

# Demo Application UI Guide (Video Player)

Version 0.4.0

## Display Audio

Solution Team



## Release information

The following changes have been made to this document.

### Change History

Date	Change
06 Dec. 2017	First release for v0.1.0
15 Dec. 2017	Update Storage Event v0.2.0
07 Feb. 2018	Update scenario v0.3.0
	PlayList null point fix v0.4.0
	Storage Remove fix v0.4.0.
14 Nov 2018	Player library null point fix v0.4.0.
	Add Vide Mute Function v0.4.0.
	Add MakeThumbnail() v0.4.0.

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# Contents

<b>Chap 1.</b>	<b>Overview</b>	<b>1</b>
	1.1 Overview .....	1
	1.2 UI Guide.....	1
	1.2.1 Features	1
	1.2.2 Execute	1
	1.2.3 UI Details	2
	1.2.4 UI Playlist Details	2
	1.3 Flow.....	3
	1.3.1 Application Overall	3
	1.3.2 Application Switching	3
<b>Chap 2.</b>	<b>GUI Guide</b>	<b>4</b>
	2.1 Status Bar.....	4
	2.1.1 Home	4
	2.1.2 Back	4
	2.2 Media Player Control.....	4
	2.2.1 Initialization	5
	2.2.2 Progress Bar	5
	2.2.3 Prev Button	5
	2.2.4 Play Button	6
	2.2.5 Pause Button	6
	2.2.6 Next Button	7
	2.2.7 Stop Button	7
	2.2.8 Playlist Button	8
<b>Chap 3.</b>	<b>Subtitle</b>	<b>9</b>
	3.1 Overview .....	9
	3.2 Application Overall Flow .....	9
<b>Chap 4.</b>	<b>Storage Event</b>	<b>10</b>
	4.1 OverView .....	10
	4.2 Flow.....	10
	4.2.1 Removing Storage Event	10
	4.2.2 Inserting Storage Event	10
<b>Chap 5.</b>	<b>ADD Function</b>	<b>11</b>
	5.1 Add Function .....	11
	5.1.1 Video Mute	11
	5.1.2 Make Thumbnail	11

## Chap 6. Known Issues

13

6.1 To Do List.....	13
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## Chap 1. Overview

### 1.1 Overview

This document describes how to use NxVideoPlayer application.

NxVideoPlayer makes video file list by using sqliteutils that reads database written by media scanner.

NxVideoPlayer also makes xml file that stores last playing information to play again from last state.

### 1.2 UI Guide

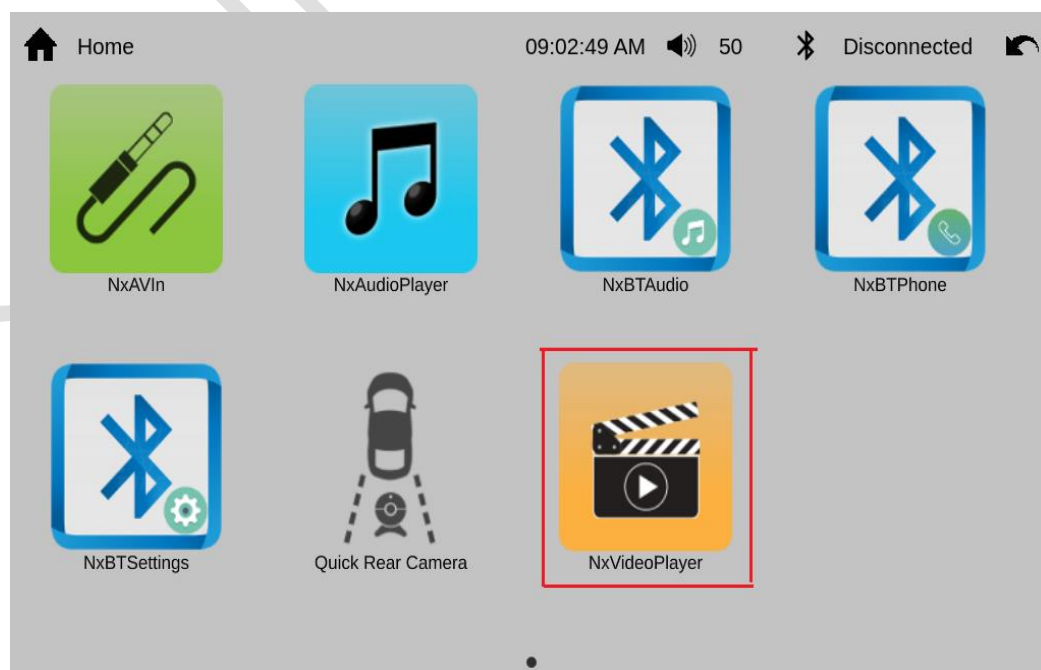
#### 1.2.1 Features

- Video file play, seek, pause, and resume
- Make video file list including USB and SD-card.
- Auto play from last state, if available.
- Shows subtitle, if available.

