International Telecommunication Union

ITU-T Technical Paper

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

(25 March 2011)

SERIES H: AUDIOVISUAL AND MULTIMEDIA SYSTEMS
Infrastructure of audiovisual services – Communication procedures

HSTP-CONF-H762
Conformance testing specification for H.762

ITU-T

International Telecommunication Union

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.

Keywords

IPTV, conformance, conformance testing, IPTV terminal device, IPTV basic services

Change Log

This document contains Version 2 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, 14-25 March 2011.

Editors:

Masahito KAWAMORI
NTT
Japan
Tel: +81 468 59 2517
Fax: +81 46 855 3495
Email: kawamori.masahito@lab.ntt.co.jp

Fernando Masami Matsubara
Mitsubishi Electric
Japan
Tel: +81 467 41 2035
Fax: +81 467 41 2287
Email: Matsubara.Masami@eb.MitsubishiElectric.co.jp

Contents

Page

List of Tables

Page

List of Figures

Page

ITU-T Technical Paper HSTP.CONF-H762

Conformance testing specification for H.762

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.

1 Scope

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

2 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*

3 Definitions

For further study.

3.1 Terms defined elsewhere

N/A

3.2 Terms defined in this document

N/A

4 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

5 Conventions

N/A

6 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.

7 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.

7.1 Structural elements

7.1.1 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.

7.1.2 Head: HEAD

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

7.1.3 Title: TITLE

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

7.1.4 Body: BODY

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

7.2 Hypertext element

7.2.1 Anchor: A

The A element indicates a hyperlink anchor.

7.2.2 Link: LINK

The LINK element represents a hyperlink.

7.3 Text elements

7.3.1 Line break: BR

The BR element specifies a line break between words

7.3.2 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.

7.3.3 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.

7.4 Form elements

7.4.1 Input field: INPUT

The INPUT element represents a field for user input.

7.5 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.

7.6 Associated meta-information: META

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

7.7 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 < and & 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.

7.8 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 < and & 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.

7.8.1 Attributes

For further study.

7.9 Monomedia

The following monomedia objects should be supported:

– JPEG

– PNG

– MNG

– Video objects: As described in [ITU-T H.721]

7.9.1 Audio objects

As described in [ITU-T H.721].

8 LIME-CSS

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

8.1 Syntax and basic data types

– Selectors

– Universal selector

– Type selectors

– Class selectors

– ID selectors

– The dynamic pseudo-classes: ':active' and ':focus'

8.2 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: *shows the value is fixed. -shows 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

8.3 Box model

– Margin properties: 'margin'

– Padding properties: 'padding-top', 'padding-right', 'padding-bottom', 'padding-left'

– Border properties

8.4 Visual formatting model

– The 'display' property

– Choosing a positioning scheme: 'position' property

– Box offsets: 'top', 'left'

– Layered presentation

8.5 Visual formatting model details

– Content width: the 'width' property

– Content height: the 'height' property

8.6 Visual effects

– Overflow: the 'overflow' property

– Visibility: the 'visibility' property

8.7 Colours and backgrounds

– Color: the 'color-index' property

– Background color: the 'background-color-index' property

– Grayscale-color-index

– Background properties: 'background-image'

8.8 Fonts

– Font family: the 'font-family' property

– Font boldness: the 'font-weight' property

– Font size: the 'font-size' property

8.9 Text

– Alignment: the 'text-align' property

– Letter and word spacing: the 'letter-spacing' property

– Whitespace: the 'white-space' property

– line-height property

8.10 Navigation and focus

8.11 Extended properties for IPTV

– used-key-list

– resolution

– display-aspect-ratio

9 LIME-DOM

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

9.1 Accessing through ID

`document.getElementById("`*`ID`*`")`

9.2 Accessing current event

`document.currentEvent`

9.3 Accessing current focus

`document.currentFocus`

10 LIME-Script

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

10.1 Native objects

– Object
– Boolean
– Array
– Function
– String
– Date
– Number

10.2 Browser pseudo-object

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

10.3 Methods for IPTV

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

10.3.1 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])
```

10.3.2 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)
```

10.3.3 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)
```

10.3.4 Service related interfaces

For parental control

- checkParentalCtrlPassword( ): to set the password for parental control

  Syntax:

