GStreamer Command-Line Player Application Specification

About This Book

This document describes application specification for a command-line player, gplay, which is based on the GStreamer architecture. GStreamer is a powerful, versatile framework for creating streaming media applications.

Contents

1.1   Audience

This document is intended for software, hardware, and system engineers who are planning to use multimedia codecs with GStreamer architecture and for anyone who wants to understand more about multimedia codecs.

1.2   Organization

This document consists of the following chapters:

- Chapter 1: Provides an introduction of the document.
- Chapter 2: Introduces command-line player, gplay.
- Chapter 3: Describes basic gplay operations.
- Chapter 4: Describes advanced gplay operations.

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1.3 Conventions

This document uses the following conventions:

- Courier New font: This font is used to identify commands, explicit command parameters, code examples, expressions, data types, and directives.
- $ sign: It is used to specify replaceable command parameters.

1.4 References

The following documents were referenced to build this document:

- i.MX 6Dual/6Quad SABRE-SD Linux User's Guide
- i.MX 6 Series Ubuntu Multimedia Release Notes
- i.MX 6 Series Ubuntu Multimedia User's Guide

1.5 Definitions, Acronyms, and Abbreviations

Following is a list of abbreviations used in this document:

- FSL: Freescale
- Codec: Coder/decoder
- gplay: Freescale command-line player with GStreamer backend

Introducing Command-Line Player

The GStreamer command-line player, gplay, supports one file playback as well as playlist playback. The gplay command is used to play multimedia files using gplay. The gplay command accepts a single parameter, which is the path and name of the multimedia file in case of a single file and a list of multimedia files separated by space in case of multiple files.

For example, to play a multimedia file using gplay, type the following command:

```
gplay <multimedia file path and name>
```

To play a list of multimedia files, type the following command:

```
gplay <list of multimedia files>
```

When gplay runs, player status information (PSI) displays on the bottom of command-line. It looks as follows:

```
[Status(Repeated Mode)] [Volume] [Elapsed Time/Duration Time]


         root@ubuntu:gplay sample.avi



[Stopped] [Vol=01] [00:00:00/00:06:12]
```

Here, "Status" represents the status of player. It has the following values:

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- Playing
- Paused
- Stopped
- Repeated Mode

NOTE

There are three repeated modes: non repeated, List Repeated, and Current Repeated. List Repeated indicates that playlist is repeated. Current Repeated indicates that current file is repeated.

The "Volume" is a value between 0 and 10; the default value of "Volume" is 1.

The "Elapsed Time" will be increased to "Duration Time" every second when multimedia file is being played. The format of "<Elapsed Time / Duration Time>" is "< hh:mm:ss / hh:mm:ss >."

Customers can operate the player by pressing keys on the keyboard.

Basic gplay Operations

Basic gplay operations include:

- Online help
- Play/Stop/Pause/Resume
- Seek
- View metadata information
- Exit

These operations are explained below in detail.

- 'h': Press 'h' to display online help. The online help is displayed in command-line as shown below:

```
        root@ubuntu:gplay sample.avi
```

```
FSL_PLAYER_01.00_LINUX build on Dec 18 2009 02:48:33
    'h': Display the operating help.
    'p': Play the multimedia file.
    's': Stop when in playing status.
    'e': Seek to a specified position according the input seconds.
    'a': Switch pause and resume.
    'v': Volume control.
    'm': Switch to mute or not.
    '>': Play next file.
    '<': Play previous file.
    'r': Repeated mode setting.
    'i': Display the metadata.
    'f': Set full screen or not.
    'z': Resize the width and height.
    't': Rotate.
    'x': Exit player.
[Stopped][Vol=01][00:00:00/00:06:12]
```

- 'p': Press 'p' to play the multimedia file. The status changes to "Playing" in command-line (as shown below), and the multimedia file starts playing.

```
        root@ubuntu:gplay sample.avi
```

```
[Playing][Vol=01][00:00:36/00:06:12]
```

