLBlockquoteElement | - |
| BMLPreElement | - |
| BMLHeadingElement | - |
| BMLHRElement | - |
| BMLDivElement | R1 |
| BMLSpanElement | R1 |
| BMLParagraphElement | R1 |
| BMLQuoteElement | - |
| BMLBRElement | R1 |
| BMLModElement | - |
| BMLAnchorElement | R1 |
| BMLLinkElement | - |
| BMLDListElement | - |
| BMLOListElement | - |
| BMLUListElement | - |
| BMLLIElement | - |
| BMLButtonElement | - |
| BMLFieldSetElement | - |
| BMLFormElement | - |
| BMLInputElement | R1 |
| BMLLabelElement | - |
| BMLLegendElement | - |
| BMLOptGroupElement | - |
| BMLOptionElement | - |
| BMLSelectElement | - |
| BMLTextAreaElement | - |
| BMLTableCaptionElement | - |
| BMLTableColElement | - |
| BMLTableElement | - |
| BMLTableSectionElement | - |
| BMLTableCellElement | - |
| BMLTableRowElement | - |
| BMLImageElement | - |
| BMLAreaElement | - |
| BMLMapElement | - |
| BMLObjectElement | R1 |
| BMLFrameSetElement | - |
| BMLFrameElement | - |
| BMLIFrameElement | - |
| BMLBodyElement | R1 |
| BMLBmlElement | R1 |
| BMLBeventElement | R1 |
| BMLBeitemElement | R1 |
| BMLListTableElement | - |
| BMLItemElement | - |

Table I-16: Profile of Attributes and Methods (DOM Interface Group)

| **Interface** | **Attribute/Method** | **Operation** | **Remarks** |
| --- | --- | --- | --- |
| BMLDocument |  |  |  |
|  | currentFocus | R1 | R |
|  | currentEvent | R1 | R (NOTE2) |
| BMLDivElement |  |  |  |
|  | Style | - |  |
|  | normalStyle | R1 | RW (NOTE1) |
|  | focusStyle | R1 | RW (NOTE1) |
|  | activeStyle | R1 | RW (NOTE1) |
|  | accessKey | R1 | R |
|  | focus() | R1 |  |
|  | blur() | R1 |  |
| BMLSpanElement |  |  |  |
|  | Style | - |  |
|  | normalStyle | R1 | RW (NOTE1) |
|  | focusStyle | R1 | RW (NOTE1) |
|  | activeStyle | R1 | RW (NOTE1) |
|  | accessKey | R1 | R |
|  | focus() | R1 |  |
|  | blur() | R1 |  |
| BMLParagraphElement |  |  |  |
|  | Style | - |  |
|  | normalStyle | R1 | RW |
|  | focusStyle | R1 | RW |
|  | activeStyle | R1 | RW |
|  | accessKey | R1 | R |
|  | focus() | R1 |  |
|  | blur() | R1 |  |
| BMLBRElement |  |  |  |
|  | Style | - |  |
|  | normalStyle | R1 | RW |
|  | focusStyle | - |  |
|  | activeStyle | - |  |
| BMLAnchorElement |  |  |  |
|  | Style | - |  |
|  | normalStyle | R1 | RW |
|  | focusStyle | R1 | RW |
|  | activeStyle | R1 | RW |
|  | Effect | - |  |
| BMLInputElement |  |  |  |
|  | Style | - |  |
|  | normalStyle | R1 | RW |
|  | focusStyle | R1 | RW |
|  | activeStyle | R1 | RW |
| BMLObjectElement |  |  |  |
|  | Style | - |  |
|  | normalStyle | R1 | RW |
|  | focusStyle | R1 | RW |
|  | activeStyle | R1 | RW |
|  | classId | - |  |
|  | accessKey | R1 | R |
|  | Remain | R1 | RW |
|  | streamPosition | R1 | RW |
|  | streamStatus | R1 | RW |
|  | streamLooping | - |  |
|  | streamSpeedNumerator | - |  |
|  | streamSpeedDenominator | - |  |
|  | streamLevel | - |  |
|  | setSpeed() | - |  |
|  | movePosition() | - |  |
|  | hasAssociatedIndex() | - |  |
|  | assignToLocalEvnet() | - |  |
|  | assignToNodePlayMode() |  |  |
|  | getMainAudioStream() | R1 |  |
|  | setMainAudioStream() | R1 |  |
|  | focus() | R1 |  |
|  | blur() | R1 |  |
| BMLBodyElement |  |  |  |
|  | Invisible | R1 | RW |
|  | Style | - |  |
|  | normalStyle | R1 | RW |
|  | focusStyle | - |  |
|  | activeStyle | - |  |
| BMLBmlElement |  |  |  |
|  | Style | - |  |
|  | normalStyle | - |  |
|  | focusStyle | - |  |
|  | activeStyle | - |  |
| BMLBeventElement |  |  |  |
| BMLBeitemElement |  |  |  |
|  | Type | R1 | R |
|  | esRef | R1 | RW |
|  | messageGroupId | R1 | R |
|  | messageId | R1 | RW |
|  | messageVersion | R1 | RW |
|  | moduleRef | R1 | RW |
|  | languageTag | R1 | RW |
|  | Registered | - |  |
|  | serviced | - |  |
|  | Eventide | - |  |
|  | timeMode | R1 | R |
|  | timeValue | R1 | RW |
|  | objected | R1 | RW |
|  | Subscribe | R1 | RW |

