

[Tutorial] LG Web_Displaying Subtitle in Media Player

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LGDEV-047

Home Entertainment Company
LG Electronics, Inc.

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About This Document

Revision History

Document Version	Date	Comment
1.1	February 13, 2012	Section 2.6 is updated.
1.0	October 19, 2011	Initial Version

Purpose

This document describes how to display subtitle during media play using Web open API.

Reference Documents

Refer to the following documents:

- LG Web Application Development Guide
- LG Web Open API Reference Guide

Conventions

Codes

Source code and examples are indicated in the `grey Courier New` font.

Note, Caution

Note and caution are used to emphasize information.
The following samples describe when each is used.

Note

Contains information about something that is helpful to you.

Caution

Contains important information about something that you should know.

Abbreviation

The following table defines the abbreviations used in this document.

Abbreviation	Description
API	Application Programming Interface

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1 Introduction

This chapter provides an overview of this application and needed APIs.

1.1 Overview

1.2 Needed APIs

Note

Sample applications are placed under the SDK installation folder.

- [*SDK Installation Folder*]\LG Smart TV
SDK\WebSamples\WebAPI_Tutorial\WebContent\mediaplayer\app\subtitle.html

1.1 Overview

This application is designed to show how to display subtitle while media file is playing using the Web Open API of Smart TV.

This application shows which property is used to set and control on/off status of subtitle.

LG Smart TV SDK | Web Open API Tutorial

File : /mediaplayer/subtitle/subtitle.html

Web Open API List		
Methods	Properties	Events
play() play(1) stop() seek(time)	subtitle subtitleOn autoStart	

View

Source

Press RED-Key to start test.

object

method

property

event

BACK

EXIT

PLAY

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[Figure 1] Application to Display Subtitle in Media Player

1.2 Needed APIs

This application uses following Web Open API:

[Table 1] Description of the Needed APIs

API Class	Name	Description
Method	play(0)	Pauses media.
	play(1)	Plays media.
	stop()	Stops media.
	seek(time)	Seeks media to specific time.
Property	subtitle	Supports SAMI, CineCanvas ,Timed Text subtitle.
	subtitleOn	Controls subtitle display by true/false.
	autoStart	Set whether media file payout to be started automatically.

For more information on these functions, refer to “LG Web Open API Reference Guide”.

Note

Log is used for checking the sequence of Web Open API; this will not be covered in the sample code description.



2 Creating Application

This chapter describes how to use subtitle using Web open API.

- 2.1 Initializing the Page
- 2.2 Inputting Keys
- 2.3 Displaying Text
- 2.4 Controlling Play Mode and Subtitle
- 2.5 Setting Media Object
- 2.6 Source Code of subtitle.html

2.1 Initializing the Page

Use the **initPage** function to set the basic functions of the application.

- 04: Record the last visited page when running the application.
- 07: Initialize the page.
- 08: Get the source code of the page using the XMLHttpRequest object.
- 09: Set the page ID.
- 10: Initialize the Log function.
- 13-15: Add an event handler which will be executed when the corresponding button is pressed.
- 17: Declare userAgent.
- 18~21: Check if the device uses LG Browser.

Note

For information on userAgent string, refer to “LG Web Application Development Guide”.

Sample Code

```

01 : function initPage()
02 : {
03 :     //save page as last visited page
04 :     setLastVisitPage();
05 :
06 :     //common initialize function
07 :     commonInitialize();
08 :     requestSourceCode();
09 :     setPageID("Subtitle");
10 :     jsLog.initLG();
11 :
12 :     //add onclick event handler
13 :     addEventHandler(document.getElementById("btn_back"), "click", onClickHandler);
14 :     addEventHandler(document.getElementById("btn_red"), "click", onClickHandler);
15 :     addEventHandler(document.getElementById("btn_exit"), "click", onClickHandler);
16 :
17 :     var userAgent = new String(navigator.userAgent);
18 :     if (userAgent != null && userAgent.search(/LG Browser/) > -1)
19 :         isLGEBrowser = true;
20 :     else
21 :         isLGEBrowser = false;
22 : }

```

2.2 Inputting Keys

Use **onUserInput** function is called by **onClickHandler** function; it receives a key value as the **userInput** parameter from **onClickHandler** and creates the corresponding function for each key value to operate the key.