```
Number checkParentalCtrlPassword ( )
```

11 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 as an electronic attachment to this Technical Paper.

A.1.1 Basic element test

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

A.1.2 Object element test series 0

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

A.1.3 Navigation and focus test series 0

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

A.1.4. DOM test series 0

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

A.1.5 Media (VOD) test series 0

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

I.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	-	

Elements	Attributes	Operation	Restrictions for operation
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	-	

Elements	Attributes	Operation	Restrictions for operation
	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	

Elements	Attributes	Operation	Restrictions for operation
	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		

Elements	Attributes	Operation	Restrictions for operation
	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	

I.2 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

Remote control key	Key code	Access key character
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

I.3 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	—	

I.4 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)

I.5 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)

I.6 Use of LIME-CSS in LIME

Table I-8: Profile of CSS properties in LIME

Property	Operation
Selector	
*	R1
E	R1
EF	-
E:focus	R1
E:active	R1
E:myclass	R1
#myid	R1
Value assignment/ Inheritance	
@import	-
!important	-
Media type	
@media	R1
Box model	
margin-top	-
margin-right	-
margin-bottom	-
margin-left	-
Margin	R1
padding-top	R1
padding-right	R1
padding-bottom	R1

Property	Operation
Visual formatting model	
Position	R1
Left	R1
Top	R1
Width	R1
Height	R1
z-index	R1
line-height	R1
vertical align	-
Display	R1
Bottom	-
Right	-
Float	-
Clear	-
Direction	-
unicode-bidi	-
min-width	-
max-width	-
min-height	-
max-height	-
Other visual effects	
Visibility	R1

Property	Operation
Padding-left	R1
Padding	-
border-top-width	-
border-right-width	-
border-bottom-width	-
border-left-width	-
border—width	R1
border-top-color	-
border-right-color	-
border-bottom-color	-
border-left-color	-
border-color	-
border-top-style	-
border-right-style	-
border-bottom-style	-
border-left-style	-
border-style	R1
border-top	-
border-right	-
border-bottom	-
border-left	-
Border	-
Background	
Background	-
background-color	-
background-image	R1
background-repeat	R1
background-position	-
background-attachment	-
Font	
Color	-
font-family	R1
font-style	-
font-size	R1
font-variant	-
font-weight	R1
Font	-
font-stretch	-
font-size-adjust	-

Property	Operation
Overflow	R1
Clip	-
Generated content / Auto numbering list	
Content	-
Quotes	-
counter-reset	-
counter-increment	-
marker-offset	-
list-style-type	-
list-style-image	-
list-style-position	-
list-style	-
Page media	
"@page"	-
Size	-
Marks	-
page-break-before	-
page-break-after	-
page-break-inside	-
Page	-
Orphans	-
Widows	-
User interface	
outline-color	-
outline-width	-
outline-style	-
Outline	-
Cursor	-
Voice style sheet	
Volume	-
Speak	-
pause-before	-
pause-after	-
Pause	-
cue-before	-
cue-after	-
Cue	-
play-during	-
Azimuth	-

Property	Operation
Text	
text-indent	-
text-align	R1
text-decoration	-
text-shadow	-
letter spacing	R1
word-spacing	-
text-transform	-
white-space	R1
Pseudo class/ Pseudo element	
:link	-
:visited	-
:active	R1
:hover	-
:focus	R1
:lang	-
:first-child	-
:first-line	-
:first-letter	-
:before	-
:after	-
Table	
caption-side	-
border-collapse	-
border-spacing	-
table-layout	-
empty-cells	-
speak-header	-

Property	Operation
Elevation	-
speech-range	-
voice-family	-
Pitch	-
pitch-range	-
Stress	-
Richness	-
speak-punctuation	-
peak-numeral	-
Extended property	
Clut	R1
color index	R1
background-color-index	R1
border-color-index	-
border-top-color-index	R1
border-right-color-index	R1
border-bottom-color-index	R1
border-left-color-index	R1
outline-color-index	-
resolution	R1
display-aspect-ratio	R1
grayscale-color-index	R1
nav-index	R1
nav-up	R1
nav-down	R1
nav-left	R1
nav-right	R1
used-key-list	R1

I.7 Use of LIME-Script

TBD.

I.8 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)	-	

Built-in object	Method/Property	Operation	Remarks
	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	

Built-in object	Method/Property	Operation	Remarks
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	-	

Built-in object	Method/Property	Operation	Remarks
	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	

Built-in object	Method/Property	Operation	Remarks
	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( )	-	

I.9 Extensions to ECMAScript

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

	Function	Operation	Remarks
EPG functions			
	epgGetEventStartTime( )	R1	
	epgGetEventDuration( )	R1	
	epgTune( )	R1	

	Function	Operation	Remarks
	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	

	Function	Operation	Remarks
	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	

I.10 Use of DOM in LIME

Table I-11: DOM core fundamental interfaces

Interface	Operation
Basic interface group	
DOMException	-
DOMImplementation	R1
DocumentFragment	-

Interface	Operation
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	-	

Interface	Attribute/Method	Operation	Restriction
	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			

I.11 DOM HTML interface group

Table I-13: Profile of DOM HTML Interface Group

Interface	Operation
HTMLCollection	-
HTMLDocument	R1
HTMLElement	R1
HTMLBlockquoteElement	-
HTMLPreElement	-
HTMLHeadingElement	-
HTMLHRElement	-
HTMLDivElement	R1
HTMLParagraphElement	R1
HTMLQuoteElement	-
HTMLBRElement	R1
HTMLModElement	-
HTMLAnchorElement	R1
HTMLBaseElement	-
HTMLLinkElement	-
HTMLTableColElement	-
HTMLTableElement	-
HTMLTableSectionElement	-
HTMLTableCellElement	-
HTMLTableRowElement	-
HTMLImageElement	-
HTMLAreaElement	-
HTMLMapElement	-
HTMLObjectElement	R1
HTMLParamElement	-

Interface	Operation
HTMLDListElement	-
HTMLOListElement	-
HTMLUListElement	-
HTMLLIElement	-
HTMLButtonElement	-
HTMLFieldSetElement	-
HTMLFormElement	-
HTMLInputElement	R1
HTMLLabelElement	-
HTMLLegendElement	-
HTMLOptGroupElement	-
HTMLOptionElement	-
HTMLSelectElement	-
HTMLTextAreaElement	-
HTMLTableCaptionElement	-
HTMLFrameSetElement	-
HTMLFrameElement	-
HTMLIFrameElement	-
HTMLMetaElement	R1
HTMLTitleElement	R1
HTMLScriptElement	R1
HTMLStyleElement	R1
HTMLBodyElement	R1
HTMLHeadElement	R1
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	-	

Interface	Attribute/Method	Operation	Restriction
	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	-	

Interface	Attribute/Method	Operation	Restriction
	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	-	

Interface	Attribute/Method	Operation	Restriction
	Event	-	
	Charset	-	
	Defer	-	
	Src	-	
	Type	-	
HTMLStyleElement			
	Disabled	-	
	Media	-	
	Type	-	
HTMLBodyElement			
HTMLHeadElement			
	Profile	-	
HTMLHtmlElement			
	Version	-	

I.12 DOM interface specific to LIME-DOM

I.13 Profile of the DOM interface for LIME-DOM

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

Interface	Operation
LIMEDocument	R1
LIMEElement	R1
LIMEBlockquoteElement	-
LIMEPreElement	-
LIMEHeadingElement	-
LIMEHRElement	-
LIMEDivElement	R1
LIMESpanElement	R1
LIMEParagraphElement	R1
LIMEQuoteElement	-
LIMEBRElement	R1
LIMEModElement	-
LIMEAnchorElement	R1
LIMELinkElement	-
LIMEDListElement	-
LIMEOListElement	-
LIMEUListElement	-
LIMELIElement	-
LIMEButtonElement	-

Interface	Operation
LIMEFieldSetElement	-
LIMEFormElement	-
LIMEInputElement	R1
LIMELabelElement	-
LIMELegendElement	-
LIMEOptGroupElement	-
LIMEOptionElement	-
LIMESelectElement	-
LIMETextAreaElement	-
LIMETableCaptionElement	-
LIMETableColElement	-
LIMETableElement	-
LIMETableSectionElement	-
LIMETableCellElement	-
LIMETableRowElement	-
LIMEImageElement	-
LIMEAreaElement	-
LIMEMapElement	-
LIMEObjectElement	R1
LIMEFrameSetElement	-
LIMEFrameElement	-
LIMEIFrameElement	-
LIMEBodyElement	R1
LIMEBmlElement	R1
LIMEBeventElement	R1
LIMEBeitemElement	R1
LIMEListTableElement	-
LIMEItemElement	-

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

Interface	Attribute/Method	Operation	Remarks
LIMEDocument			
	currentFocus	R1	R
	currentEvent	R1	R (NOTE2)
LIMEDivElement			
	Style	-	
	normalStyle	R1	RW (NOTE1)
	focusStyle	R1	RW (NOTE1)
	activeStyle	R1	RW (NOTE1)

Interface	Attribute/Method	Operation	Remarks
	accessKey	R1	R
	focus( )	R1	
	blur( )	R1	
LIMESpanElement			
	Style	-	
	normalStyle	R1	RW (NOTE1)
	focusStyle	R1	RW (NOTE1)
	activeStyle	R1	RW (NOTE1)
	accessKey	R1	R
	focus( )	R1	
	blur( )	R1	
LIMEParagraphElement			
	Style	-	
	normalStyle	R1	RW
	focusStyle	R1	RW
	activeStyle	R1	RW
	accessKey	R1	R
	focus( )	R1	
	blur( )	R1	
LIMEBRElement			
	Style	-	
	normalStyle	R1	RW
	focusStyle	-	
	activeStyle	-	
LIMEAnchorElement			
	Style	-	
	normalStyle	R1	RW
	focusStyle	R1	RW
	activeStyle	R1	RW
	Effect	-	
LIMEInputElement			
	Style	-	
	normalStyle	R1	RW
	focusStyle	R1	RW
	activeStyle	R1	RW
LIMEObjectElement			
	Style	-	
	normalStyle	R1	RW
	focusStyle	R1	RW
	activeStyle	R1	RW
	classId	-	

Interface	Attribute/Method	Operation	Remarks
	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	
LIMEBodyElement			
	Invisible	R1	RW
	Style	-	
	normalStyle	R1	RW
	focusStyle	-	
	activeStyle	-	
LIMEBmlElement			
	Style	-	
	normalStyle	-	
	focusStyle	-	
	activeStyle	-	
LIMEBeventElement			
LIMEBeitemElement			
	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

Interface	Attribute/Method	Operation	Remarks
	timeValue	R1	RW
	objected	R1	RW
	Subscribe	R1	RW

I.14 Interface for LIME interrupt event

I.15 Profile of LIME Interrupt event

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

Interface	Attribute/Method	Operation	Remarks
LIMEEvent			
	Type	R1	R
	Target	R1	R
LIMEIntrinsicEvent			
	keyCode	R1	R
LIMEBeventEvent			
	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 LIMEEvent

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"

Interrupt event	type value
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

I.16 LIMECSS2 Properties interface for LIME-DOM

Table I-19: Profile of LIMECSS2Properties Interface

Attribute	Operation	Remarks
Box model		
marginTop	-	
marginRight	-	
marginBottom	-	
marginLeft	-	
margin	-	
paddingTop	R1	R
paddingRight	R1	R
paddingBottom	R1	R
paddingLeft	R1	R
padding	-	
borderTopWidth	-	
borderRightWidth	-	
borderBottomWidth	-	
borderLeftWidth	-	
borderWidth	R1	R
borderTopColor	-	
borderRightColor	-	
borderBottomColor	-	
borderLeftColor	-	
borderColor	-	

Property	Operation	Remarks
backgroundImage	-	
backgroundRepeat	-	
backgroundPosition	-	
backgroundAttachment	-	
Font		
Color	-	
fontFamily	R1	RW
fontStyle	-	
fontSize	R1	RW
fontVariant	-	
fontWeight	R1	RW
Font	-	
fontStretch	-	
fontSizeAdjust	-	
Text		
textIndent	-	
textAlign	R1	R
textDecoration	-	
textShadow	-	
letterSpacing	R1	R
wordSpacing	-	

Attribute	Operation	Remarks
borderTopStyle	-	
borderRightStyle	-	
borderBottomStyle	-	
borderLeftStyle	-	
borderStyle	R1	R
borderTop	-	
borderRight	-	
borderBottom	-	
borderLeft	-	
border	-	
Visual Format model		
position	-	
Left	R1	RW
Top	R1	RW
Width	R1	RW
height	R1	RW
z-index	-	
lineHeight	R1	R
verticalAlign	-	
display	-	
bottom	-	
Right	-	
cssFloat	-	
Clear	-	
direction	-	
unicodeBidi	-	
maxHeight	-	
minHeight	-	
maxWidth	-	
minWidth	-	
Other visual effects		
visibility	R1	RW
overflow	-	
Clip	-	
Generated content/Autonumbering/List		
content	-	
quotes	-	
counterReset	-	
counterIncrement	-	
markerOffset	-	

Property	Operation	Remarks
textTransform	-	
Whitespace	-	
Table		
captionSide	-	
borderCollapse	-	
borderSpacing	-	
tableLayout	-	
emptyCells	-	
speakHeader	-	
User interface		
outlineColor	-	
outlineStyle	-	
outlineWidth	-	
Outline	-	
Cursor	-	
Voice style sheet		
Volume	-	
Speak	-	
pauseBefore	-	
pauseAfter	-	
Pause	-	
cueBefore	-	
cueAfter	-	
Cue	-	
playDuring	-	
Azimuth	-	
Elevation	-	
speechRate	-	
voiceFamily	-	
Pitch	-	
pitchRange	-	
Stress	-	
Richness	-	
speakPunctuation	-	
speakNumeral	-	
LIME extension		
borderColorIndex	-	
borderTopColorIndex	R1	RW
borderRightColorIndex	R1	RW
borderLeftColorIndex	R1	RW

Attribute	Operation	Remarks
listStyleType	-	
listStyleImage	-	
listStylePosition	-	
listStyle	-	
Page media		
Size	-	
Marks	-	
pageBreakBefore	-	
pageBreakAfter	-	
pageBreakInside	-	
Page	-	
orphans	-	
widows	-	
Background		
background	-	
backgroundColor	-	

Property	Operation	Remarks
borderBottomColorIndex	R1	RW
backgroundColorIndex	R1	RW
colorIndex	R1	RW
grayscaleColorIndex	R1	RW
outlineColorIndex	-	
Clut	R1	R
Resolution	R1	R
displayAspectRatio	R1	R
navIndex	R1	R
navUp	R1	R
navDown	R1	R
navLeft	R1	R
navRight	R1	R
usedKeyList	R1	RW

Appendix II
H.762 sample test codes

II.1 Test Sample 0

Test sample 0 code snippet 1

```
<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>
```

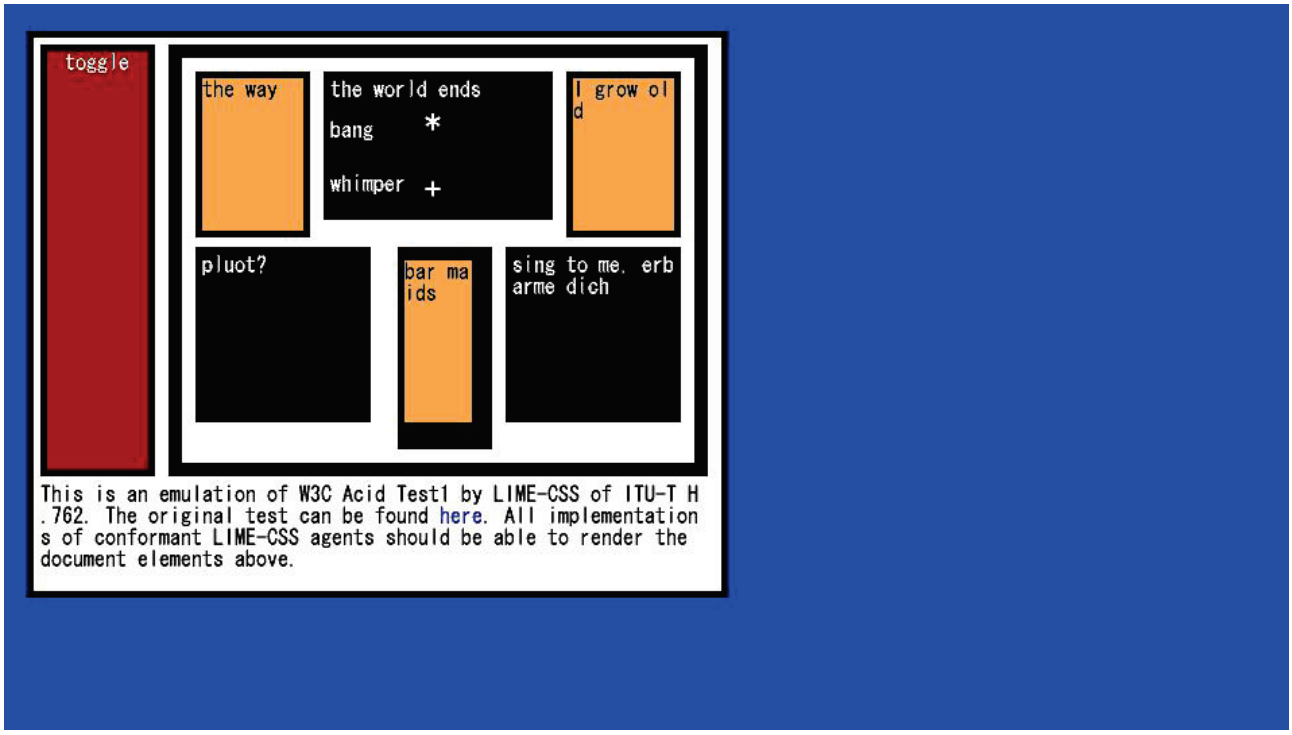


Figure I.1-1: Reference image, test sample 0 code snippet 1

Test sample 0 code snippet 2

