

Intel® Integrated Native Developer Experience Media Pack for Android* Release Notes (Version 1.1.1493)

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Overview

The **Intel® Integrated Native Developer Experience (Intel INDE) Media Pack for Android*** is a set of Java* classes designed to provide easy to use components and API for a wide range of media scenarios. It contains several complete pipelines for most popular use cases and provides a possibility to add user-developed components to those pipelines in a form of plugins.

Features

Current version of Intel® INDE Media Pack for Android* provides the following classes:

- **MediaComposer** class for lite video editing and transcoding: join files, cut segments from files, apply effects
- **GLCapture** class for EGL* scene capturing to a media file
- **MediaFileInfo** class for reporting media file information: tracks formats, duration, rotation angle
- **CameraCapture** class for capturing video from camera to a file and streaming to network implemented using Wowza* Video Streaming Components



- **IAudioContentRecognition** interface for **AudioContentRecognition** class which works with Audible Magic* based recognition plugin



Please refer to `<install-folder>\doc\domain\index.html` document for the full list of implemented classes, interfaces and methods.

Change log

Changes in version 1.1.1493:

- Audio capturing from mic added to Game capturing scenario
- Camera capturing performance improved
- Preview added to camera capturing scenario
- Text overlay effect added to samples
- Samples enhancements: categories, code simplification, GUI prettiness

System Requirements

Host systems:

- Operating Systems: Microsoft* Windows*, Apple* OS X* or Linux*
- IDE: Eclipse*, Google* Android* Studio or JetBrains* IntelliJ IDEA*
- Android Platform SDK
- Java* Development Kit (JDK) 6 or later

Target systems:

- Hardware: Intel® Atom™ and ARM* based phones and tablets.
- Operating Systems: Google Android Jelly Bean 4.3 or higher

Package Contents

`<install-folder>`

- Release Notes (this file)
- End User License Agreement (EULA) "Intel

	<p>INDE Media Pack for Android EULA.rtf"</p> <ul style="list-style-type: none"> • a license file <code>license.txt</code>
<code><install-folder>\lib</code>	<p>Intel® INDE Media Pack for Android* libraries:</p> <p><code>domain-1.1.1493.jar</code> – base functionality of the Intel INDE Media Pack for Android</p> <p><code>android-1.1.1493.jar</code> – custom Android features support</p> <p><code>wms-transport-wowz.jar</code> - Wowza* Video Streaming Components</p> <p><code>netty-all-4.0.15.Final.jar</code> – open source library required for Wowza Video Streaming Components</p> <p><code>audible-magic-plugin-1.1.1493.jar</code> – Java* wrapper over Audible Magic* native library</p>
<code><install-folder>\lib\armeabi,</code> <code><install-folder>\lib\x86</code>	<p><code>libmfcbr.so</code> – Audible Magic* native library</p> <p><code>libcrypto.so, libcurl.so, libssl.so</code> – open source libraries required for Audible Magic native library</p>
<code><install-folder>\doc</code>	Intel® INDE Media Pack for Android* API documentation
<code><install-folder>\samples</code>	<code>samples.apk</code> – Intel® INDE Media Pack sample application binary
<code><install-folder>\samples\apps</code>	<p>Contains source code for the following samples:</p> <ul style="list-style-type: none"> • Video processing samples: <ul style="list-style-type: none"> ○ Transcode video ○ Join Video ○ Cut Video ○ Video Effect ○ Audio Effect ○ Get Media File Info • Streaming samples: <ul style="list-style-type: none"> ○ Camera Streaming ○ Game Streaming ○ Media File Streaming ○ Play Video Stream • Capturing samples:

	<ul style="list-style-type: none"> ○ Game Capturing ○ Camera Capturing • Content Recognition sample which shows how to synchronize video playback on an Android device with playback on some other device using Audible Magic* audio content recognition technology
<code><install-folder>\samples\effects</code>	<p>Contains source code for the following sample effects:</p> <ul style="list-style-type: none"> • Grayscale • Inverse • Jpeg substitute • Rotate • Sepia • Substitute audio • Text overlay effect
<code><install-folder>\src</code>	Graphics base classes reference code

Installation

Installation requires full administrative rights. Run `IntelMediaDeveloperPack.msi` to begin installation.