#### 1.2.2 Execute

NxVideoPlayer is executed by clicking icon in the launcher.

When some application is clicked, launcher hides from screen and clicked application appears.

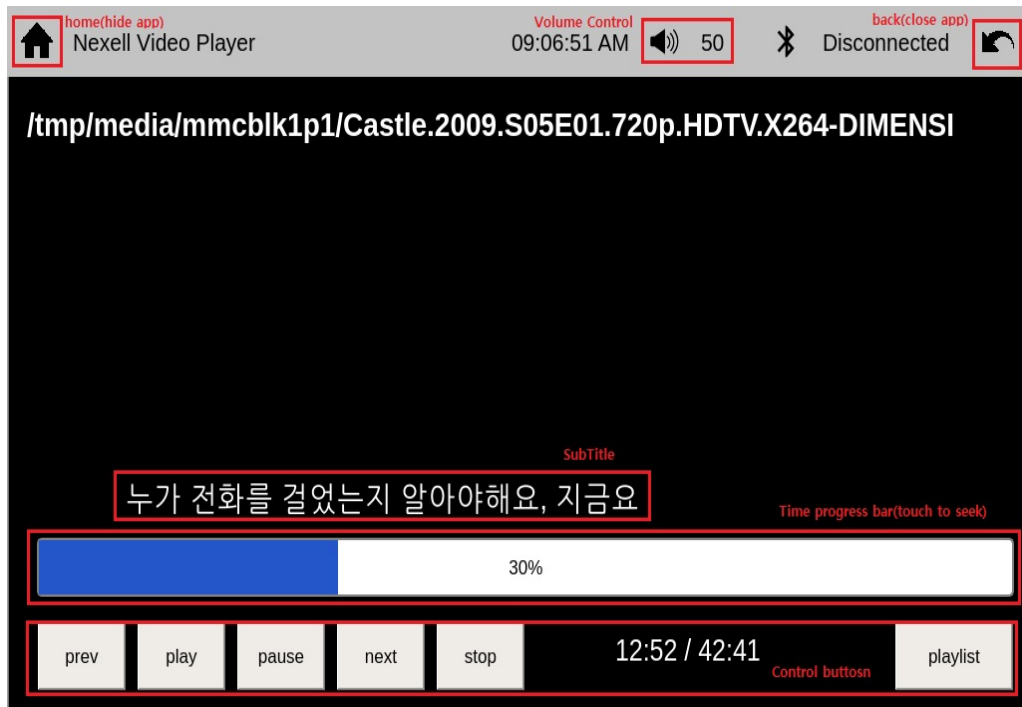


### 1.2.3 UI Details

GUI is shown like below picture after NxVideoPlayer is executed.

home (hide app) does not mean application window operates hide.