```
<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;" />
<p  id="2" style="background-color-index:2;left:100px;top:0px;" />
<p  id="3" style="background-color-index:3;left:150px;top:0px;" />
<p  id="4" style="background-color-index:4;left:200px;top:0px;" />
<p  id="5" style="background-color-index:5;left:250px;top:0px;" />
```

```
<p  id="6" style="background-color-index:6;left:300px;top:0px;" />
<p  id="7" style="background-color-index:7;left:350px;top:0px;" />
<p  id="8" style="background-color-index:8;left:400px;top:0px;" />
<p  id="9" style="background-color-index:9;left:450px;top:0px;" />
<p  id="10" style="background-color-index:10;left:500px;top:0px;" />
<p  id="11" style="background-color-index:11;left:550px;top:0px;" />
<p  id="12" style="background-color-index:12;left:600px;top:0px;" />
<p  id="13" style="background-color-index:13;left:650px;top:0px;" />
<p  id="14" style="background-color-index:14;left:700px;top:0px;" />
<p  id="15" style="background-color-index:15;left:750px;top:0px;" />

<p  id="16" style="background-color-index:16;left:0px;top:50px;" />
<p  id="17" style="background-color-index:17;left:50px;top:50px;" />
<p  id="18" style="background-color-index:18;left:100px;top:50px;" />
<p  id="19" style="background-color-index:19;left:150px;top:50px;" />
<p  id="20" style="background-color-index:20;left:200px;top:50px;" />
<p  id="21" style="background-color-index:21;left:250px;top:50px;" />
<p  id="22" style="background-color-index:22;left:300px;top:50px;" />
<p  id="23" style="background-color-index:23;left:350px;top:50px;" />
<p  id="24" style="background-color-index:24;left:400px;top:50px;" />
<p  id="25" style="background-color-index:25;left:450px;top:50px;" />
<p  id="26" style="background-color-index:26;left:500px;top:50px;" />
<p  id="27" style="background-color-index:27;left:550px;top:50px;" />
<p  id="28" style="background-color-index:28;left:600px;top:50px;" />
<p  id="29" style="background-color-index:29;left:650px;top:50px;" />
<p  id="30" style="background-color-index:30;left:700px;top:50px;" />
<p  id="31" style="background-color-index:31;left:750px;top:50px;" />

<p  id="32" style="background-color-index:32;left:0px;top:100px;" />
<p  id="33" style="background-color-index:33;left:50px;top:100px;" />
<p  id="34" style="background-color-index:34;left:100px;top:100px;" />
<p  id="35" style="background-color-index:35;left:150px;top:100px;" />
<p  id="36" style="background-color-index:36;left:200px;top:100px;" />
<p  id="37" style="background-color-index:37;left:250px;top:100px;" />
<p  id="38" style="background-color-index:38;left:300px;top:100px;" />
<p  id="39" style="background-color-index:39;left:350px;top:100px;" />
<p  id="40" style="background-color-index:40;left:400px;top:100px;" />
<p  id="41" style="background-color-index:41;left:450px;top:100px;" />
<p  id="42" style="background-color-index:42;left:500px;top:100px;" />
<p  id="43" style="background-color-index:43;left:550px;top:100px;" />
<p  id="44" style="background-color-index:44;left:600px;top:100px;" />
<p  id="45" style="background-color-index:45;left:650px;top:100px;" />
<p  id="46" style="background-color-index:46;left:700px;top:100px;" />
<p  id="47" style="background-color-index:47;left:750px;top:100px;" />

<p  id="48" style="background-color-index:48;left:0px;top:150px;" />
<p  id="49" style="background-color-index:49;left:50px;top:150px;" />
<p  id="50" style="background-color-index:50;left:100px;top:150px;" />
<p  id="51" style="background-color-index:51;left:150px;top:150px;" />
<p  id="52" style="background-color-index:52;left:200px;top:150px;" />
<p  id="53" style="background-color-index:53;left:250px;top:150px;" />
<p  id="54" style="background-color-index:54;left:300px;top:150px;" />
<p  id="55" style="background-color-index:55;left:350px;top:150px;" />
<p  id="56" style="background-color-index:56;left:400px;top:150px;" />
<p  id="57" style="background-color-index:57;left:450px;top:150px;" />
<p  id="58" style="background-color-index:58;left:500px;top:150px;" />
<p  id="59" style="background-color-index:59;left:550px;top:150px;" />
<p  id="60" style="background-color-index:60;left:600px;top:150px;" />
<p  id="61" style="background-color-index:61;left:650px;top:150px;" />
<p  id="62" style="background-color-index:62;left:700px;top:150px;" />
<p  id="63" style="background-color-index:63;left:750px;top:150px;" />

<p  id="64" style="background-color-index:64;left:0px;top:200px;" />
<p  id="65" style="background-color-index:65;left:50px;top:200px;" />
```

```
<p  id="66" style="background-color-index:66;left:100px;top:200px;" />
<p  id="67" style="background-color-index:67;left:150px;top:200px;" />
<p  id="68" style="background-color-index:68;left:200px;top:200px;" />
<p  id="69" style="background-color-index:69;left:250px;top:200px;" />
<p  id="70" style="background-color-index:70;left:300px;top:200px;" />
<p  id="71" style="background-color-index:71;left:350px;top:200px;" />
<p  id="72" style="background-color-index:72;left:400px;top:200px;" />
<p  id="73" style="background-color-index:73;left:450px;top:200px;" />
<p  id="74" style="background-color-index:74;left:500px;top:200px;" />
<p  id="75" style="background-color-index:75;left:550px;top:200px;" />
<p  id="76" style="background-color-index:76;left:600px;top:200px;" />
<p  id="77" style="background-color-index:77;left:650px;top:200px;" />
<p  id="78" style="background-color-index:78;left:700px;top:200px;" />
<p  id="79" style="background-color-index:79;left:750px;top:200px;" />

<p  id="80" style="background-color-index:80;left:0px;top:250px;" />
<p  id="81" style="background-color-index:81;left:50px;top:250px;" />
<p  id="82" style="background-color-index:82;left:100px;top:250px;" />
<p  id="83" style="background-color-index:83;left:150px;top:250px;" />
<p  id="84" style="background-color-index:84;left:200px;top:250px;" />
<p  id="85" style="background-color-index:85;left:250px;top:250px;" />
<p  id="86" style="background-color-index:86;left:300px;top:250px;" />
<p  id="87" style="background-color-index:87;left:350px;top:250px;" />
<p  id="88" style="background-color-index:88;left:400px;top:250px;" />
<p  id="89" style="background-color-index:89;left:450px;top:250px;" />
<p  id="90" style="background-color-index:90;left:500px;top:250px;" />
<p  id="91" style="background-color-index:91;left:550px;top:250px;" />
<p  id="92" style="background-color-index:92;left:600px;top:250px;" />
<p  id="93" style="background-color-index:93;left:650px;top:250px;" />
<p  id="94" style="background-color-index:94;left:700px;top:250px;" />
<p  id="95" style="background-color-index:95;left:750px;top:250px;" />

<p  id="96" style="background-color-index:96;left:0px;top:300px;" />
<p  id="97" style="background-color-index:97;left:50px;top:300px;" />
<p  id="98" style="background-color-index:98;left:100px;top:300px;" />
<p  id="99" style="background-color-index:99;left:150px;top:300px;" />
<p  id="100" style="background-color-index:100;left:200px;top:300px;" />
<p  id="101" style="background-color-index:101;left:250px;top:300px;" />
<p  id="102" style="background-color-index:102;left:300px;top:300px;" />
<p  id="103" style="background-color-index:103;left:350px;top:300px;" />
<p  id="104" style="background-color-index:104;left:400px;top:300px;" />
<p  id="105" style="background-color-index:105;left:450px;top:300px;" />
<p  id="106" style="background-color-index:106;left:500px;top:300px;" />
<p  id="107" style="background-color-index:107;left:550px;top:300px;" />
<p  id="108" style="background-color-index:108;left:600px;top:300px;" />
<p  id="109" style="background-color-index:109;left:650px;top:300px;" />
<p  id="110" style="background-color-index:110;left:700px;top:300px;" />
<p  id="111" style="background-color-index:111;left:750px;top:300px;" />

<p  id="112" style="background-color-index:112;left:0px;top:350px;" />
<p  id="113" style="background-color-index:113;left:50px;top:350px;" />
<p  id="114" style="background-color-index:114;left:100px;top:350px;" />
<p  id="115" style="background-color-index:115;left:150px;top:350px;" />
<p  id="116" style="background-color-index:116;left:200px;top:350px;" />
<p  id="117" style="background-color-index:117;left:250px;top:350px;" />
<p  id="118" style="background-color-index:118;left:300px;top:350px;" />
<p  id="119" style="background-color-index:119;left:350px;top:350px;" />
<p  id="120" style="background-color-index:120;left:400px;top:350px;" />
<p  id="121" style="background-color-index:121;left:450px;top:350px;" />
<p  id="122" style="background-color-index:122;left:500px;top:350px;" />
<p  id="123" style="background-color-index:123;left:550px;top:350px;" />
<p  id="124" style="background-color-index:124;left:600px;top:350px;" />
<p  id="125" style="background-color-index:125;left:650px;top:350px;" />
<p  id="126" style="background-color-index:126;left:700px;top:350px;" />
```

```
<p  id="127" style="background-color-index:127;left:750px;top:350px;" />
</div>

</body>
</bml>
```

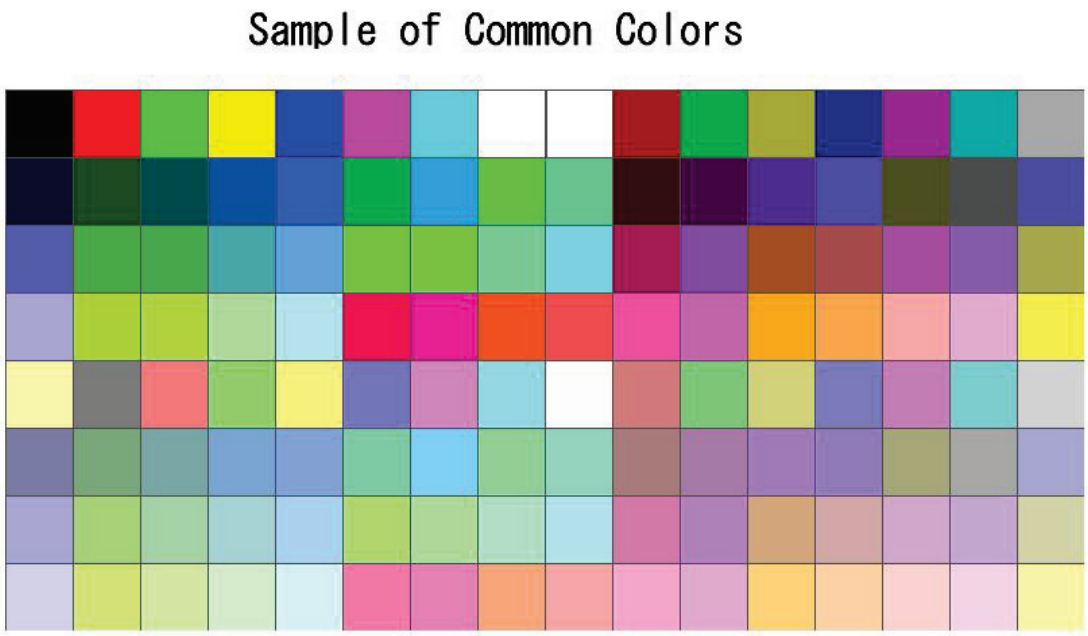


Figure I.1-2: Reference image, test sample 0 code snippet 2

II.2 Test Sample 1

Test sample 1 code snippet 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>
```