The default top-level installation folder for Intel® INDE Media Pack for Android* is `C:\Intel\INDE\INDE Media Pack 1.1.1493 for Android`

Building samples

You need to build both `apps` and `effects` projects. Here is a list of dependencies for your reference:

- `apps` depends on `effects`, `effects` is a library
- both `apps` and `effects` need `<install-folder>\lib*.jar` libraries
- `apps` additionally needs native libraries from `<install-folder>\libs\armeabi` and `<install-folder>\libs\x86` folders
- `apps` has to export its libraries

You may refer to the [Intel® INDE Media Pack for Android* Tutorials](#) for more detailed instructions on how to build and run the Samples application on a device.

Running samples

Samples are essentially a single Android* application with several screens (mapped to activities in the source code). When built and run on a device the application displays a menu of samples. Most samples have very intuitive interface and are easy to run.

However, the streaming samples (Camera streaming, Game streaming and Media File streaming) is somewhat more complicated so here are the steps to run them:

1. Set up your own streaming server using Wowza* Streaming Engine software.
2. Run any of the streaming samples
3. Configure the following parameters: Host, Port, Application Name and Stream Name. Stream name must be in the following format:
"mp4:yourStreamName".
4. Make sure your network allows connection to the specified port.
5. Press Start.
6. Watch the video using "Play Video Stream" sample from the Media Pack installed to another device, using players supplied with Wowza Streaming Engine or some other 3rd party player.

Here are the steps required to run the "Content Recognition" sample using Audible Magic* library:

1. Download the Big Buck Bunny movie from <http://www.bigbuckbunny.org/> (direct link [here](#)), rename it to "bunny.mp4" and put it to "Movies" folder on your Android* device.
2. Install and launch the sample application, open "Recognition" menu and click on "Content Recognition" item. The app should display "Listening for audio" message on the screen.
3. Play the Big Buck Bunny movie on some external device (e.g. on laptop using some media player) and place your Android device close to that external device to let it hear the audio.
4. Once the content is recognized, sample application will start video playback from the recognized position
5. Please note that the "Content Recognition" sample application requires Internet connection to check Audible Magic license.

Known Limitations

The Intel® INDE Media Pack for Android* is subject to the following known limitations:

- Only one effect can be applied to a particular file segment, any additional effects will be ignored.
- Encoding to 1080p is not supported. Video resolution will be downscaled automatically to 720p.

- Joining of streams with different audio sampling rates or different number of channels is not supported.
- Resampling is not implemented in audio effect. Therefore if the original audio track and the track applied in effect have different sampling rates the resulting audio will have artifacts: it will be played faster or slower.
- `MediaComposer` class does not correct video orientation automatically. You may apply the Rotate Effect from samples if it fits your application needs (check out the source code).
- Repositioning feature of `MediaFileInfo` class is designed to reposition to I-frames
- Current implementation of `IAudioContentRecognition` interface uses the offline capability of Audible Magic* technology, i.e. when content database is stored locally on a device. Online/cloud-based solution which enables usage of Audible Magic content library or own/custom library hosted in Audible Magic cloud is coming soon.
- Android emulators may not properly support Media Pack functionality, it's recommended to use real Android devices for testing of multimedia features.

Samples:

- Video captured by "Camera Capturing" sample with 720p resolution may be not smooth on some old devices released before Android 4.3 came out.
- Transcode Video sample may fail when you force screen lock on some devices.
- 3rd party camera applications may not work when "Camera Streaming" or "Camera Capturing" samples are run in the background

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Notice revision #20110804

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