05: When the Back key is pressed, this code is executed.

07: When the Red key is pressed, this code is executed.

Sample Code

```
01 : function onUserInput(userInput)
02 : {
03 :   switch(userInput)
04 :   {
05 :     case VK_BACK : window.location.replace ("../menu_mediaPlayer.html");
06 :       break;
07 :     case VK_RED : case 82 changeTestProgress(); break;
08 :       break;
09 :   }
10 : }
```

2.3 Displaying Text

Use **setTestProgress** function to set the text of subtitle_test_description and btn_red.

Sample Code

```
01 : function setTestProgress( descString, buttonString)
02 : {
03 :   setInnerTextById("subtitle_test_description", descString);
04 :   setInnerTextById("btn_red", buttonString);
05 : }
```

2.4 Controlling Play Mode and Subtitle

The following code controls video play mode and subtitle settings.

The **changeTestProgress** function controls the play mode or on/off the subtitle according to the value of testStep.

- 01: Declare and initialize testStep.
- 05-06: Declare s video and sourcecode.
- 07: Hide sourcecode.
- 09-96: Using switch-case, control the play mode or subtitle settings according to the value of testStep. Also, display the text for each mode. Refer to the comments of each case.
- 97: Reinitialize testStep if the value gets bigger than the setup value.
- 98: Whenever the function is called, the value of testStep is increased by 1.

Sample Code

```

01 : var testStep = 1;
02 :
03 : function changeTestProgress()
04 : {
05 :     var video = document.getElementById("video");
06 :     var sourcecode = document.getElementById("sourcecode");
07 :     sourcecode.style.visibility = "hidden";
08 :
09 :     switch(testStep)
10 :     {
11 :         case 1 :
12 :             //Play video and check whether subtitle is displayed properly
13 :             if(isLGEBrowser)
14 :             {
15 :                 video.play(1);
16 :                 video.subtitle="/ApiTutorial/mediafile/cinecanvas-
timing.1.dcs";
17 :                 video.style.visibility="visible";
18 :                 bodycontent.style.visibility="hidden";
19 :                 subtitle_test_description.style.visibility="visible";
20 :             }
21 :             jsLog.lgobject('application/x-netcast-av');
22 :             jsLog.lgmethod('video.play(1)');
23 :             jsLog.lgproperty('subtitle');
24 :             setTestProgress( "Check whether subtitle is displayed in proper
sync.<br>Compare subtitle with time shown at the bottom.<br>Press RED-Key
to pause.", "PAUSE");
25 :             break;
26 :
27 :         case 2 :
28 :             //Pause video which is being played.
29 :             if(isLGEBrowser){video.play(0);}
30 :             jsLog.lgmethod('video.play(0)');
31 :             setTestProgress( "The video has been paused.<br>Play the
video and then check subtitle.<br>Press RED-Key to play video.", "PLAY");
32 :             break;
33 :
34 :         case 3 :
35 :             //play video and check subtitle
36 :             if(isLGEBrowser){video.play(1);}
37 :             jsLog.lgmethod('video.play(1)');
38 :             setTestProgress( "Check whether subtitle is displayed in proper
sync.<br>Compare subtitle with time shown at the bottom.<br>Press RED-Key
to move to 60 sec position.", "MOVE to 60 sec position");
39 :             break;
40 :
41 :         case 4 :
42 :             //seek video and check subtitle
43 :             if(isLGEBrowser){video.seek(60000);}
44 :             jsLog.lgmethod('video.seek(time)');
45 :             setTestProgress( "The time position has been moved to 60 sec
position.<br>Check whether subtitle is displayed in proper