1. **Interface for LIME interrupt event**
2. **Profile of LIME Interrupt event**

Table I-17: Profile of Interfaces for LIME Interrupt Event

| **Interface** | **Attribute/Method** | **Operation** | **Remarks** |
| --- | --- | --- | --- |
| BMLEvent |  |  |  |
|  | Type | R1 | R |
|  | Target | R1 | R |
| BMLIntrinsicEvent |  |  |  |
|  | keyCode | R1 | R |
| BMLBeventEvent |  |  |  |
|  | Status | R1 | R |
|  | privateData | R1 | R |
|  | esRef | R1 | R |
|  | messageId | R1 | R |
|  | messageVersion | R1 | R |
|  | messageGroupId | R1 | R |
|  | moduleRef | R1 | R |
|  | languageTag | R1 | R |
|  | Registered | - |  |
|  | Serviced | - |  |
|  | Eventide | - |  |
|  | Object | R1 | R |

Table I-18: Correspondence between interrupt event and type attribute of BMLEvent

| **Interrupt event** | **type value** |
| --- | --- |
| Remote control key was pressed | “keydown” |
| Remote control key was released | “keyup” |
| Element was determined by pressing Enter key or access key | “click” |
| Focus was set | “focus” |
| Focus is out of position | “blur” |
| Document was loaded | “load” |
| Document unloading was noticed in advance | “unload” |
| When the focus on an input element is out, the change of the value attribute of the concerning input element is detected | “change” |
| Event message was received | “EventMessageFired” |
| Module update was detected | “ModuleUpdated” |
| Module was locked | “ModuleLocked” |
| Timer set by beitem caught fire | “TimerFired” |
| Process such as getNPT() was enabled | “NPTReferred” |
| Monomedia presentation was stopped | “MediaStopped” |
| data\_event\_id update was detected | “DataEventChanged” |
| Display status of caption is changed | “CCStatusChanged” |
| Main audio stream is changed | “MainAudioStreamChanged” |
| Data button was pressed | “DataButtonPressed” |
| Execution of global codes was started. Or the functions specified by executing setTimeout() and setInterval() was started | Undefined |