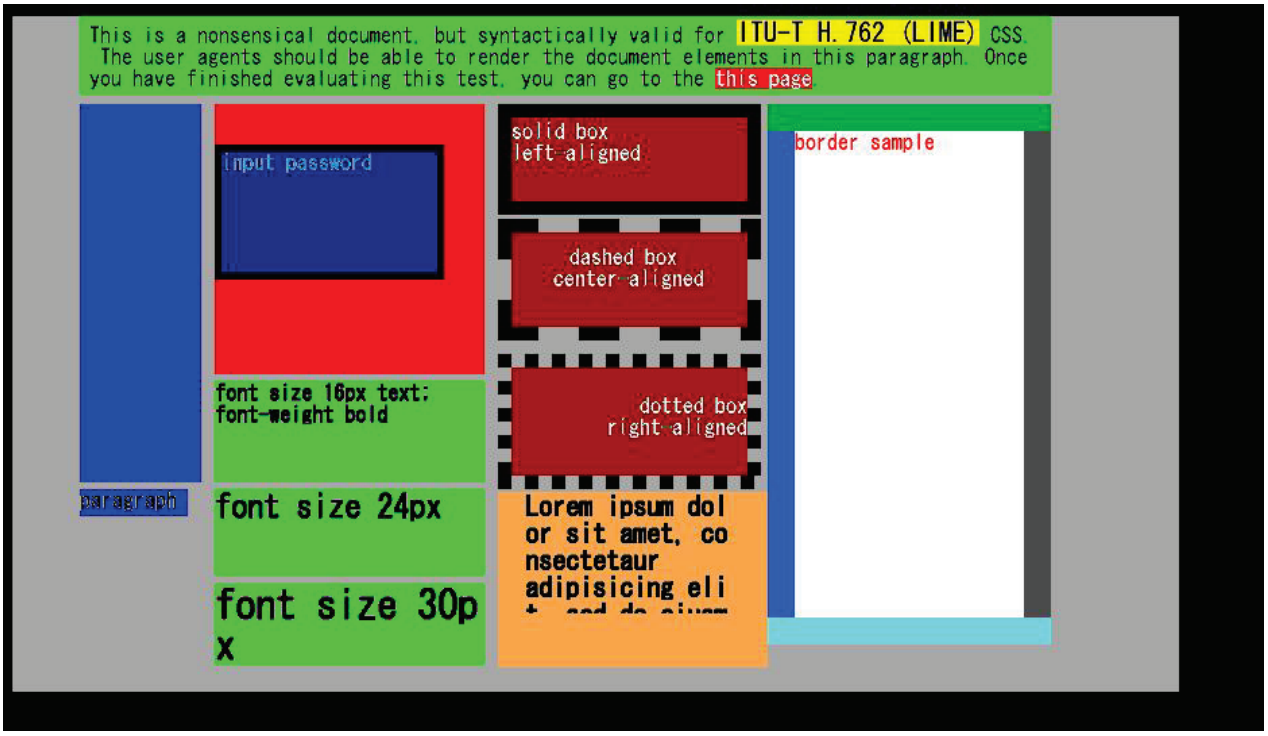


Figure I.2-1: Reference image, test sample 1 code snippet 1

Test sample 1 code snippet 2

```
<bml>
<head>
<title></title>
</head>

<body>

<p style="top:100px;left:100px;width:260px;height:72px;color-index:7;">Hello,
<a href="world.html">world!!!</a></p>

</body>
</bml>
```

Figure I.2-2: Reference image, test sample 1 code snippet 2

Test sample 1 code snippet 3

```
<bml>
<head>
<title></title>
</head>

<body>
<p style="top:100px;left:100px;width:260px;height:72px;color-index:7;">Hello,
<a href="world.html" style="color-index:4">world!!!</a></p>
</body>
</bml>
```

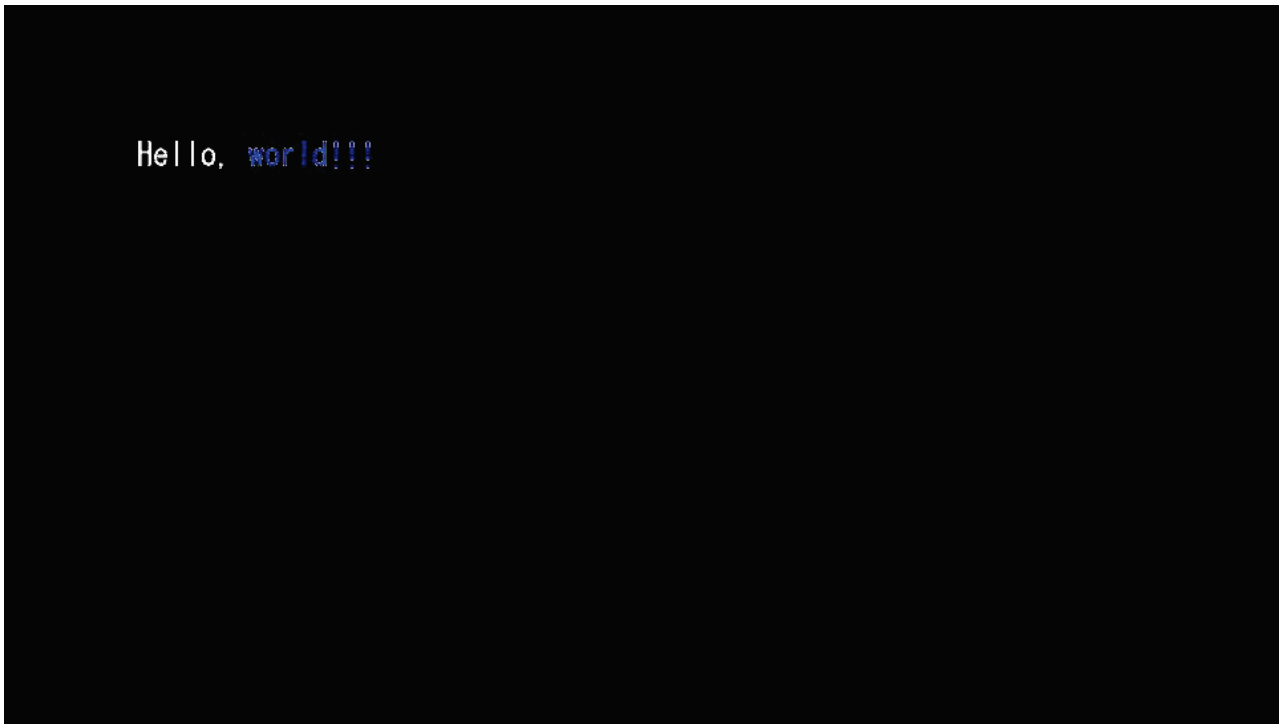


Figure I.2-3: Reference image, test sample 1 code snippet 3

Test sample 1 code snippet 4

```
<bml>
<head>
<title></title>
</head>

<body>
Hello, World!!! This should not be shown. Background color is black.
</body>
</bml>
```

Figure I.2-4: Reference image, test sample 1 code snippet 4

Test sample 1 code snippet 5

```
<bml>
<head>
<title></title>
</head>

<body>
This should not be shown.
</body>
</bml>
```

Figure I.2-5: Reference image, test sample 1 code snippet 5

Test sample 1 code snippet 6

```
<bml>
<head>
<title></title>
</head>

<body style="background-color-index:7;">
Hello, World!!! This should not be shown. The background color is white.
</body>
</bml>
```


Figure I.2-6: Reference image, test sample 1 code snippet 6

Test sample 1 code snippet 7

```
<bml>
<head>
<title></title>
</head>

<body>
<p style="top:100px;left:100px;width:560px;height:72px;color-index:7;">
Hello, world!!!<br/>This should appear in another line.
</p>
</body>
</bml>
```

Figure I.2-7: Reference image, test sample 1 code snippet 7

Test sample 1 code snippet 8

```
<bml>
<head>
<title>DIV element test 0</title>
</head>
<body>
<div style="left:50px;top:50px;width:500px;height:100px;background-color-
index:3;">
This is a div element. This should be in black.
</div>

</body>
</bml>
```