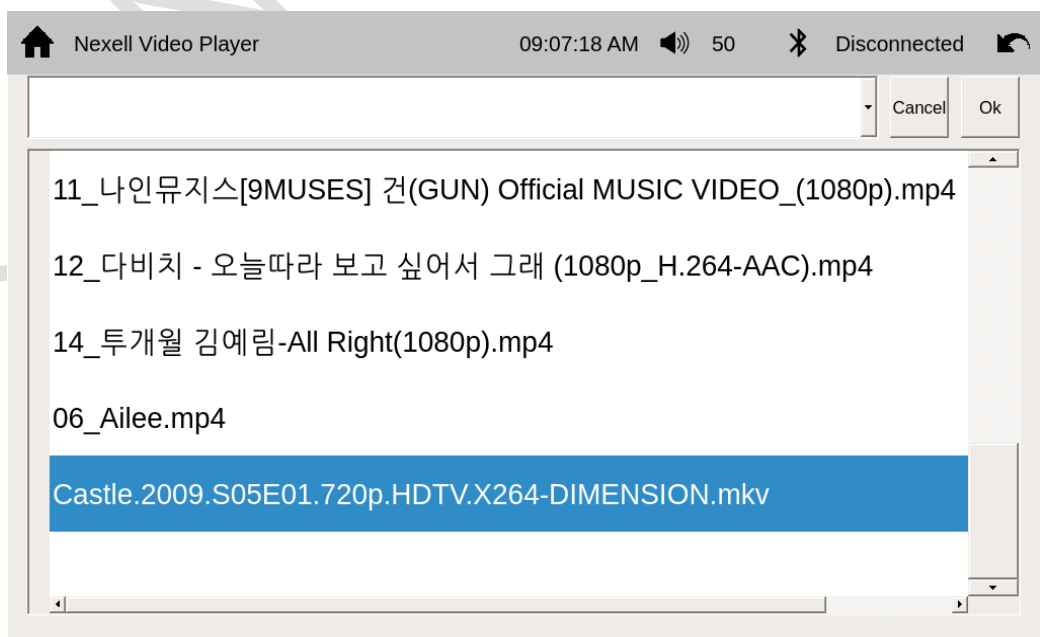
NxVideoPlayer disappears behind other application by changing Z-order.



### 1.2.4 UI Playlist Details

Playlist UI is shown by clicking playlist button.

List can be scrolled down, and items in list can be played by double-clicking or select(item click) and Ok button.



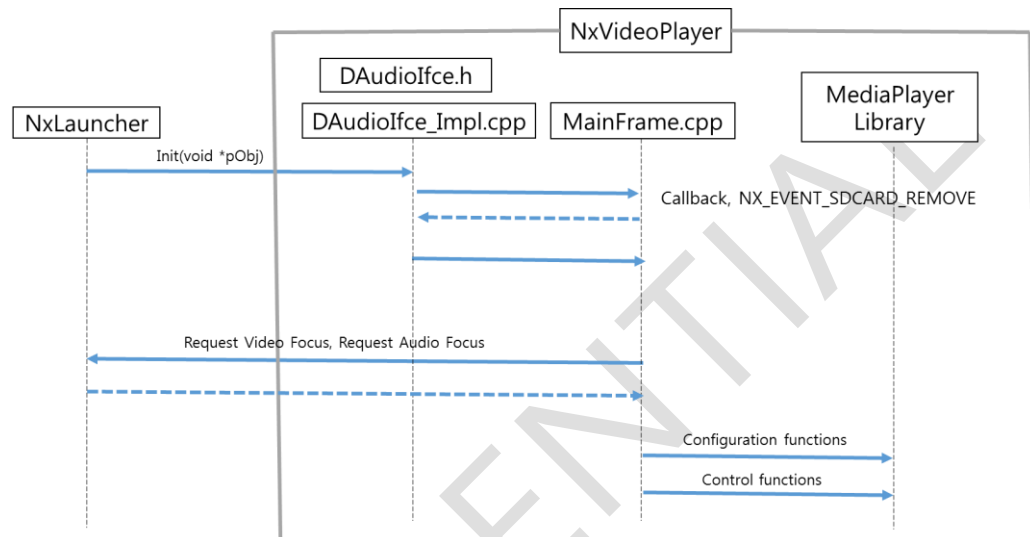
## 1.3 Flow

### 1.3.1 Application Overall

NxVideoPlayer communicates through NxLauncher .

RequestVideoFocus is needed, when application wants to appear on screen.

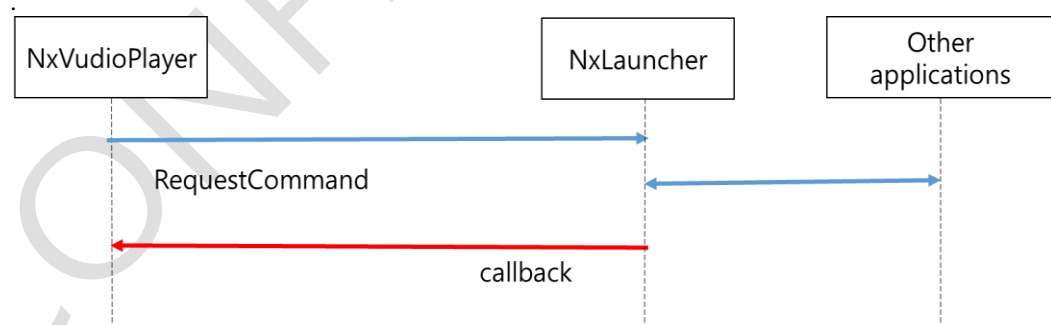
In particular, to use an Audio Device, must return RequestAudioFocus.