```

```

sync.<br>Compare subtitle with time shown at the bottom.<br>Press RED-Key
to stop video.", "STOP");
46 :         break;
47 :
48 :         case 5 :
49 :             //Stop video which is being played.
50 :             if(isLGEBrowser){video.stop();}
51 :             jsLog.lgmethod('video.stop()');
52 :             setTestProgress( "The video has been stopped.<br>Restart the video
and then check subtitle.<br>Press RED-Key to restart video.", "RESTART");
53 :             break;
54 :
55 :         case 6 :
56 :             //Restart video and check subtitle
57 :             if(isLGEBrowser){video.play(1);}
58 :             jsLog.lgmethod('video.play(1)');
59 :             setTestProgress( "Check whether subtitle is displayed in proper
sync.<br>Compare subtitle with time shown at the bottom.<br>Press RED-Key
to turn subtitle off.", "SUBTITLE OFF");
60 :             break;
61 :
62 :         case 7 :
63 :             //Turn subtitle off
64 :             if(isLGEBrowser){video.subtitleOn=false;}
65 :             jsLog.lgproperty('subtitleOn');
66 :             setTestProgress( "The subtitle has been turned off.<br>Check that
subtitle is no longer displayed.<br>Press RED-Key to turn subtitle on.",
"SUBTITLE ON");
67 :             break;
68 :
69 :         case 8 :
70 :             //Turn subtitle on
71 :             if(isLGEBrowser){video.subtitleOn=true;}
72 :             jsLog.lgproperty('subtitleOn');
73 :             setTestProgress("The subtitle has been turned on.<br>Check whether
subtitle is displayed in proper sync.<br>Compare subtitle with time shown
at the bottom.<br>Press RED-Key to change subtitle.", "SUBTITLE CHANGE TO
SMI");
74 :             break;
75 :
76 :         case 9 :
77 :             //change subtitle to different type of files :smi
78 :             if(isLGEBrowser)
79 :             {
80 :                 video.subtitle="/ApiTutorial/mediafile/smi-timing.1.smi";
81 :             }
82 :             jsLog.lgproperty('subtitle');
83 :             setTestProgress("The subtitle has been changed.<br>Check that
subtitle of 'SMI file' is displayed in proper sync.<br>Compare subtitle
with time shown at the bottom.", "SUBTITLE CHANGE TO XML");
84 :             break;
85 :
86 :         case 10 :
87 :             //change subtitle to different type of files :xml
88 :             if(isLGEBrowser)
89 :             {
90 :                 video.subtitle="/ApiTutorial/mediafile/danish.xml";
91 :             }
92 :             jsLog.lgproperty('subtitle');
93 :             setTestProgress("The subtitle has been changed.<br>Check that
subtitle of 'XML file' is displayed in proper sync.<br>Compare subtitle
with time shown at the bottom.<br>No more test is left on this page.",
"");
94 :             document.getElementById("btn_red").style.display="none";
95 :             break;
96 :         }
97 :         if(testStep == 10) testStep = 1;
98 :         testStep ++;
99 :     }

```

2.5 Setting Media Object

The following code shows how to set Media object.

- 03: Set data type. Refer to “LG Web Application Development Guide” for related information.
- 04-05: Set width and height.
- 08-09: Set basic information of subtitle.
- 10-11: Set other properties of Media object.

Sample Code

```
01 : <object
02 :   id="video"
03 :   type="application/x-netcast-av"
04 :   width=1280
05 :   height=720
06 :   data="/ApiTutorial/mediafile/timer.mp4"
07 :   style="float: left; z-index: 1; visibility: hidden;"
08 :   subtitle="/ApiTutorial/mediafile/cinecanvas-timing.1.dcs"
09 :   subtitleOn=true
10 :   autoStart=false
11 :   PlayCount="0">
12 : </object>
```