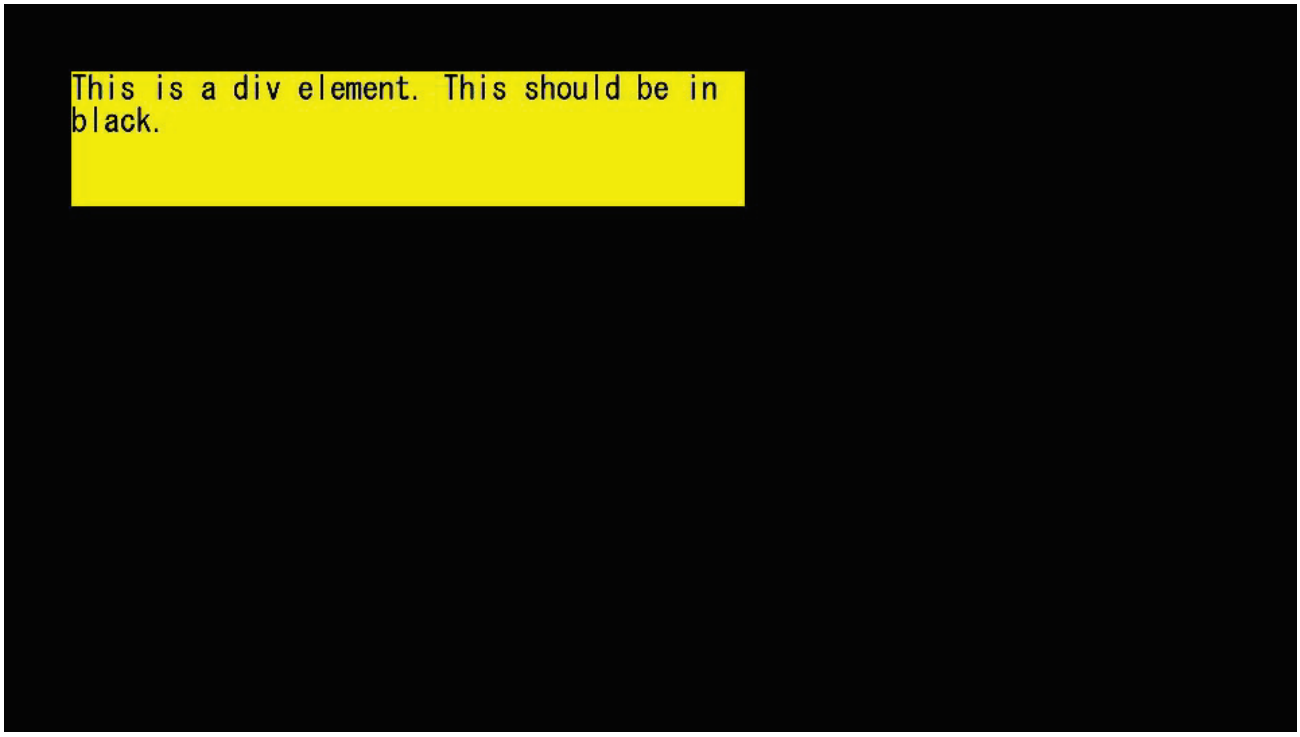


Figure I.2-8: Reference image, test sample 1 code snippet 8

Test sample 1 code snippet 9

```
<bml>
<head>
<title>DIV element test</title>
</head>
<body style="background-color-index:7;">
<div style="left:50px;top:50px;width:500px;height:200px;background-color-
index:3;color-index:7;">
This is a div element. This should be in black.In div, color-index cannot be
assigned.
     <p style="left:25px;top:100px;width:450px;height:72px;text-
align:center;color-index:4;background-color-index:2;">
  but  p element should be used. <br/>This should be in blue.</p>
</div>
</body>
</bml>
```

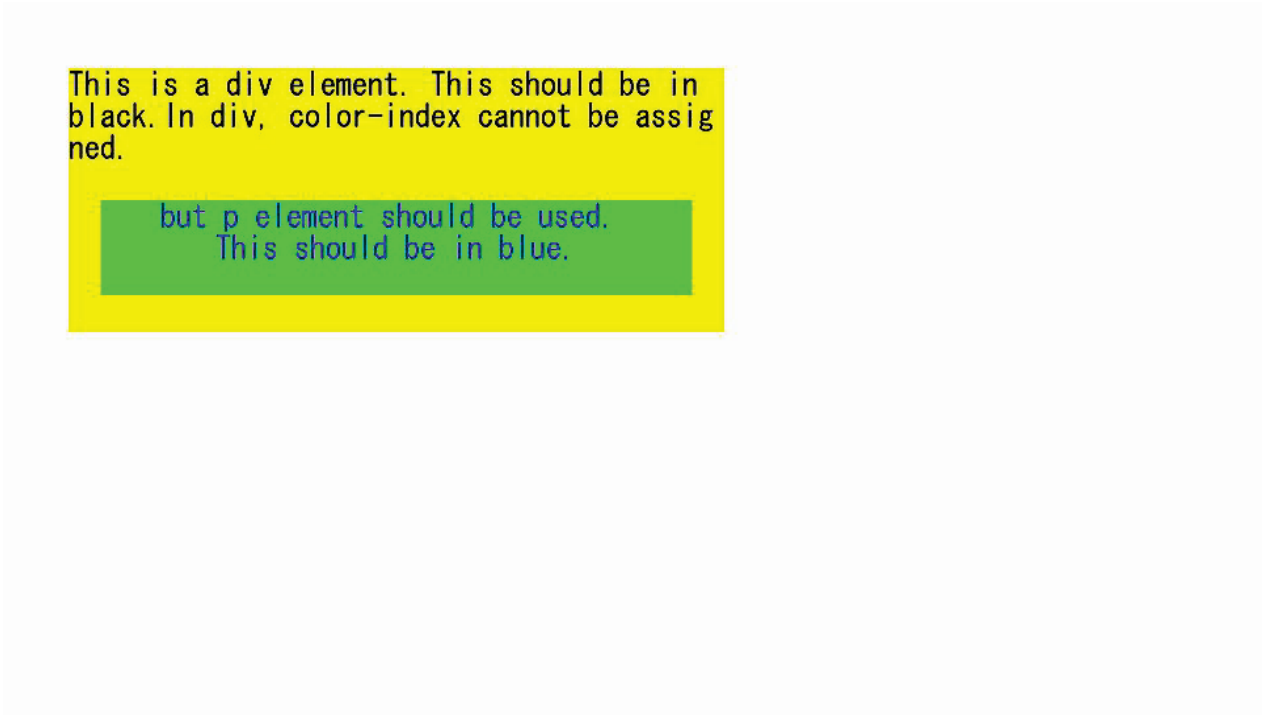


Figure I.2-9: Reference image, test sample 1 code snippet 9

Test sample 1 code snippet 10

```
<bml>
<head>
<title>Structural Elements</title>
</head>
<body>
This should not be shown.
</body>
</bml>
```

Figure I.2-10: Reference image, test sample 1 code snippet 10

Test sample 1 code snippet 11

```
<bml>
<head>
<title></title>
<style><![CDATA[
     p {width:60px;height:20px;}
     input {top:30px;width:450px;height:25px;text-align:center;background-
color-index:2;
          border-style:solid;border-width:2px;}
:focus {background-color-index:3;}
:blur {background-color-index:0;}
]]></style>
</head>
<body>
<div style="left:50px;top:50px;width:500px;height:100px;background-color-
index:7;">
     <p style="left:10px;top:0px;"></p>
     <input value="This is input" maxlength="40" style="left:20px;nav-index:0;"
/>
</div>

</body>
</bml>
```

(a) Initial state (b) State after focusing

Figure I.2-11: Reference image, test sample 1 code snippet 11

Test sample 1 code snippet 12

```
<bml>
<head>
<title></title>
<style><![CDATA[
     body {used-key-list:numeric-tuning}
     input {top:30px;width:450px;height:25px;text-align:center;background-
color-index:2;
          border-style:solid;border-width:2px;}
:focus {background-color-index:3;}
:blur {background-color-index:0;}
]]></style>
</head>
<body>
<div style="left:50px;top:50px;width:500px;height:100px;background-color-
index:7;">
     <input value="input value can be numbers" maxlength="40"
style="left:20px;nav-index:0;"/>
</div>

</body>
</bml>
```

(a) Initial state (b) State after numeric entry

Figure I.2-12: Reference image, test sample 1 code snippet 12

Test sample 1 code snippet 13

```
<bml>
<head>
<title>Link to an external CSS</title>
<link href="a.css"/>
</head>
<body>
<p> This should appear in green.</p>
</body>
</bml>
```

Contents of referred to **a.css** file:

```
    body {background-color-index:7;}
    p {top:30px;width:450px;height:25px;color-index:2;}
```

Figure I.2-13: Reference image, test sample 1 code snippet 13

Test sample 1 code snippet 14

```
<bml>
<head>
<title></title>
<style><![CDATA[
body {background-color-index:15;}
p    {font-size:24px;width:260px;height:72px;}
]]></style>
</head>
<body>

<p style="top:100px;left:100px;background-color-index:7;">Hello <br/>world</p>

<p  style="left:100px;top:200px;background-color-index:2;"><![CDATA[Hello
<br/>world ]]></p>

<p  style="left:400px;top:300px;background-color-index:3;">

<![CDATA[
Hello
       world
]]></p>

</body>
</bml>
```

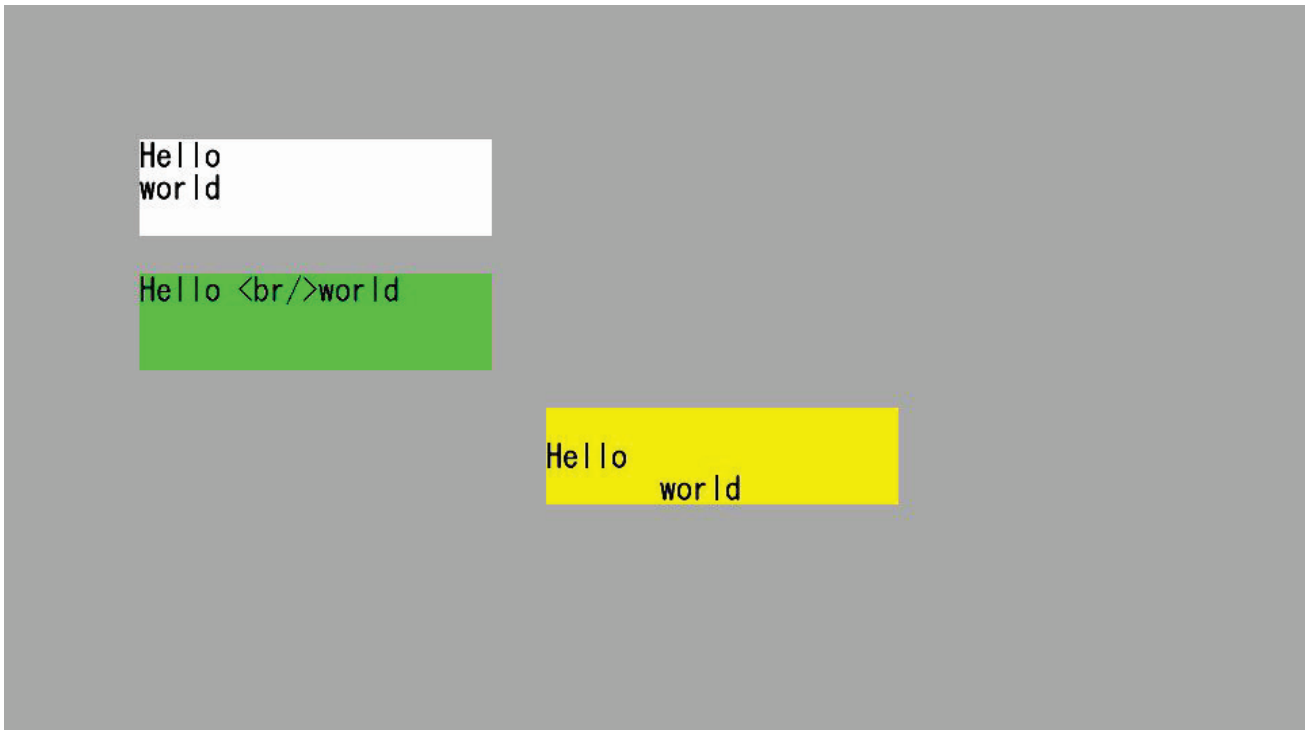


Figure I.2-14: Reference image, test sample 1 code snippet 14

Test sample 1 code snippet 15

```
<bml>
<head>
<title></title>
</head>

<body>

<p style="top:100px;left:100px;width:260px;height:72px;color-index:7;">Hello,
world!!!</p>

</body>
</bml>
```