1. **BMLCSS2 Properties interface for LIME-DOM**

Table I-19: Profile of BMLCSS2Properties Interface

| **Attribute** | **Operation** | **Remarks** |  | **Property** | **Operation** | **Remarks** |
| --- | --- | --- | --- | --- | --- | --- |
| Box model | | |  | backgroundImage | ‑ |  |
| marginTop | ‑ |  |  | backgroundRepeat | ‑ |  |
| marginRight | ‑ |  |  | backgroundPosition | ‑ |  |
| marginBottom | ‑ |  |  | backgroundAttachment | ‑ |  |
| marginLeft | ‑ |  |  | Font | | |
| margin | ‑ |  |  | Color | ‑ |  |
| paddingTop | R1 | R |  | fontFamily | R1 | RW |
| paddingRight | R1 | R |  | fontStyle | ‑ |  |
| paddingBottom | R1 | R |  | fontSize | R1 | RW |
| paddingLeft | R1 | R |  | fontVariant | ‑ |  |
| padding | ‑ |  |  | fontWeight | R1 | RW |
| borderTopWidth | ‑ |  |  | Font | ‑ |  |
| borderRightWidth | ‑ |  |  | fontStretch | ‑ |  |
| borderBottomWidth | ‑ |  |  | fontSizeAdjust | ‑ |  |
| borderLeftWidth | ‑ |  |  | Text | | |
| borderWidth | R1 | R |  | textIndent | ‑ |  |
| borderTopColor | ‑ |  |  | textAlign | R1 | R |
| borderRightColor | ‑ |  |  | textDecoration | ‑ |  |
| borderBottomColor | ‑ |  |  | textShadow | ‑ |  |
| borderLeftColor | ‑ |  |  | letterSpacing | R1 | R |
| borderColor | ‑ |  |  | wordSpacing | ‑ |  |
| borderTopStyle | ‑ |  |  | textTransform | ‑ |  |
| borderRightStyle | ‑ |  |  | Whitespace | ‑ |  |
| borderBottomStyle | ‑ |  |  | Table | | |
| borderLeftStyle | ‑ |  |  | captionSide | ‑ |  |
| borderStyle | R1 | R |  | borderCollapse | ‑ |  |
| borderTop | ‑ |  |  | borderSpacing | ‑ |  |
| borderRight | ‑ |  |  | tableLayout | ‑ |  |
| borderBottom | ‑ |  |  | emptyCells | ‑ |  |
| borderLeft | ‑ |  |  | speakHeader | ‑ |  |
| border | ‑ |  |  | User interface | | |
| Visual Format model | | |  | outlineColor | ‑ |  |
| position | ‑ |  |  | outlineStyle | ‑ |  |
| Left | R1 | RW |  | outlineWidth | ‑ |  |
| Top | R1 | RW |  | Outline | ‑ |  |
| Width | R1 | RW |  | Cursor | ‑ |  |
| height | R1 | RW |  | Voice style sheet | | |
| z-index | ‑ |  |  | Volume | ‑ |  |
| lineHeight | R1 | R |  | Speak | ‑ |  |
| verticalAlign | ‑ |  |  | pauseBefore | ‑ |  |
| display | ‑ |  |  | pauseAfter | ‑ |  |
| bottom | ‑ |  |  | Pause | ‑ |  |
| Right | ‑ |  |  | cueBefore | ‑ |  |
| cssFloat | ‑ |  |  | cueAfter | ‑ |  |
| Clear | ‑ |  |  | Cue | ‑ |  |
| direction | ‑ |  |  | playDuring | ‑ |  |
| unicodeBidi | ‑ |  |  | Azimuth | ‑ |  |
| maxHeight | ‑ |  |  | Elevation | ‑ |  |
| minHeight | ‑ |  |  | speechRate | ‑ |  |
| maxWidth | ‑ |  |  | voiceFamily | ‑ |  |
| minWidth | ‑ |  |  | Pitch | ‑ |  |
| Other visual effects | | |  | pitchRange | ‑ |  |
| visibility | R1 | RW |  | Stress | ‑ |  |
| overflow | ‑ |  |  | Richness | ‑ |  |
| Clip | ‑ |  |  | speakPunctuation | ‑ |  |
| Generated content/Autonumbering/List | | |  | speakNumeral | ‑ |  |
| content | ‑ |  |  | LIME extension | | |
| quotes | ‑ |  |  | borderColorIndex | ‑ |  |
| counterReset | ‑ |  |  | borderTopColorIndex | R1 | RW |
| counterIncrement | ‑ |  |  | borderRightColorIndex | R1 | RW |
| markerOffset | ‑ |  |  | borderLeftColorIndex | R1 | RW |
| listStyleType | ‑ |  |  | borderBottomColorIndex | R1 | RW |
| listStyleImage | ‑ |  |  | backgroundColorIndex | R1 | RW |
| listStylePosition | ‑ |  |  | colorIndex | R1 | RW |
| listStyle | ‑ |  |  | grayscaleColorIndex | R1 | RW |
| Page media | | |  | outlineColorIndex | ‑ |  |
| Size | ‑ |  |  | Clut | R1 | R |
| Marks | ‑ |  |  | Resolution | R1 | R |
| pageBreakBefore | ‑ |  |  | displayAspectRatio | R1 | R |
| pageBreakAfter | ‑ |  |  | navIndex | R1 | R |
| pageBreakInside | ‑ |  |  | navUp | R1 | R |
| Page | ‑ |  |  | navDown | R1 | R |
| orphans | ‑ |  |  | navLeft | R1 | R |
| widows | ‑ |  |  | navRight | R1 | R |
| Background | | |  | usedKeyList | R1 | RW |
| background | ‑ |  |  |  |  |  |
| backgroundColor | ‑ |  |  |  |  |  |