2.6 Source Code of subtitle.html

Source code of subtitle.html is as follows:

```
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html>
<head>
<meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
<title>Subtitle Test Page</title>
<link rel="stylesheet" href="../../css/style.css">
<script language="javascript" src="../../js/common.js"></script>
<script language="javascript" src="../../js/keycode.js"></script>
<script language="javascript" src="../../js/menu.js"></script>
<script language="javascript" src="../../js/media.js"></script>

<script type="text/javascript"
src="../../blackbirdjs/blackbird.js"></script>
<link type="text/css" rel="Stylesheet"
href="../../blackbirdjs/blackbird.css" />
<style type="text/css">
    .Overlay { position: absolute; z-index:1; opacity: 1; filter:
alpha(opacity = 100); }
    body { height: 100%; }
    html { height: 100%; }
</style>
<script>

    //initialize page
    function initPage()
    {
        //save page as last visited page
        setLastVisitPage();

        //common initialize function
        commonInitialize();
        requestSourceCode();
        setPageID("Subtitle");
        jsLog.initLG();

        //add onclick event handler
        addEventHandler(document.getElementById("btn_back"), "click",
onClickHandler);
        addEventHandler(document.getElementById("btn_red"), "click",
onClickHandler);
        addEventHandler(document.getElementById("btn_exit"), "click",
onClickHandler);

        var userAgent = new String(navigator.userAgent);
        if (userAgent != null && userAgent.search(/LG Browser/) > -1)
            isLGEBrowser = true;
        else
            isLGEBrowser = false;
    }

    function onUserInput(userInput)
    {
        switch(userInput)
        {
            case VK_BACK :
window.location.replace("../menu_mediaPlayer.html"); break;
```

```

        case VK_RED : case 82 : changeTestProgress(); break;
    }
}

function setTestProgress( descString, buttonString)
{
    setInnerTextById("subtitle_test_description", descString);
    setInnerTextById("btn_red", buttonString);
}

var testStep = 1;
function changeTestProgress()
{
    var video = document.getElementById("video");
    var sourcecode = document.getElementById("sourcecode");
    sourcecode.style.visibility = "hidden";

    switch(testStep)
    {
        case 1 :
            //Play video and check whether subtitle is
displayed properly
            if(isLGEBrowser)
            {
                video.play(1);
                video.subtitle="../../mediafile/cinecanvas-
timing.1.dcs";

                video.style.visibility="visible";
                bodycontent.style.visibility="hidden";

                subtitle_test_description.style.visibility="visible";
            }
            jsLog.lgobject('application/x-netcast-av');
            jsLog.lgmethod('video.play(1)');
            jsLog.lgproperty('subtitle');
            setTestProgress( "Check whether subtitle is
displayed in proper sync.<br>Compare subtitle with time shown at the
bottom.<br>Press RED-Key to pause.", "PAUSE");
            break;

        case 2 :
            //Pause video which is being played.
            if(isLGEBrowser){video.play(0);}
            jsLog.lgmethod('video.play(0)');
            setTestProgress( "The video has been
paused.<br>Play the video and then check subtitle.<br>Press RED-Key to play
video.", "PLAY");
            break;

        case 3 :
            //play video and check subtitle
            if(isLGEBrowser){video.play(1);}
            jsLog.lgmethod('video.play(1)');
            setTestProgress( "Check whether subtitle is
displayed in proper sync.<br>Compare subtitle with time shown at the
bottom.<br>Press RED-Key to move to 60 sec position.", "MOVE to 60 sec
position");
            break;

        case 4 :
            //seek video and check subtitle
            if(isLGEBrowser){video.seek(60000);}
    }
}

```



```

        jsLog.lgmethod('video.seek(time)');
        setTestProgress( "The time position has been moved
to 60 sec position.<br>Check whether subtitle is displayed in proper
sync.<br>Compare subtitle with time shown at the bottom.<br>Press RED-Key to
stop video.", "STOP");
        break;

    case 5 :
        //Stop video which is being played.
        if(isLGEBrowser){video.stop();}
        jsLog.lgmethod('video.stop()');
        setTestProgress( "The video has been
stopped.<br>Restart the video and then check subtitle.<br>Press RED-Key to
restart video.", "RESTART");
        break;

    case 6 :
        //Restart video and check subtitle
        if(isLGEBrowser){video.play(1);}
        jsLog.lgmethod('video.play(1)');
        setTestProgress( "Check whether subtitle is
displayed in proper sync.<br>Compare subtitle with time shown at the
bottom.<br>Press RED-Key to turn subtitle off.", "SUBTITLE OFF");
        break;

    case 7 :
        //Turn subtitle off
        if(isLGEBrowser){video.subtitleOn=false;}
        jsLog.lgproperty('subtitleOn');
        setTestProgress( "The subtitle has been turned
off.<br>Check that subtitle is no longer displayed.<br>Press RED-Key to turn
subtitle on.", "SUBTITLE ON");
        break;

    case 8 :
        //Turn subtitle on
        if(isLGEBrowser){video.subtitleOn=true;}
        jsLog.lgproperty('subtitleOn');
        setTestProgress("The subtitle has been turned
on.<br>Check whether subtitle is displayed in proper sync.<br>Compare
subtitle with time shown at the bottom.<br>Press RED-Key to change
subtitle.", "SUBTITLE CHANGE TO SAMI");
        break;

    case 9 :
        //change subtitle to different type of files :smi
        if(isLGEBrowser)
        {
            video.subtitle="../../mediafile/smi-
timing.1.smi";
        }
        jsLog.lgproperty('subtitle');
        setTestProgress("The subtitle has been
changed.<br>Check that subtitle of 'SAMI file' is displayed in proper
sync.<br>Compare subtitle with time shown at the bottom.", "SUBTITLE CHANGE
TO Timed Text");
        break;

    case 10 :
        //change subtitle to different type of
files :xml
        if(isLGEBrowser)