Figure I.2-15: Reference image, test sample 1 code snippet 15

Test sample 1 code snippet 16

```
<bml>
<head>
<title></title>
</head>

<body>

<p style="top:100px;left:100px;width:560px;height:72px;color-index:7;">Hello,
world!!!<span style="font-weight:bold">This should appear in bold.</span></p>

</body>
</bml>
```

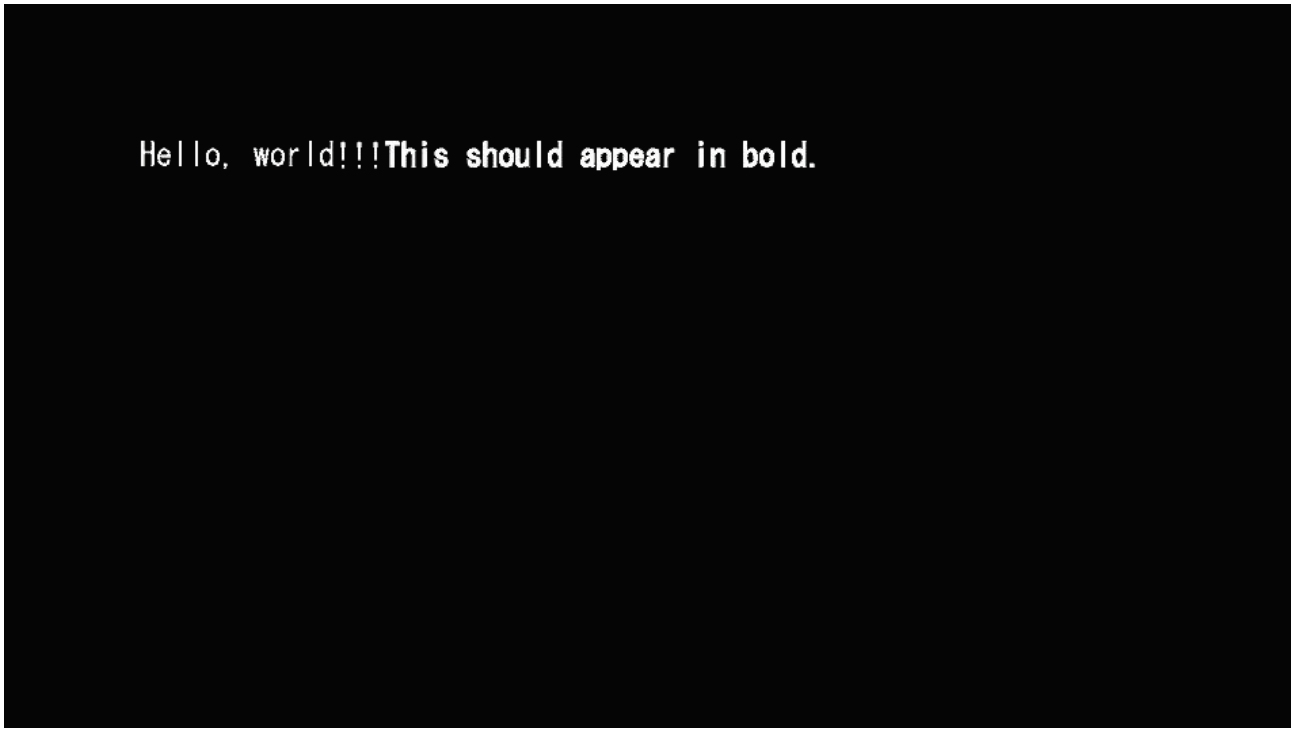


Figure I.2-16: Reference image, test sample 1 code snippet 16

Test sample 1 code snippet 17

```
<bml>
<head>
<title></title>
</head>

<body>

<p style="top:100px;left:100px;width:260px;height:72px;color-index:7;">Hello,
<span>world!!!</span></p>

</body>
</bml>
```

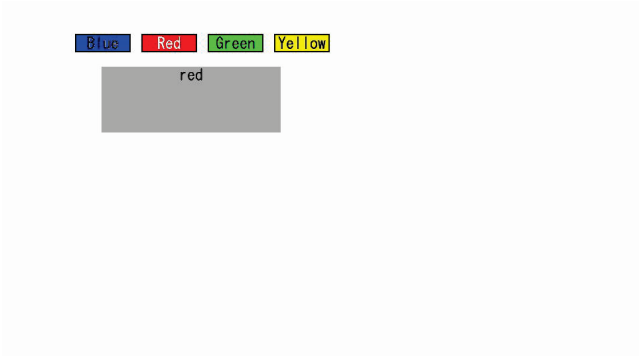
Figure I.2-17: Reference image, test sample 1 code snippet 17

Test sample 1 code snippet 18

```
<bml>
<head>
<title>Access Key Test </title>
<style><![CDATA[
     .button   {top:50px;height:24px;width:80px;text-align:center;
          border-style:solid;border-width:2px;}
     :focus    {color-index:7;}
     :blur     {color-index:0}
     #display  {text-align:center;background-color-index:15;color-index:0;
                    width:270px;height:100px;}
]]></style>

<script><![CDATA[
     function getAccessKey( ){
          document.getElementById("display").firstChild.data=
document.currentEvent.target.id;
}]]></script>

</head>
<body style="background-color-index:7;">
     <p id="status">Push color button</p>
     <p id="blue" class="button" style="left:110px; background-color-index:4;"
          onfocus="getAccessKey( );" accesskey="B">Blue</p>
     <p id="red" class="button" style="left:210px;background-color-index:1;"
          onfocus="getAccessKey( );" accesskey="R">Red</p>
     <p id="green" class="button" style="left:310px;background-color-index:2;"
          onclick="getAccessKey( );" accesskey="G">Green</p>
     <p id="yellow" class="button" style="left:410px;background-color-index:3;"
          onclick="getAccessKey( );" accesskey="Y">Yellow</p>

     <p id="display" style="top:100px;left:150px"><![CDATA[]]></p>
</body>
</bml>
```

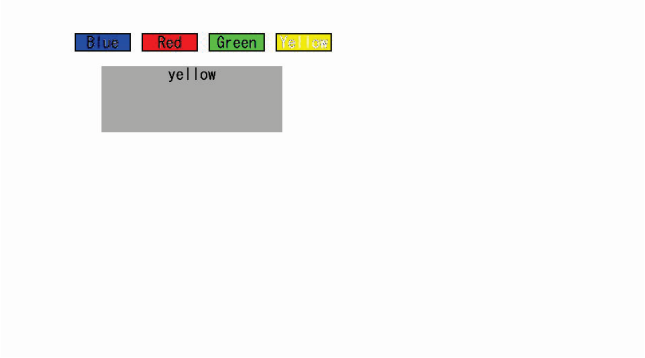
(a) Initial state

(b) State after "Blue" selected



(c) State after "Red" selected

(d) State after "Green" selected



(e) State after "Yellow" selected

Figure I.2-18: Reference image, test sample 1 code snippet 18

Test sample 1 code snippet 19

```
<bml>
<head>
<title>Object element test 1:JPEG</title>
<style><![CDATA[

]]></style>
<script><![CDATA[

document.getElementById("graphics").data="ITU-Logo.JPG";

]]></script>
</head>
<body style="background-color-index:3;">

<div style="left:50px;top:50px;width:800px;height:400px;background-color-
index:7">
<object id="graphics" data=""  type="image/jpeg"
style="width:189px;height:77px;left:20px;top:10px;"/>
</div>

</body>
</bml>
```

Figure I.2-19: Reference image, test sample 1 code snippet 19

Test sample 1 code snippet 20

```
<bml>
<head>
<title>DOM test 1:P element</title>
<style><![CDATA[
p    {font-size:24px;top:200px;left:10px;width:960px;height:72px;}
]]></style>
<script><![CDATA[

document.getElementById("paragraph").firstChild.data="Accessing the first child
node of 'p' element\n by its ID through LIME-DOM interface";

]]></script>
</head>
<body style="background-color-index:7">

<p id="paragraph"> <![CDATA[ This text should not be shown. ]]></p>
</body>
</bml>
```

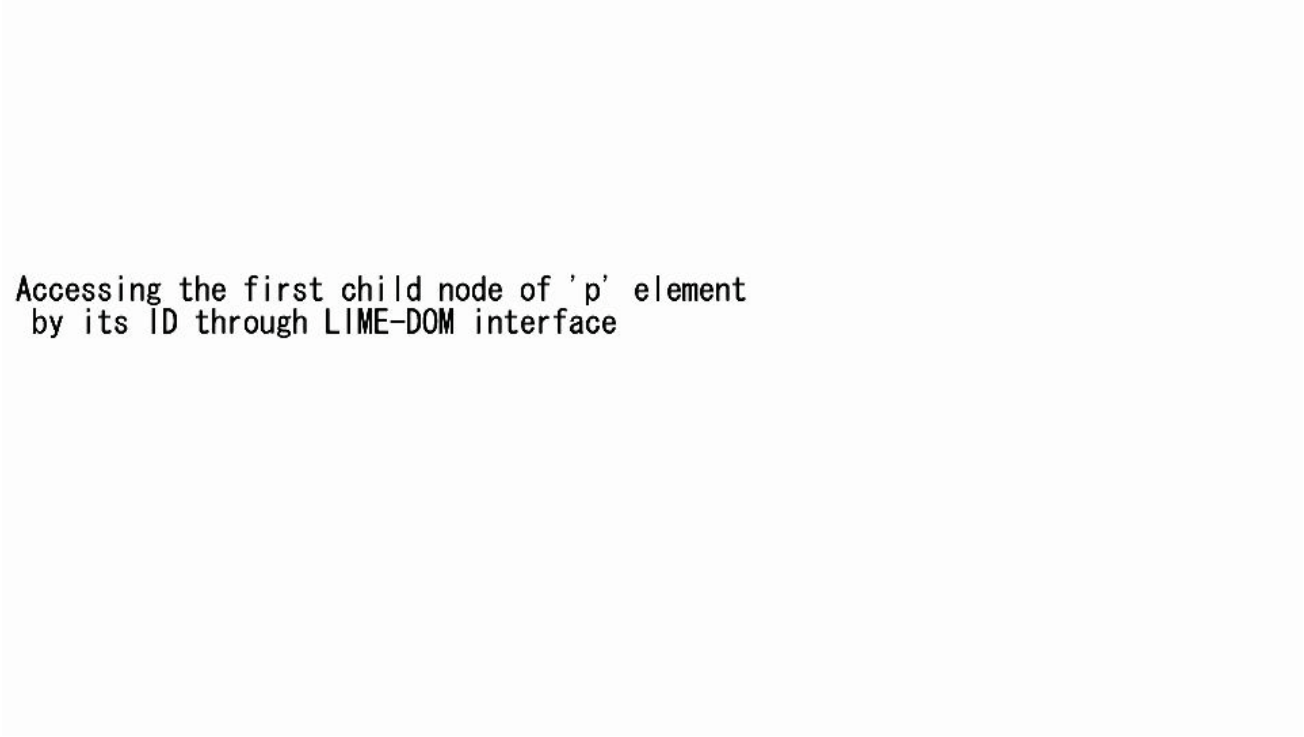


Figure I.2-20: Reference image, test sample 1 code snippet 20

Test sample 1 code snippet 21

```
<bml>
<head>
<title>DOM test 1:JPEG</title>
</head>
<body style="background-color-index:7">
<div style="left:0px;top:0px;width:960px;height:500px">
<object data="lime-large.JPG" type="image/jpeg"
style="width:369px;height:252px;left:300px;top:150px;"/>
<object data="ITU-Logo.JPG"  type="image/jpeg"
style="width:189px;height:77px;left:20px;top:10px;"/>
</div>
</body>
</bml>
```