Appendix II:  
H.762 Sample Test Codes

## II.1 Test Sample 0

<bml>

<head><style><![CDATA[

body {background-color-index:4;}

.dl {

margin: 0;

border-width: 5px;

border-style: solid;

border-color-index: 0;

padding: 5px;

}

.dt {

background-color-index:9;

margin: 0;

width: 50px;

height: 28px;

border-width: 5px;

border-style: solid;

border-color-index: 0;

color-index:7;

text-align:center;

}

.dd {

text-align:right;

margin: 0;

border-width: 10px;

border-style: solid;

border-color-index: 0;

padding: 5px;

width: 34px;

height: 27px;

}

.ul {

margin: 0;

border-width: 10px;

border-style: solid;

border-color-index: 0;

padding: 0;

}

.li {

color-index:0;

height: 9px;

width: 5px;

margin: 0;

border-width: 5px;

border-style: solid;

border-color-index:0;

padding: 1px;

background-color-index:60;

}

#bar {

background-color-index:0;

color-index:7;

width: 41px;

border-width: 5px;

border-style: solid;

border-color-index:0;

margin: 0;

}

#baz {

margin: 0;

border-width: 5px;

border-style: solid;

border-color-index:0;

padding: 5px;

width: 10px;

height: 10px;

background-color-index:0;

color-index:7;

}

.form {

margin: 0;

display: inline;

}

.blockquote {

margin: 0;

border-width: 5px;

border-style: solid;

border-color-index:0;

padding: 1px;

width: 5px;

height: 9px;

float: left;

background-color-index:0;

color-index: 0;

}

.address {

font-style: normal;

background-color-index:60;}

.h1 {

background-color-index:0;

color-index:7;

float: left;

margin: 0;

border-width: 5px;

border-style: solid;

border-color-index:0;

padding: 1px;

width: 10px;

height: 10px;

font-weight: normal;

font-size: 16px;

}

p {font-size:16px;}

a {color-index:4;}

div { border-color-index: 7;}

]]></style>

</head>

<body>

<div class="dl" style="width:510px;height:410px;left:20px;top:20px;background-color-index:7;">