```

```

        {
            video.subtitle="../../mediafile/danish.xml";
        }
        jsLog.lgproperty('subtitle');
        setTestProgress("The subtitle has been
changed.<br>Check that subtitle of 'Timed Text file' is displayed in proper
sync.<br>Compare subtitle with time shown at the bottom.<br>No more test is
left on this page.", "");

        document.getElementById("btn_red").style.display="none";
        break;
    }
    if(testStep == 10) testStep = 1;
    testStep ++;
}

</script>
</head>

<body ondragstart='return false' onselectstart='return false'
onload="javascript:initPage();" >

<div>
    <object
        id="video"
        type="application/x-netcast-av"
        width=1280
        height=720
        data="../../mediafile/timer.mp4"
        style="float: left; z-index: 1; visibility: hidden;"
        subtitle="../../mediafile/cinecanvas-timing.1.dcs"
        subtitleOn=true
        autoStart=false
        PlayCount="0">
    </object>
</div>

<div id='bodycontent'>
    <!-- title -->
    <div class='SuiteTitle' >LG Smart TV SDK | Web Open API Tutorial</div>

    <!-- navigation -->
    <div class='SuiteNavigation'>
        <div
            style="float:left;">File : mediaplayer/app/subtitle.html</div>
        </div>

        <div class='SuiteTitleLine'> </div>

        <!-- test contents -->
        <div class='ContentArea'>
            <div class='ApiListTitleArea'>Web Open API List</div>
            <div class='ApiListArea'>
                <div class='MethodTitleArea'>
                    Methods
                    <div class='MethodListArea'>
                        play(0)<br>
                        play(1)<br>
                        stop()<br>
                        seek(time)<br>

```

```

        </div>
    </div>
    <div class='PropertyTitleArea'>
        Properties
        <div class='PropertyListArea'>
            subtitle<br>
            subtitleOn<br>
            autoStart
        </div>
    </div>
    <div class='EventTitleArea'>
        Events
        <div class='EventListArea'>

        </div>
    </div>
</div>

    <div class='ViewTitleArea'>
        <div id='tabViewArea' class='SelectedViewArea'
style='float:left;' onclick="showView();">View</div>
        <div id='tabCodeArea' class='UnselectedViewArea'
style='float:right;' onclick='showCode();'>Source</div>
    </div>

    <div id='view'>
        <div class='ViewArea'>
            <div class='centerTestGuide' style="position:
relative;left: 200px; top:100px;">Press RED-Key to start test.</div>
            <div class='ViewArea whiteColor'
id='subtitle_test_description' style="position: relative;left: 200px; top:-
70px; font-size: 30px; visibility: hidden;">Press RED-Key to start
test.</div>
        </div>
    </div>

    <div style="visibility: hidden" id='codeview'>
        <textarea class="SourceCodeArea" value=""
id='sourcecode'></textarea>
    </div>
</div>

</div>

<!-- button and copyright -->
<div class='SuiteButtonArea '>
    <!-- back key description -->
    <div id='btn_back' class='buttonDescription '>BACK</div>

    <!-- exit key description -->
    <div id='btn_exit' class='buttonDescription'>EXIT</div>

    <!-- red key description -->
    <div id='btn_red' class='buttonDescription redColor'>PLAY</div>

    <!-- copyright -->
    <div class='copyright '>Copyright LG Electronics</div>
</div>

</body>
</html>

```