### 1.3.2 Application Switching

Each application communicates with NxLauncher .

NxLauncher is used for changing Z-order of application.





## Chap 2. GUI Guide

### 2.1 Status Bar

NxStatusBar is used for Status Bar.

#### 2.1.1 Home

When Home button clicked, current application disappears by changing launcher's Z-order to top.

In the home button callback function of NxStatusBar, NxVideoPlayer uses NxLauncher to request to display the program .

##### 2.1.1.1 Flow



#### 2.1.2 Back

When Back button clicked, NxVideoPlayer closes, and other application(previously top) appears.

In the nearest routine, NxVideoPlayer uses NxLauncher to signal loss of audio focus, loss of video focus, and process removal .

##### 2.1.2.1 Flow



### 2.2 Media Player Control

In NxVideoPlayer application, Media Player library is wrapped by CNX\_MoviePlayer class.

## 2.2.1 Initialization

NxVideoPlayer must get Audio Focus successfully before initialize Media Player lib.

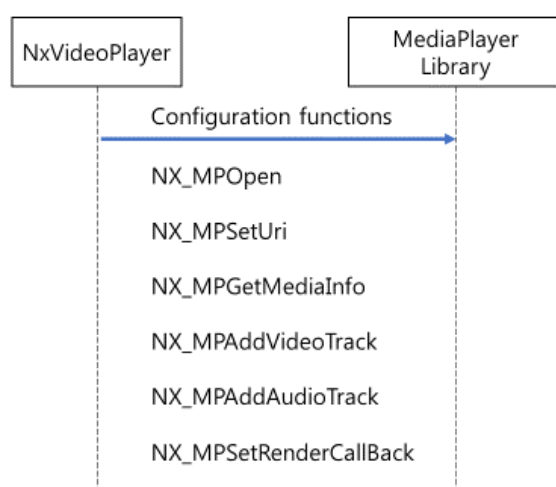
Media Player Initialization is done by CNX\_MoviePlayer->InitMediaPlayer

InitMediaPlayer function uses Media Player library's Configuration functions in following order, NX\_MPOpen, NX\_MPSetUri, NX\_MPGetMediaInfo, NX\_MPAddVideoTrack, NX\_MPAddAudioTrack.

All Media Player library functions must return MP\_ERR\_NONE.

NX\_MPAddVideoTrack is used for video and NX\_MPAddAudioTrack is used for audio.

### 2.2.1.1 Flow

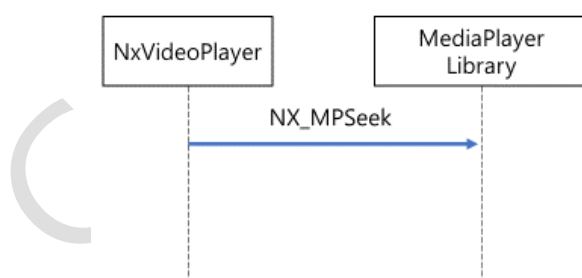


## 2.2.2 Progress Bar

When Progress Bar is clicked, Bar UI and video position are changed to corresponding value.

NX\_MPSeek in Media Player library is used.

### 2.2.2.1 Flow



## 2.2.3 Prev Button

When prev button is clicked, NxVideoPlayer stops playing and plays previous video file.

Index of video file list is set to previous video file.

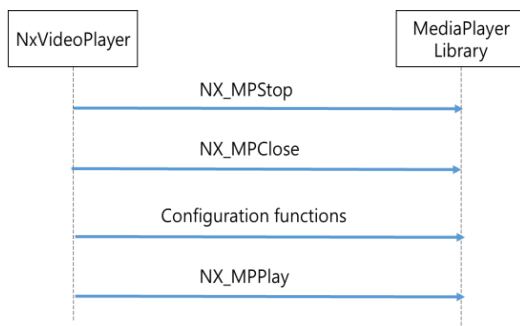
NX\_MPStop and NX\_MPClose in Media Player library are used.