<p class="dt" style="width:75px;height:310px;left:5px;top:5px;">toggle</p>

<div class="dd" style="width:380px;height:300px;left:100px;top:5px;">

<div classs="ul" style="width:400px;height:300px;left:5px;top:0px;">

<p class="li" style="width:75px;height:113px;left:5px;top:10px;">the way</p>

<p class="li" id="bar" style="width:160px;height:100px;left:100px;top:10px;">

<p style="width:160px;height:100px;left:0px;top:0px;">the world ends</p>

<div class="form" style="width:160px;height:80px;left:0px;top:20px;">

<p style="width:160px;height:50px;left:0px;top:10px;"> bang </p>

<input type="radio" id="foo" maxlength="1" value="\*" style="width:60px;height:30px;left:70px;top:0px;nav-index:0;nav-down:1;"/>

<p style="width:160px;height:80px;left:0px;top:50px;"> whimper

<input type="radio" name="foo2" value="+" maxlength="1" style="width:60px;height:30px;left:70px;top:0px;nav-index:1;nav-up:0;"/></p>

</div><!-- end of form -->

</p>

<p class="li" style="width:75px;height:113px;left:280px;top:10px;">I grow old</p>

<p class="li" id="baz" style="width:120px;height:120px;left:5px;top:140px;">pluot?</p>

</div> <!-- end of ul-->

<div class="blockquote" style="width:60px;height:140px;left:160px;top:140px;">

<p class="address" style="width:50px;height:120px;left:0px;top:5px;">bar maids</p>

</div> <!-- end blockquote -->

<p class="h1" style="width:120px;height:120px;left:240px;top:140px;">sing to me, erbarme dich</p>

</div><!-- end of dd-->

</div><!-- end of dl-->

<p style="top:355px;left:30px;width:490px;height:80px;background-color-index:7;">

This is an emulation of W3C Acid Test1 by LIME-CSS of ITU-T H.762.

The original test can be found <a href="http://www.w3.org/Style/CSS/Test/CSS1/current/test5526c.htm">here</a>.

All implementations of conformant LIME-CSS agents should be able to render the document elements above. </p>

</body>

</bml>

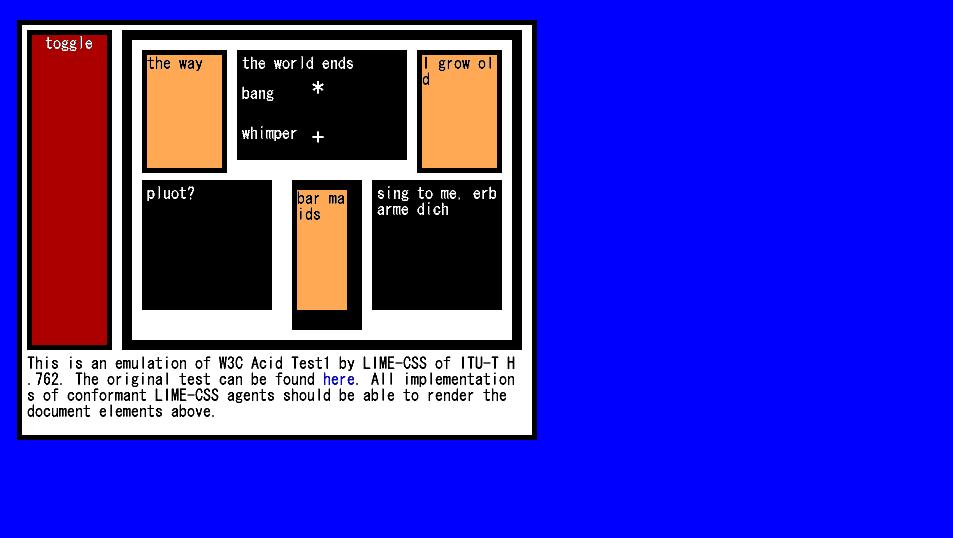


Figure A.0: Reference Image of Sample0

<bml>

<head>

<title>Color Sample</title>

<style><![CDATA[

body {

background-color-index:7;

