

# **[Tutorial] LG Web\_Implementing Functionality of Multi Audio**

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Version 1.1 – February 2012

**LGDEV-059**

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 2.5 is added.
1.0	October 18, 2011	Initial Version

## Purpose

This document describes how to implement functionality of Multi Audio 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

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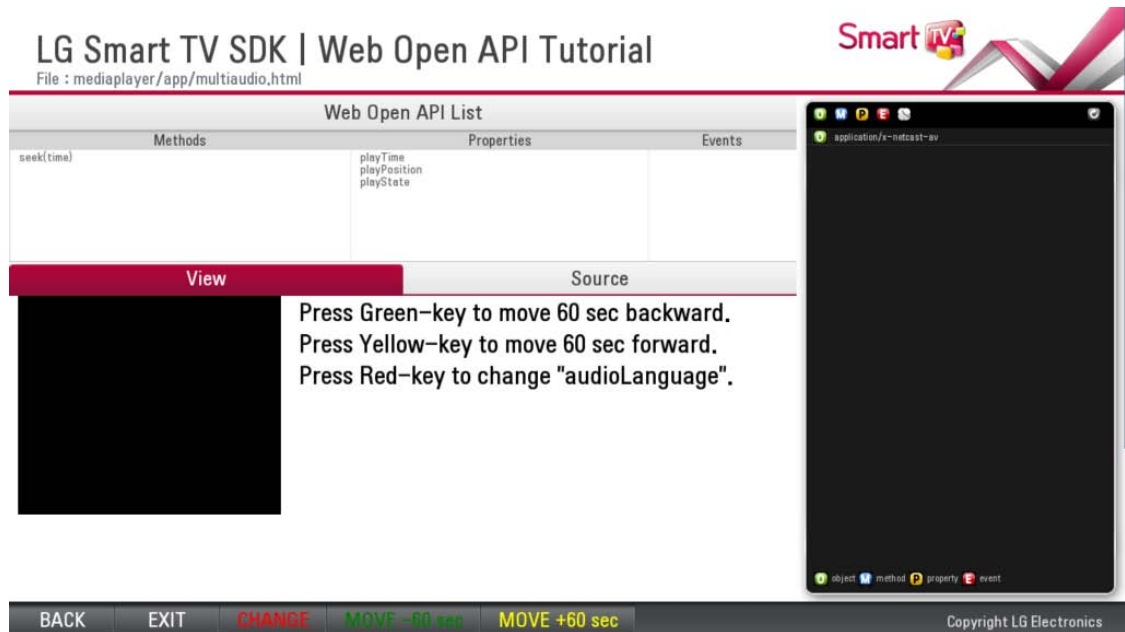
This chapter provides an overview of this application and needed APIs.

1.1 Overview

1.2 Needed APIs

## 1.1 Overview

This application shows how to use the Multi Audio function. The Multi Audio function plays a video supporting multiple languages and allows the user to listen to voice data in desired language.



[Figure 1] Application to implement functionality of Multi Audio

### Note

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

## 1.2 Needed APIs

This application uses following Web Open API:

[Table 1] Description of the Needed APIs

API Class	Name	Description
Method	Seek(time)	Sets the time position of playback.
	playTime	Returns the duration of the currently playing media item
Property	playPosition	Returns the play position of the currently playing media item
	playState	Returns the play state of the currently playing media item as an enumerated number.
Event	N/A	N/A

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





## 2 Creating Application

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This chapter describes how to implement functionality of Multi Audio.

- 2.1 Initializing the Page
- 2.2 Inputting Keys
- 2.3 Changing Language
- 2.4 Moving the Video Playback Position
- 2.5 Setting Object
- 2.6 Source Code of multiaudio.html

## 2.1 Initializing the Page

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

- 04: Records the last visited page when running the application.
- 07: Initializes the page.
- 08: Gets the source code of the page using the XMLHttpRequest object.
- 09: Sets the page ID.
- 10: Initializes the Log function.
- 13-17: Registers an event handler which will executed when the corresponding button is pressed.
- 19: Calls checkInitStatus() function.

### 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("Multi Audio");
10 :     jsLog.initLG();
11 :
12 :     //add onclick event handler
13 :     addEventHandler(document.getElementById("btn_back"),"click",onClickListener);
14 :     addEventHandler(document.getElementById("btn_red"),"click",onClickListener);
15 :     addEventHandler(document.getElementById("btn_green"),"click",onClickListener);
16 :     addEventHandler(document.getElementById("btn_yellow"),"click",onClickListener);
17 :     addEventHandler(document.getElementById("btn_exit"),"click",onClickListener);
18 :
19 :     checkInitStatus();
20 :
21 :     jsLog.lgobject('application/x-netcast-av');
22 : }
```

## 2.2 Inputting Keys

The **onUserInput** function is called by the **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.

- 06: When the Back key is pressed, this code is executed.
- 07: When the Red key is pressed, **toggleAudioLanguage()** is called.
- 08: When the Green key is pressed, **movePosition(-60)** is called.
- 09: When the Yellow key is pressed, **movePosition(60)** is called.

### Sample Code