Initialization is done with previous video file like above explanation.

NX\_MPPlay in Media Player library is used after Initialization is succeed.

Media Player library callback rendering will be explained in Play Button.

### 2.2.3.1 Flow



## 2.2.4 Play Button

When play button is clicked, NxVideoPlayer plays video file.

In NxVideoPlayer application, play button sequence contains Initialization of Media Player library.

Just after Initialization of Media Player lib is done, NxVideoPlayer updates UI information such as, progress bar, title, and so on.

If Initialization is failed, NX\_MPClose in Media Player library is called and Initialization is tried again with next video file in list.

When NxVideoPlayer is already playing video file, play button does nothing.

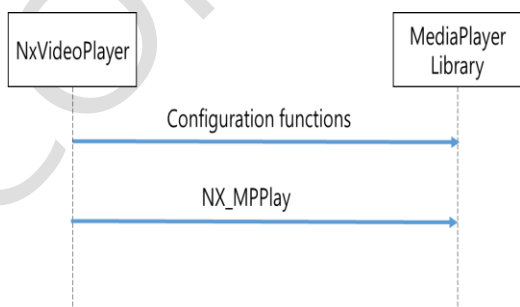
When NxVideoPlayer is in pause, play button just call NX\_MPPlay without Initialization.

Media Player Library calls callback function for rendering after NX\_MPPlay is called, and NxVideoPlayer draws screen.

Media Player Library calls callback function for rendering is pended until NxVideoPlayer completes drawing screen.

Calling callback function for rendering is repeated while NxVideoPlayer is playing video.

### 2.2.4.1 Flow

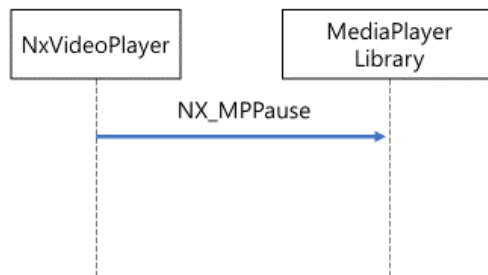


## 2.2.5 Pause Button

When pause button is clicked, NxVideoPlayer pauses video playing.

NX\_MPPause in Media Player library is used.

### 2.2.5.1 Flow



### 2.2.6 Next Button

When next button is clicked, NxVideoPlayer stops playing and plays next video file.

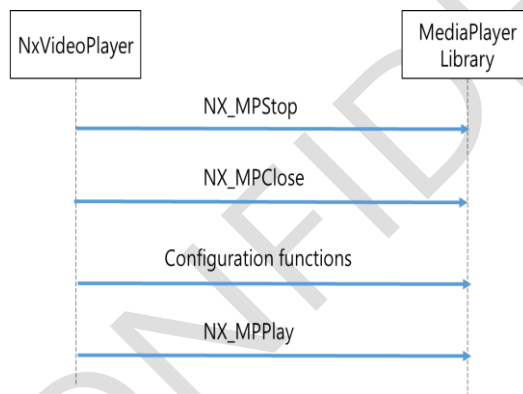
Index of video file list is set to next video file.

NX\_MPStop and NX\_MPClose in Media Player library are used.

Initialization is done with next video file like above explanation.

NX\_MPPlay in Media Player library is used.

#### 2.2.6.1 Flow

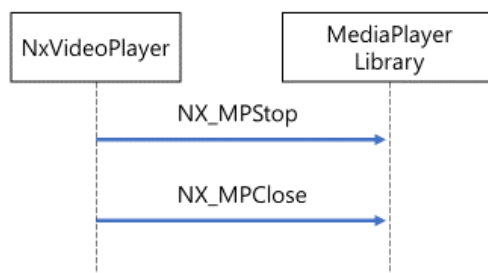


### 2.2.7 Stop Button

When stop button is clicked, NxVideoPlayer stops playing video.

NX\_MPStop and NX\_MPClose in Media Player library are used.