/\* background-image:url(grid-bg.jpg);\*/

}

p {width:50px;

height:50px;

border-style:solid;

border-width:1px;

border-top-color-index:30;

border-left-color-index:30;

border-bottom-color-index:30;

border-right-color-index:30;

font-size: 16px;}

#title {width:270px;height:30px;

border-style:none;

font-size: 32px;}

]]>

</style>

</head>

<body>

<p id="title" style="top:20px;left:360px;">Sample of Common Colors</p>

<div style="left:80px;top:80px;width:800px;height:400px;">

<p id="0" style="background-color-index:0;left:0px;top:0px;" />

<p id="1" style="background-color-index:1;left:50px;top:0px;" />

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</div>

</body>

</bml>

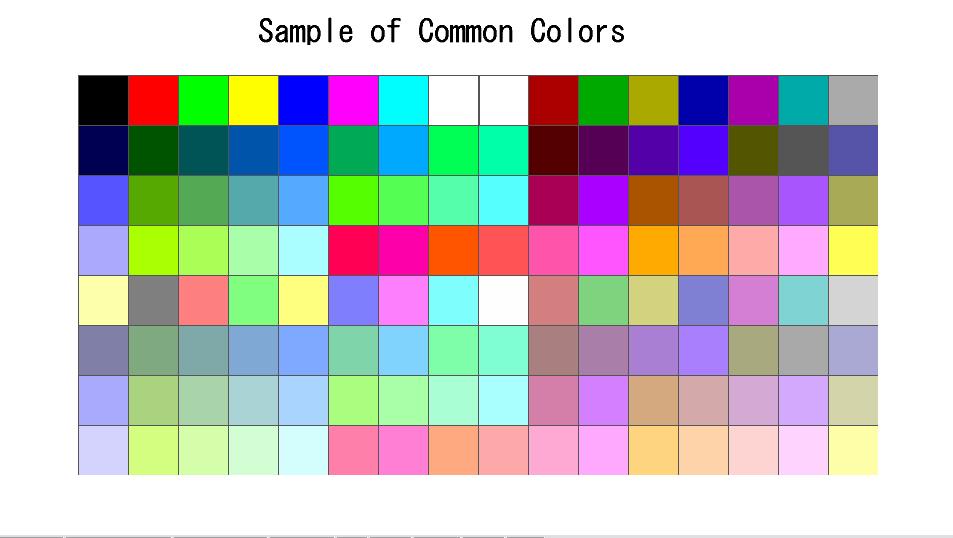


Figure II.1: Reference Image of Sample 1

## II.2 Test Sample 1

<bml>

<head>

<style><![CDATA[

body {background-color-index: 0;}

input {

margin: 0;

border-width: 5px;

border-style: solid;

border-color-index: 2;

padding: 0;

text-align:left;

top:30px;

width: 160px;

height: 90px;

float: left;

background-color-index: 12;

color-index: 22;

font-size:16px;

}

a { top:330px;

width: 155px;

height: 90px;

background-color-index:1;

color-index:7;

}

span {background-color-index:3;

color-index:0;

font-size:20px;}

p {

left:50px; top:350px; width:80px; height:20px;

background-color-index:4;

font-size:16px;

}

p.textline {

font-size:20px;

font-weight:bold;

left:150px;width:200px;height:60px;

background-color-index:2;

}

#message {

left:50px;top:0px;font-size:16px;

font-weight:normal;

padding-top:2px;

padding-left:7px;

padding-right:6px;

padding-bottom:2px;

width:707px;height:54px;

}

#border {width:170px;height:360px;left:560px;top:65px;

color-index:1;

background-color-index:7;

grayscale-color-index:56 61;

border-width:20px;

border-style:solid;

border-top-color-index:10;

border-left-color-index:20;

border-right-color-index:30;

border-bottom-color-index:40;