```
01 : //onUserInput function should be implemented
02 : function onUserInput(userInput)
03 : {
04 :     switch(userInput)
05 :     {
06 :         case VK_BACK:
07 :             window.location.replace("../menu_commonjavascriptapi.html"); break;
08 :         case VK_RED : toggleAudioLanguage(); break;
09 :         case VK_GREEN : movePosition(-60); break;
10 :         case VK_YELLOW : movePosition(60); break;
11 :     }
```

## 2.3 Changing Language

The following code shows that the language changes when the video plays back.

### checkInitStatus

Checks the playback status.

06-11: If playState is 1 (playing), toggleAudioLanguage() is called.

12: If playState is not 1, the setTimeout() method is called to call checkInitStatus() every 1 ms.

### toggleAudioLanguage

Changes the language.

16-17: Declares the curLangIdx variable and stores the supported languages in supportLanguage.

21-24: Since two languages are supported, they are stored in curLangIdx and nextlangIdx alternately.

25: Changes the language using the audioLanguage property.

28-31: Displays the currently selected language on the screen.

### Sample Code

```

01 : //check until playstate become 1(playing) to set initial "audioLanguage"
02 : function checkInitStatus()
03 : {
04 :     var videoObj = document.getElementById("video");
05 :
06 :     if(videoObj.playState == 1)
07 :     {
08 :         jsLog.lgproperty('playState : ' + videoObj.playState);
09 :
10 :         toggleAudioLanguage();
11 :     }
12 :     else{setTimeout(checkInitStatus, 1);}
13 : }
14 :
15 : //toggle "audioLanguage" among supportLanguage
16 : var curLangIdx = -1;
17 : var supportLanguage = ["en", "fr"];
18 :
19 : function toggleAudioLanguage()
20 : {
21 :     curLangIdx++;
22 :     if(curLangIdx >= supportLanguage.length){curLangIdx = 0;}
23 :     var nextlangIdx = curLangIdx + 1;
24 :     if(nextlangIdx >= supportLanguage.length){nextlangIdx = 0;}
25 :     document.getElementById("video").audioLanguage= supportLanguage[curLangIdx];
26 :     var guideStrToSet = "";
27 :
28 :     guideStrToSet += 'Current "audioLanguage" is ' + supportLanguage[curLangIdx] +
29 :     ' ".<br>';
30 :     guideStrToSet += 'Check whether audio track is in ' +
31 :     supportLanguage[curLangIdx] + ' .';
32 :     setInnerText(document.getElementById("multiAudioTestGuide"), guideStrToSet);
33 : }

```

## 2.4 Moving the Video Playback Position

The following code moves the current playback position of the video to the desired position using the seek API.

### movePosition

- 04: Stores the video object in the videoObj variable.
- 05: Gets the total playback time of the video using the playTime property.
- 08: Adds the setToMove parameter value passed to this function when it was called to the current playback position (playPosition) and stores the result in the positionToSet variable.
- 11: If positionToSet is less than 0, positionToSet is set to 0 to move the playback position of the video to the start position.
- 12: If positionToSet is greater than the total playback time of the video, positionToSet is set to the totalPlayTime value to move the playback position of the video to the end position.
- 14: Moves the current playback position of the video to the position stored in positionToSet.

### Sample Code

```

01 : //move position
02 : function movePosition(secToMove)
03 : {
04 :     var videoObj = document.getElementById("video");
05 :     var totalPlayTime = videoObj.playTime;
06 :     jsLog.lgproperty('playTime :' + totalPlayTime);
07 :
08 :     var positionToSet = videoObj.playPosition + (secToMove * 1000);
09 :     jsLog.lgproperty('playPosition :' + videoObj.playPosition);
10 :
11 :     if(positionToSet < 0 ){positionToSet = 0;}
12 :     if(positionToSet > totalPlayTime){positionToSet = totalPlayTime;}
13 :
14 :     video.seek(positionToSet);
15 :     jsLog.lgmethod('seek(time)');
16 : }

```

## 2.5 Setting Object

The following code shows how to set object.

03: Set data type. Refer to “LG Web Application Development Guide” for related information.  
04-05: Set width and height.

### Sample Code