#### 2.2.7.1 Flow



## 2.2.8 Playlist Button

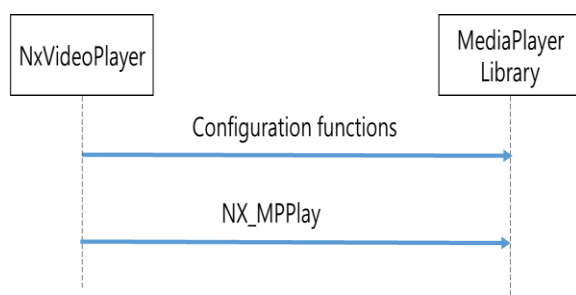
When playlist button is clicked, NxVideoPlayer shows playlist UI.

If NxVideoPlayer was playing video, it continues until some video file is selected.

If file is selected, NxVideoPlayer stops playing video and plays selected video file.

### 2.2.8.1 Flow

The case that file is selected.



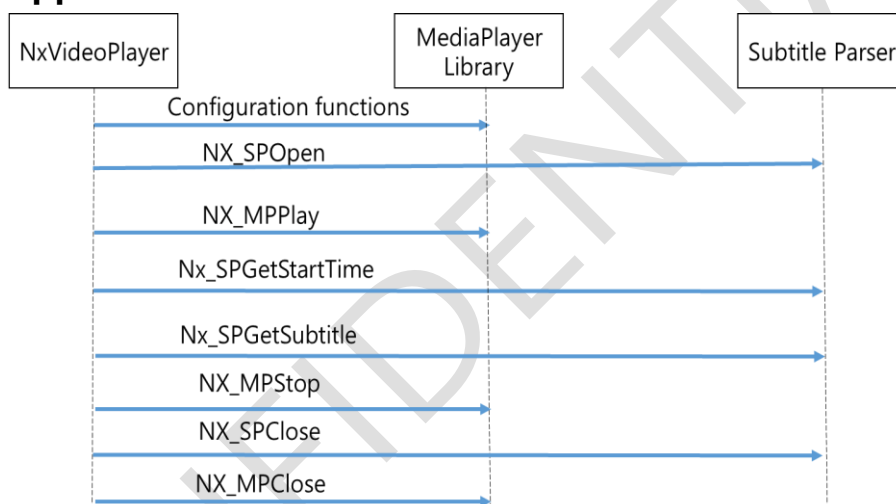
## Chap 3. Subtitle

### 3.1 Overview

In NxVideoPlayer application, Subtitle Parser library is wrapped by CNX\_MoviePlayer class.

NX\_SPGetStartTime and NX\_SPGetSubtitle are called repeatedly while NxVideoPlayer is playing video.

### 3.2 Application Overall Flow



## Chap 4. Storage Event

### 4.1 OverView

NxVideoPlayer detects storage events.

Used storage events are removing external storage(USB, SD-card) and media scan done.

Media scan done event is received, whenever storage status is changed such as inserting and removing.

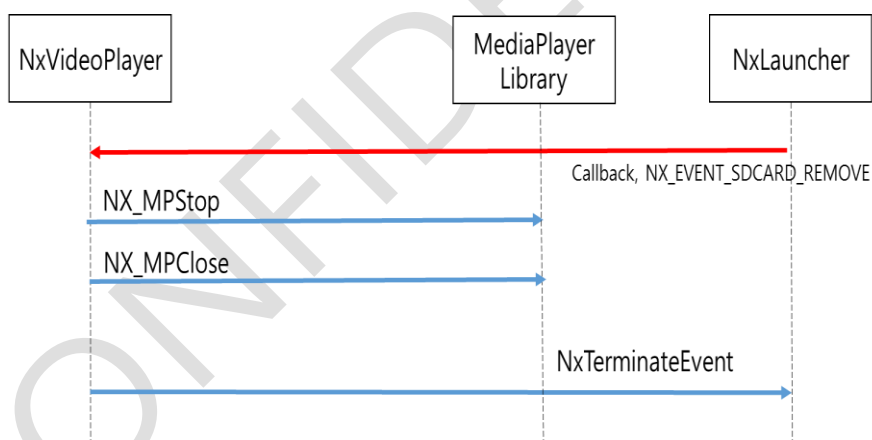
If removing storage event is received, NxVideoPlayer is closed.

If media scan done event is received, NxVideoPlayer refreshes media file list.