}

#padding {

width:200px;height:105px;left:360px;top:352px;font-size:20px

padding-top:10px;

padding-left:20px;

padding-right:30px;

padding-bottom:40px;

background-color-index:60;

}

p.box {

border-width:10px;

background-color-index:9;

color-index:7;

width:175px;height:60px;left:360px;

}

]]></style>

</head>

<body>

<div style="width:865px;height:500px;left:10px;top:10px;background-color-index:15">

<p class="long" style="width:90px;height:280px;left:50px;top:65px;">

</p>

<p id="message" class="textline">

This is a nonsensical document, but syntactically valid for <span> ITU-T H.762 (LIME)</span> CSS.

The user agents should be able to render the document elements in this paragraph.

Once you have finished evaluating this test, you can go to the <a href="sample.bml">this page</a>.

</p>

<div class="image" style="width:200px;height:200px;left:150px;top:65px;background-color-index:1">

<input max="100" value="input password"/></div>

<p id="padding" class="textline" style="width:150px;height:90px;top:352px;font-size:20px">

Lorem ipsum dolor sit amet, consectetaur <br/>adipisicing elit, sed do eiusmod tempor incididunt </p>

<p class="box" style="top:65px;border-style:solid;text-align:left;padding-top:2px;"><![CDATA[solid box

left-aligned]]></p>

<p class="box" style="top:150px;border-style:dashed;text-align:center;padding-top:10px;"><![CDATA[dashed box

center-aligned]]></p>

<p class="box" style="top:250px;border-style:dotted;text-align:right;padding-top:20px;"><![CDATA[dotted box

right-aligned]]></p>

<p class="textline" style="height:75px;top:270px;font-size:16px"><![CDATA[font size 16px text;

font-weight bold ]]></p>

<p class="textline" style="height:64px;top:350px;font-size:24px;"><![CDATA[font size 24px ]]></p>

<p class="textline" style="190px;height:60px;top:420px;font-size:30px;"><![CDATA[font size 30px]]></p>

<p id="border"><![CDATA[border sample]]></p>

<p>paragraph</p>

</div>

</body>

</bml>

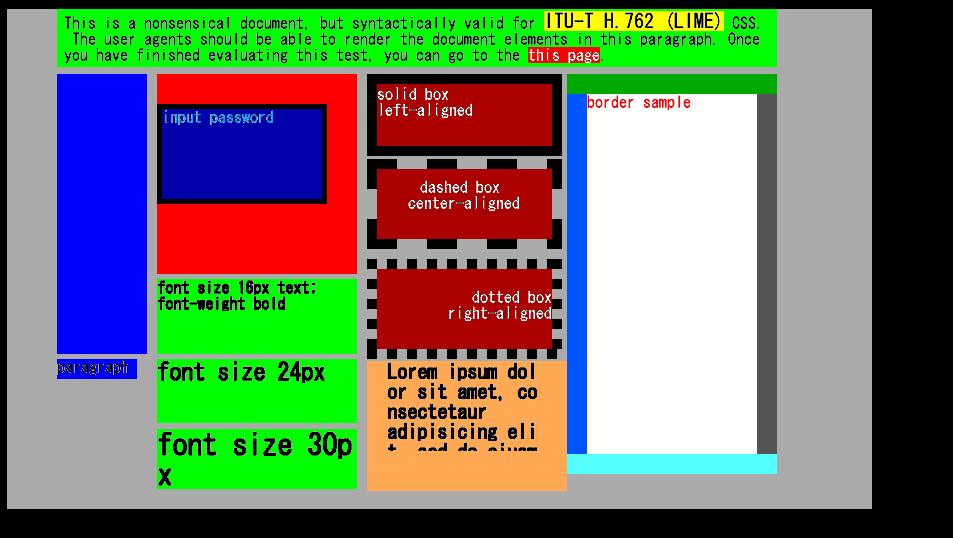


Figure II.2: Reference Image

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