Figure I.2-21: Reference image, test sample 1 code snippet 21

Test sample 1 code snippet 22

```
<bml>
<head>
<title>Media Test 0: (VOD)</title>
<style><![CDATA[
  body {
    background-color-index:7;
    resolution:960x540;
    display-aspect-ratio:16v9;
  }
  p.title {
    font-size:20px;
    color-index:15;
    grayscale-color-index:171 167;
    text-align:center;
  }
.button
{
     width:240px;
     height:271px;
}
#buttons
{
     left:0px;
     top:0px;
     width:960px;
     height:540px;
}

]]></style>
</head>
<body id="body">

<div id="basePane"
style="top:0px;width:960px;height:540px;visibility:visible;">

     <div style="left:100px;top:18px;width:760px;height:20px;">
          <p id="txt_title" class="title" style="width:760px;height:20px;color-
index:0;"><![CDATA[Multimedia (Video) test 0]]></p>
     </div>
     <div style="top:100px;left:54px;width:720px;height:405px">
          <object id="vod" type="application/X-arib-contentPlayControl"
data="http://oki.iptvf.jp:12345/pgw/resolvecontent?contract_id=0000000000&cid=
01fhcx0001&drmid=0000000000000aaa&purchase_id=0000000000&promo=on&crypt=no"
streamstatus="play"
style="top:0px;left:0px;width:720px;height:405px;visibility:visible;" />
     </div>
</div>
<div style="left:10px;top:0px; width:960px; height:540px">
<object data="ITU-Logo.JPG" type="image/jpeg"
style="width:189px;height:77px;left:0px;top:10px;"/>
<object data="small-lime.JPG"  type="image/jpeg"
style="width:189px;height:77px;left:100px;top:360px;"/>
</div>
     <div id="buttons">

               <object id="tv_left_bu" class="button"
                    style="left:29px;top:248px;width:252px;height:103px;"
                    type="image/X-arib-png"
                    data="arrow_up.png"
               />
               <object id="bd" class="button"
                    style="left:29px;top:298px;width:252px;height:103px;"
```

```
                    type="image/X-arib-png"
                    data="arrow_down.png"
               />
               <object id="br" class="button"
                    style="left:85px;top:248px;width:252px;height:103px;"
                    type="image/X-arib-png"
                    data="arrow_right.png"
               />

          </div>


<div style="left:50px;top:280px;width:760px;height:20px;">
          <p id="" class="title" style="width:760px;height:120px;color-
index:7;"><![CDATA[This text in white should appear on the video]]></p>
</div>
</body>
</bml>
```

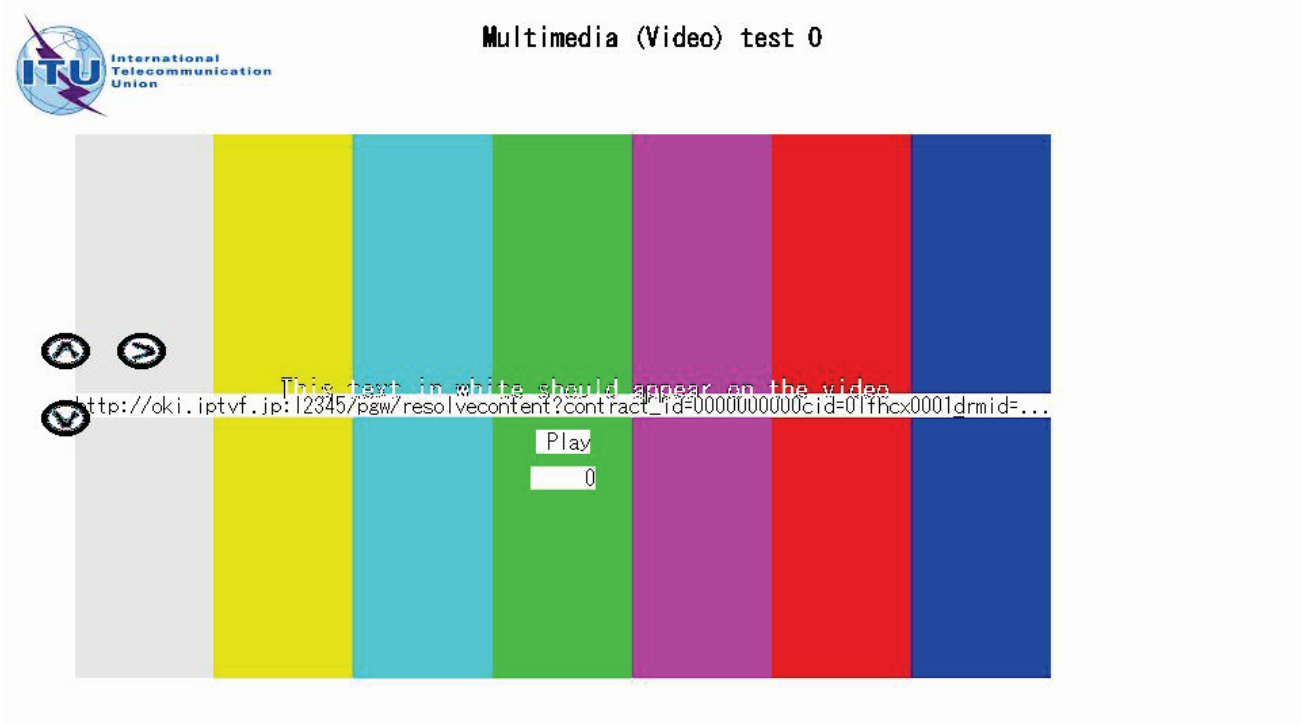


Figure I.2-22: Reference image, test sample 1 code snippet 22

Test sample 1 code snippet 23

```
<bml>
<head>
<title>Media Test 1:  full-display (VOD)</title>
<style><![CDATA[
  body {
    background-color-index:7;
    resolution:960x540;
    display-aspect-ratio:16v9;
  }
  p.title {
    font-size:20px;
    color-index:15;
    grayscale-color-index:171 167;
    text-align:center;
  }
.button
{
     width:240px;
     height:271px;
}
#buttons
{
     left:0px;
     top:0px;
     width:960px;
     height:540px;
}

]]></style>
</head>
<body id="body">

<div id="basePane"
style="top:0px;width:960px;height:540px;visibility:visible;">

     <div style="left:100px;top:18px;width:760px;height:20px;">
          <p id="txt_title"
               class="title"
               style="width:760px;height:20px;color-index:0;">
               <![CDATA[Multimedia (Video) test 1 -Full Display]]>
          </p>
     </div>
     <div style="top:0px;left:0px;width:960px;height:540px">
          <object id="vod" type="application/X-arib-contentPlayControl"
     data="http://oki.iptvf.jp:12345/pgw/resolvecontent?contract_id=0000000000&
cid=01fhcx0001&drmid=0000000000000aaa&purchase_id=0000000000&promo=on&crypt=no"
streamstatus="play"
style="top:0px;left:0px;width:960px;height:540px;visibility:visible;" />
     </div>
</div>
<div style="left:10px;top:0px; width:960px; height:540px">
<object data="ITU-Logo.JPG" type="image/jpeg"
style="width:189px;height:77px;left:0px;top:10px;"/>
<object data="small-lime.JPG"  type="image/jpeg"
style="width:70px;height:74px;left:100px;top:360px;"/>
</div>
     <div id="buttons">

               <object id="tv_left_bu" class="button"
                    style="left:29px;top:248px;width:36px;height:27px;"
                    type="image/X-arib-png"
                    data="arrow_up.png"
```

```
                />
                <object id="bd" class="button"
                     style="left:29px;top:298px;width:36px;height:27px;"
                     type="image/X-arib-png"
                     data="arrow_down.png"
                />
                <object id="br" class="button"
                     style="left:85px;top:248px;width:252px;height:103px;"
                     type="image/X-arib-png"
                     data="arrow_right.png"
                />

          </div>


<div style="left:50px;top:180px;width:760px;height:20px;">
          <p id="" class="title"
               style="width:760px;height:120px;color-index:7;">
               <![CDATA[Video test: Full Display. This text in white should
appear on the video]]>
          </p>
     </div>
</body>
</bml>
```

Figure I.2-23: Reference image, test sample 1 code snippet 23

Test sample 1 code snippet 24

```
<bml>
<head>
<title></title>
<style><![CDATA[
     p {top:150px;
        width:70px;
        height:25px;
        color-index:7;
           text-align:center
     }
     p:focus {color-index:0;}
]]></style>

</head>
<body>
     <p style="left: 50px;background-color-index:4;" accesskey="B">BLUE</p>
     <p style="left:150px;background-color-index:1;" accesskey="R">RED</p>
     <p style="left:250px;background-color-index:2;" accesskey="G">GREEN</p>
     <p style="left:350px;background-color-index:3;" accesskey="Y">YELLOW</p>
</body>
</bml>
```

(a) Initial state

(b) State after "BLUE" selected

(c) State after "RED" selected

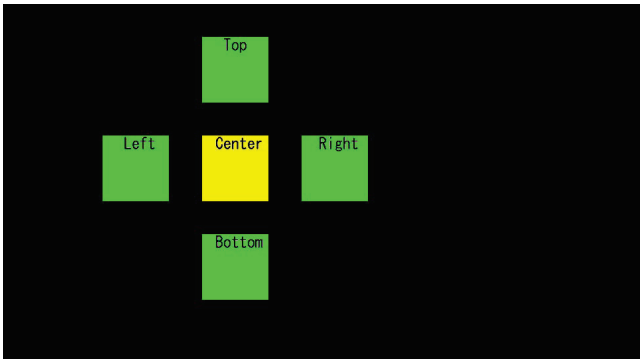
(d) State after "GREEN" selected

(e) State after "YELLOW" selected

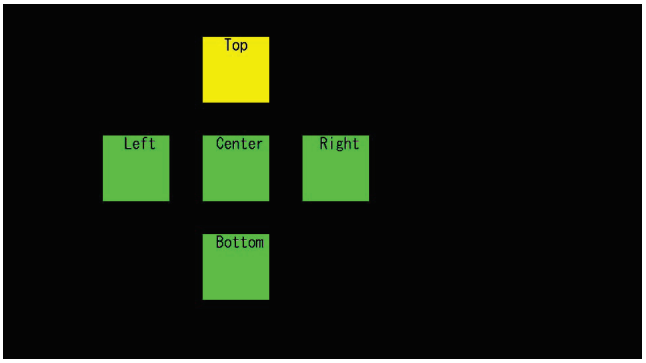
Figure I.2-24: Reference image, test sample 1 code snippet 24