### 4.2 Flow

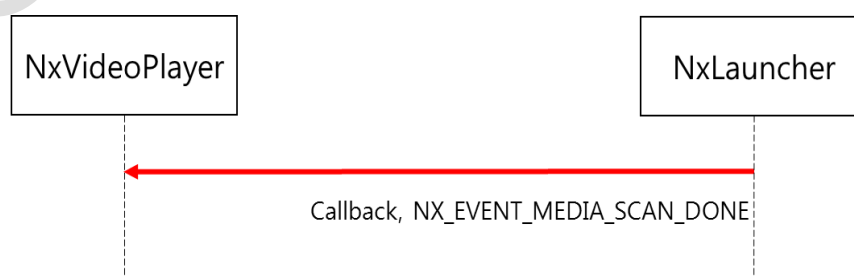
#### 4.2.1 Removing Storage Event

`NX_EVENT_SDCARD_REMOVE` and `NX_EVENT_USB_REMOVE` are used.



#### 4.2.2 Inserting Storage Event

When `NX_EVENT_MEDIA_SCAN_DONE` is received, media file list is refreshed.



## Chap 5. ADD Function

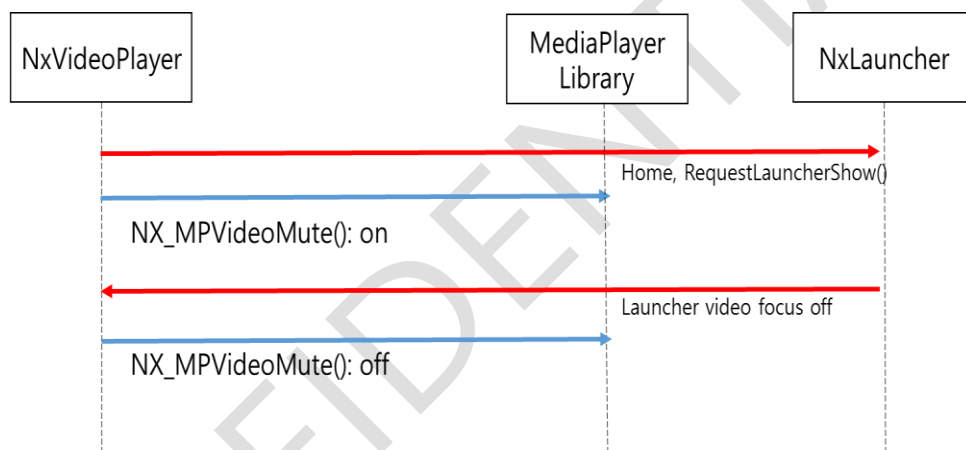
### 5.1 Add Function

#### 5.1.1 Video Mute

Click the home button on the status bar to run video mute.

When video mute, only audio is played.

##### 5.1.1.1 Flow



#### 5.1.2 Make Thumbnail

This function creates a thumbnail(jpeg file).

Prototype:

```
Int MakeThumbnail( const char *pInFile, const char *pOutFile, int maxWidth,
                  int maxHeight, int timeRatio )
```

Parameters:

const char \*pInFile: In File (input).

const char \*pOutFile: Out File(input).

int32\_t maxWidth: Max Width (input). (64 – 1280)

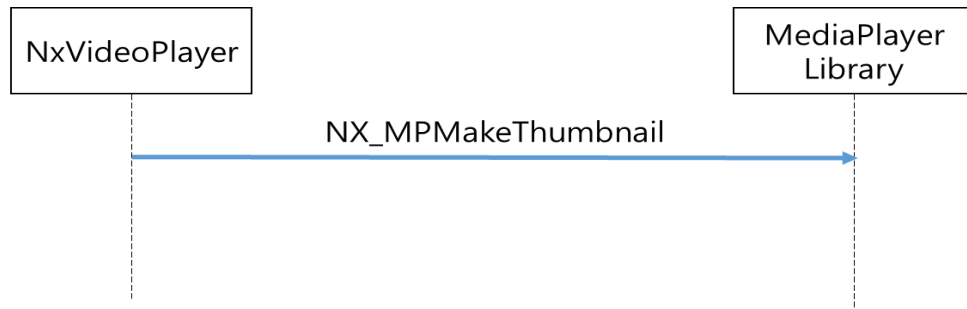
int32\_t maxHeight: Max Height (input). (64 – 1280)

int32\_t timeRatio: Time Ratio (input). (1 – 99)

Return value:

If success return 0, otherwise return error.



**5.1.2.1 Flow**

## Chap 6. **Known Issues**

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### **6.1 To Do List**

Supporting Multi Language for subtitle and playlist UI.

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