```
01 : <object  
02 :   id="video"  
03 :   type="application/x-netcast-av"  
04 :   width=300  
05 :   height=250  
06 :   data="../../mediafile/ multi_audio2.wmv"  
07 :   style="float: left">  
08 : </object>
```

## 2.6 Source Code of multiaudio.html

Source code of multiaudio.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>Multi Audio 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/media.js"></script>
<script language="javascript" src="../../js/menu.js"></script>

<script type="text/javascript" src="../../blackbirdjs/blackbird.js"></script>
<link type="text/css" rel="Stylesheet" href="../../blackbirdjs/blackbird.css" />

<script>

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

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

        //add onclick event handler

        addEventHandler(document.getElementById("btn_back"),"click",onClickHandler);
        addEventHandler(document.getElementById("btn_red"),"click",
onClickHandler);

addEventHandler(document.getElementById("btn_green"),"click",onClickHandler);

addEventHandler(document.getElementById("btn_yellow"),"click",onClickHandler);

        addEventHandler(document.getElementById("btn_exit"),"click",onClickHandler);

        checkInitStatus();

        jsLog.lgobject('application/x-netcast-av');

    }

    function onUserInput(userInput)
    {
        switch(userInput)
        {
            case VK_BACK :
window.location.replace("../menu_commonjavascriptapi.html"); break;
            case VK_RED : toggleAudioLanguage(); break;
            case VK_GREEN : movePosition(-60); break;
            case VK_YELLOW : movePosition(60); break;
        }
    }

    //check until playstate become 1(playing) to set initial "audioLanguage"
    function checkInitStatus()
    {
        var videoObj = document.getElementById("video");

        if(videoObj.playState == 1)
```

```

        {
            jsLog.lgproperty('playState :' + videoObj.playState);

            toggleAudioLanguage();
        }
        else{setTimeout(checkInitStatus, 1);}
    }

    //toggle "audioLanguage" among supportLanguage
    var curLangIdx = -1;
    var supportLanguage = ["en", "fr"];

    function toggleAudioLanguage()
    {
        curLangIdx++;
        if(curLangIdx >= supportLanguage.length){curLangIdx = 0;}
        var nextlangIdx = curLangIdx + 1;
        if(nextlangIdx >= supportLanguage.length){nextlangIdx = 0;}
        document.getElementById("video").audioLanguage =
supportLanguage[curLangIdx];
        var guideStrToSet = "";

        guideStrToSet += 'Current "audioLanguage" is "' +
supportLanguage[curLangIdx] + '".<br>';
        guideStrToSet += 'Check whether audio track is in "' +
supportLanguage[curLangIdx] + '".';

        setInnerText(document.getElementById("multiAudioTestGuide"),
guideStrToSet);
    }

    //move position
    function movePosition(secToMove)
    {
        var videoObj = document.getElementById("video");
        var totalPlayTime = videoObj.playTime;
        jsLog.lgproperty('playTime :' + totalPlayTime);

        var positionToSet = videoObj.playPosition + (secToMove * 1000);
        jsLog.lgproperty('playPosition :' + videoObj.playPosition);

        if(positionToSet < 0 ){positionToSet = 0;}
        if(positionToSet > totalPlayTime){positionToSet = totalPlayTime;}

        video.seek(positionToSet);
        jsLog.lgmethod('seek(time)');
    }
}

</script>
</head>

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

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

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

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

<!-- test contents -->
<div id='content_body' class='ContentArea'>
    <div class='ApiListTitleArea'>Web Open API List</div>
    <div class='ApiListArea'>
        <div class='MethodTitleArea'>
            Methods

```



```

        <div class='MethodListArea'>
            seek(time)<br>
        </div>
    </div>
    <div class='PropertyTitleArea'>
        Properties
        <div class='PropertyListArea'>
            playTime<br>
            playPosition<br>
            playState<br>
            audioLanguage<br>
        </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'>
            <object
                id="video"
                type="application/x-netcast-av"
                width=300
                height=250
                data="/ApiTutorial/mediafile/multi_audio2.wmv"
                style="float: left">
            </object>

            <table border="0" cellpadding="0" cellspacing="0" style="position:
relative; left: 10px; width:600px; height:150px;">
                <tr height="10%" >
                    <td ><div class="centerTestGuide ">Press Green-key to
move 60 sec backward.</div></td>
                </tr>
                <tr height=10%>
                    <td ><div class="centerTestGuide ">Press Yellow-key
to move 60 sec forward.</div></td>
                </tr>
                <tr height=10%>
                    <td ><div class="centerTestGuide ">Press Red-key to
change "audioLanguage".</div></td>
                </tr>
                <tr height=10%>
                    <td ><div class="centerTestGuide "></div></td>
                </tr>
                <tr height="10%">
                    <td align="center" valign="middle"> <div
class="centerTestGuide " id="multiAudioTestGuide"></div></td>
                </tr>
            </table>
        </div>
    </div>
    <div style="visibility: hidden" id='codeview'>
        <textarea class="SourceCodeArea" value="" id='sourcecode'></textarea>
    </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'>CHANGE</div>

<!-- green key description -->
<div id='btn_green' class='buttonDescription greenColor'>MOVE -60 sec</div>

<!-- yellow key description -->
<div id='btn_yellow' class='buttonDescription yellowColor'>MOVE +60 sec</div>

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

</body>
</html>
```