Test sample 1 code snippet 25

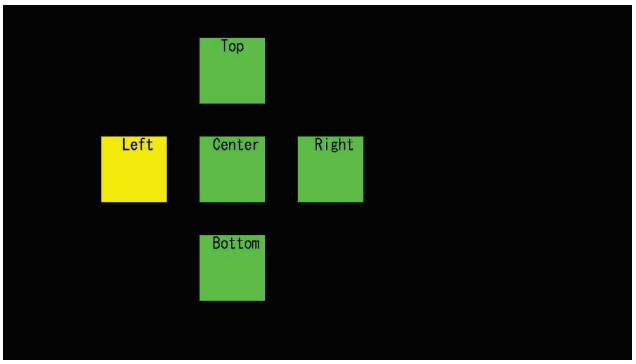
```
<bml>
<head>
<title></title>
<style><![CDATA[
p    {width:100px;height:100px;text-align:center;background-color-index:2;}
p:focus   {background-color-index:3;}

]]></style>
<script><![CDATA[
     function func( ){}
]]></script>
</head>
<body>

<p  style="left:300px;top:200px;nav-index:0;nav-up:1;nav-down:3;nav-
right:2;nav-left:4;"><![CDATA[ Center]]></p>
<p  style="left:300px;top:50px;nav-index:1;nav-up:1;nav-down:0;nav-right:2;nav-
left:4;"><![CDATA[ Top ]]></p>
<p  style="left:450px;top:200px;nav-index:2;nav-up:1;nav-down:3;nav-
right:2;nav-left:0;"><![CDATA[ Right]]></p>
<p  style="left:300px;top:350px;nav-index:3;nav-up:0;nav-down:3;nav-
right:2;nav-left:4;"><![CDATA[ Bottom]]></p>
<p  style="left:150px;top:200px;nav-index:4;nav-up:1;nav-down:3;nav-
right:0;nav-left:4;"><![CDATA[ Left]]></p>

</body>
</bml>
```



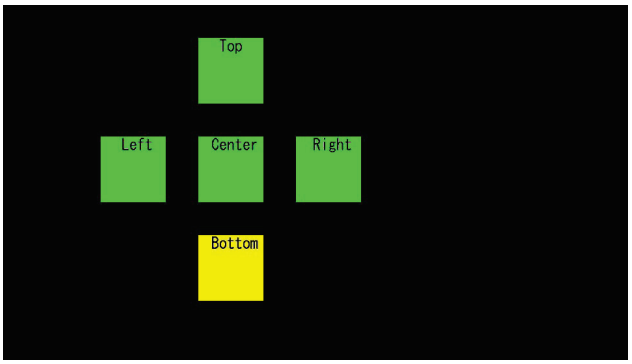
(a) Initial state



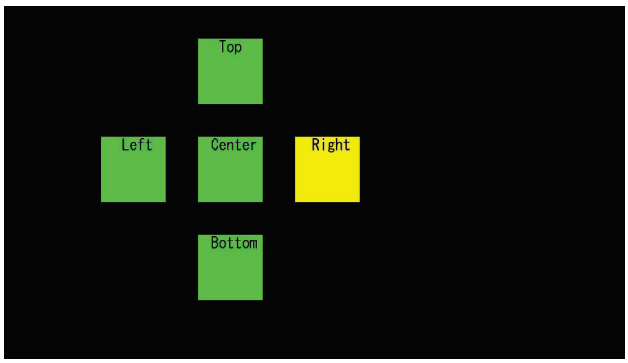
(b) State after *Up* key selected



(c) State after *Left* key selected



(d) State after *Down* key selected

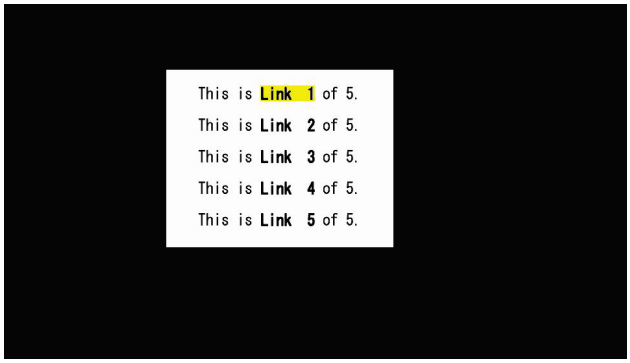


(e) State after *Right* key selected

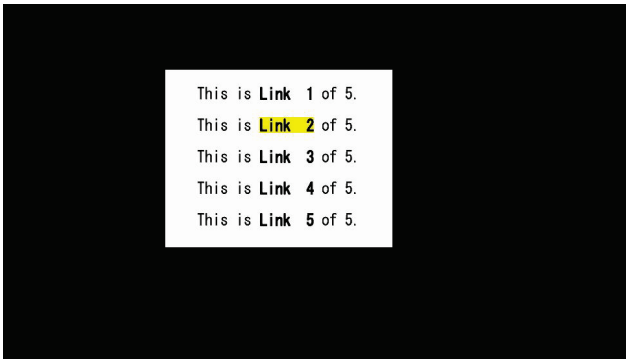
Figure I.2-25: Reference image, test sample 1 code snippet 25

Test sample 1 code snippet 26

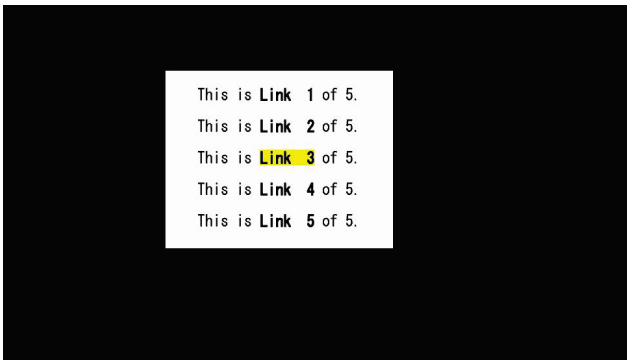
```
<bml>
<head>
<title></title>
<style><![CDATA[
p    {text-align:center;}
a    {font-weight:bold;}
a:focus   {background-color-index:3;}
a:blur    {background-color-index:7;}
a:active{color-index:1;}
]]></style>
</head>
<body>
<p style="left:250px;top:100px;width:350px;height:270px;background-color-
index:7;"><br/>
This is
<a  style="left:300px;top:200px;nav-index:0;nav-up:0;nav-down:1;"><![CDATA[Link
1]]></a> of 5.<br/><br/>
This is
<a  style="left:300px;top:250px;nav-index:1;nav-up:0;nav-down:2;"><![CDATA[Link
2]]></a> of 5.<br/><br/>
This is
<a  style="left:300px;top:300px;nav-index:2;nav-up:1;nav-down:3;"><![CDATA[Link
3]]></a> of 5.<br/><br/>
This is
<a  style="left:300px;top:350px;nav-index:3;nav-up:2;nav-down:4;"><![CDATA[Link
4]]></a> of 5.<br/><br/>
This is
<a  style="left:300px;top:400px;nav-index:4;nav-up:3;nav-down:4;"><![CDATA[Link
5]]></a> of 5.<br/><br/>
</p>
</body>
</bml>
```



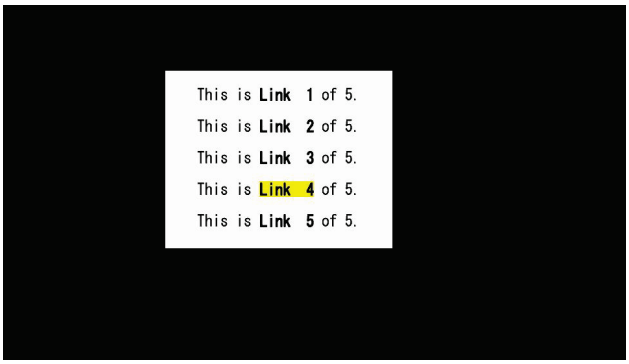
(a) Initial state



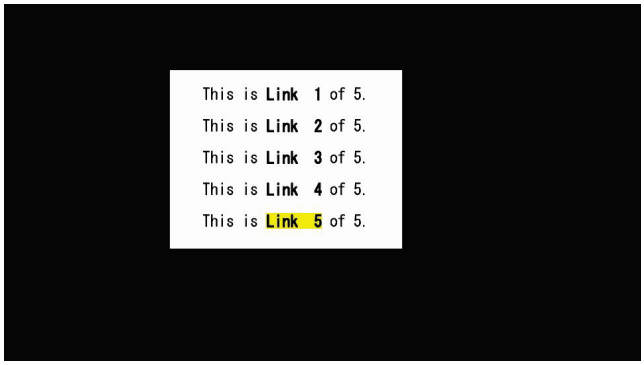
(b) State after *Down* key pressed once



(c) State after *Down* key pressed twice



(d) State after *Down* key pressed thrice



(e) State after *Down* key pressed four times

Figure I.2-26: Reference image, test sample 1 code snippet 26

Test sample 1 code snippet 27

```
<bml>
<head>
<title>Object element test 0</title>
</head>
<body>
<div style="left:0px;top:0px;width:960px;height:540px">

<object style="left:50px;top:50px;width:500px;height:100px;background-color-
index:3;">
This is an object element. This should not be shown.
</object>
</div>

</body>
</bml>
```

Figure I.2-27: Reference image, test sample 1 code snippet 27

Test sample 1 code snippet 28

```
<bml>
<head>
<title>Object element test 1:JPEG</title>
</head>
<body style="background-color-index:7">

<div style="left:0px;top:0px;width:960px;height:500px">
<object data="lime-large.JPG" type="image/jpeg"
style="width:369px;height:252px;left:300px;top:150px;"/>
<object data="ITU-Logo.JPG"  type="image/jpeg"
style="width:189px;height:77px;left:20px;top:10px;"/>
</div>

</body>
</bml>
```

Figure I.2-28: Reference image, test sample 1 code snippet 28

Test sample 1 code snippet 29

```
<bml>
<head>
<title>Object element test 2:PNG</title>
<style><![CDATA[
     body{
          clut:url(default.clt);
          background-color-index:7;
     }
]]></style>

</head>
<body>
<div style="left:0px; top:0px; width:960px; height:540px">
<object type="image/X-arib-png" data="small-lime.png"
style="left:500px;top:0;width:139px;height:147px;"/>
<object type="image/X-arib-png" data="ITU-Logo_small.png"
style="left:29px;top:28px;width:252px;height:103px;"/>
</div>
</body>
</bml>
```

Figure I.2-29: Reference image, test sample 1 code snippet 29