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- 's': Press 's' to stop playing a multimedia file. The status and elapsed time change to "Stopped" and "00:00:00," respectively, in command-line (as shown below):

```
root@ubuntu:gplay sample.avi
```

```
[Stopped][Vol=01][00:00:00/00:06:12]
```

- 'a': Press 'a' to switch between pause and playing. If 'a' is pressed when the status is "Playing," the status changes to "Paused" (as given below). If 'a' is pressed when the status is "Paused," the status changes to "Playing."

```
root@ubuntu:gplay sample.avi
```

```
[Paused][Vol=01][00:00:36/00:06:12]
```

- 'e': Press 'e' to seek to a specified time point in unit of second. After pressing 'e,' the command-line looks as given below:

```
root@ubuntu:gplay sample.avi
```

```
[Playing][Vol=01][00:00:36/00:06:12]
Set seek point between [0,312] seconds:
```

The player menu gets into the second level. Input an integer between [0, duration] to represent the seek position. The input of the second level menu will be displayed in command-line. For example, if you input 186, the command-line will look as given below:

```
root@ubuntu:gplay sample.avi
```

```
[Playing][Vol=01][00:00:36/00:06:12]
Set seek point between [0,312] seconds: 186
```

Then, seeking operation is executed,

```
root@ubuntu:gplay sample.avi
```

```
[Playing][Vol=01][00:03:06/00:06:12]
```

- 'i': Press 'i' to display the metadata of the multimedia file. The file metadata gets displayed as shown below:

```
root@ubuntu:gplay sample.avi
```

```
File:
```

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```
Title:
Artist:
Album:
Year:
Genre:
Duration:
Video:
Width:
Height:
Frame rate:
Bitrate:
Codec:
Audio:
Channels:
Sample rate:
Bitrate:
Codec:
[Playing][Vol=01][00:00:36/00:06:12]
```

- 'x': Press 'x' to exit the player.

Advanced gplay Operations

Advanced gplay operations include:

- Volume control / Mute
- Rotate
- Video displaying width and height
- Repeat mode
- Playlist

These operations are explained below in detail.

- 'v': Press 'v' to control the volume. The maximum volume is 10. The command-line after pressing 'v' looks as given below:

```
root@ubuntu:gplay sample.avi
```

```
[Playing][Vol=01][00:00:36/00:06:12]Set volume[0,10]:
```

The player menu gets into the second level. Input a value in the range, 0 to 10. For example, if you input 5, the command-line will look as given below:

```
root@ubuntu:gplay sample.avi
```

```
[Playing][Vol=05][00:00:36/00:06:12]
```

- 'm': Press 'm' to mute or unmute.
- 't': Press 't' to rotate video display. By default, none rotated mode is selected. After pressing 't,' the command-line looks as given below:

```
root@ubuntu:gplay sample.avi
```

```
[Playing][Vol=01][00:00:36/00:06:12]
Set rotation between 0, 90, 180, 270: 90
```

- 'f': Press 'f' to switch to full screen or to return from full screen. By default, none full screen mode is selected.
- 'z': Press 'z' to resize the width and height of the video according to seven factors (0.25, 0.5, 0.75, 1.0, 2, 3, 4).
- 'r': Press 'r' to change repeated mode setting. By default, none repeated mode is selected. After pressing 'r,' the command-line looks as given below:

```
root@ubuntu:gplay sample.avi
```

```
[Playing][Vol=01][00:00:36/00:06:12]
input repeated mode[0 for none repeated,1 for play list repeated,2 for current file
repeated]:
```

The player menu gets into the second level. Input a value 0, 1, or 2. For example, if you input 1, the command-line will look as given below:

```
root@ubuntu:gplay sample.avi
```

```
[Playing  (List Repeated)][Vol=01][00:00:36/00:06:12]
```

If you input 2, the command-line will look as given below:

```
root@ubuntu:gplay sample.avi
```

```
[Playing  (Current Repeated)][Vol=01][00:00:36/00:06:12]
```

- '>': Press '>' to play the next multimedia file.
- '<': Press '<' to play the previous multimedia file.

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