

**Submission:** *JogAmp across Devices for Mobile and Desktop on top of Java*

**Category:** Presentation

**Session:** Short Session, 20-45 minutes

**Summary Statement:** (49 words)

Presenting JogAmp, a media and processing library for mobile and desktop devices on top of Java. We will introduce you to the platform agnostic open-source API, which allows you to use JOAL/OpenAL, JOGL /OpenGL and JOCL/OpenCL across devices. A demonstration on multiple devices including a PC will conclude this session.

**Session Abstract:** (157 words)

In this session, we will present JogAmp, a media and processing library for mobile and desktop devices on top of Java. JogAmp's objectives are to provide platform agnostic modules to application developers, allowing them seamless access to the OpenAL, OpenGL and OpenCL APIs. JogAmp allows writing applications suitable for desktop machines (Linux, Windows, OSX, Solaris) as well as for embedded and mobile devices (Linux, Android, Windows). Support for more platform can be easily achieved and performed by ourselves or user base, possible due to the open-source nature of the project. We will outline the architecture and describe the simplicity of it's usage with code samples.

Besides our presentation slides, we will show you a demo video and a live demonstration of demos running on PC and mobile devices, including Phones and Tablets running on Linux and Android. The demos will utilize the OpenGL ES2 compatibility profile, video decoding APIs and device specifics.

JogAmp is available at <http://jogamp.org>

**Session Organizer:** (99 words)

Sven Gothel leads the JogAmp project since it's inception in 2009 and is an independent consultant. Previously he worked for Sun Microsystems, Inc. driving the new Java Plugin with JNLP Support, enhancing the JOGL project and working with a team on an experimental new multimedia toolkit. He was also employed by ATI & AMD leading development of an embedded OpenGL driver for the aviation industry. He consulted Harman/Becker, Siemens and others in the embedded multimedia field focusing on platform neutrality, including graphics technology with high performance objectives. In 1997 he started an OpenGL language binding for Java called GL4Java.

**Additional Presenter:**

*The following additional presenters will assist in running the demos and help describing related details.*

Rami Santina is the main contributor of the graph package within JOGL and author of the Santina method of rendering resolution independent curves using hardware acceleration.

Xerxes Ranby contributes his knowledge of mobile development and OpenJDK insight. He contributes also to the OpenJDK Zero project working on the experimental ARM JIT VM.

**Level of difficulty:**

This session will be suitable for beginners. It may touch some aspect interested for intermediate and advanced software developer.

**Intended audience:** (40 words)

Software developers and manages producing applications targeted for the desktop and mobile market utilizing 3D, Audio&Video and processing. They will learn how to write and deploy a unique code based application on all platforms, including the aspects of project costs.

**Session Description:** (1000 words or less.)**Session Description:**

1. **(5-10 minutes)** Introducing the JogAmp Story (see abstract above) using slides
2. **(5-15 minutes)** Outline used technology to achieve a platform agnostic solution including APIs and deployment strategies, using code samples and slides
3. **(10-15 minutes)** Demonstrate the results utilizing:
  - 3D/OpenGL (Geometry, Curve/Font/UI, Textures, ..)
  - Audio (OpenAL, OpenSL or platform specific)
  - Video Streaming and Camera (OpenMAX or platform specific)running on Desktop (Linux, Windows, OSX, ..) and the following mobile devices:
  - Linux ARM Phone & Dev-Kits
  - Android ARM Phones, Tablets & Dev-Kits
4. **(5 minutes)** Q&A

The demonstration (3) will be performed using:

- a pre-rendered video
- live demo on laptop shown through the projector
- live demo on Tablets and Phones streamed via camera and shown through the projector

JogAmp's unifies the broad range of platform depending APIs like X11/GLX, GDI/WGL, Cocoa/CGL, Android's NDK, etc. It aligns them with the platform independent APIs like OpenAL, OpenGL and OpenCL and exposes the sum to the application developer in a most convenient way as it is possible for low level bindings.

It truly follows the Khronos philosophy of open APIs and is itself licensed under an open-source new BSD compatible license.

**Session Length reduction:**

We are flexible with our session and able to fit in a shorter time frame.

We can achieve this by shortening the technical details on focus on the features of JogAmp which we demonstrate on the devices. **We can shorten our session to around 15 min.**

The technical details will be the focus in our BOF, which we applied for this year as well (see below). It would make sense, if our BOF could happen after our mobile presentation. This would allow us to direct detailed discussion to our BOF session later on.

**Related presentations:**

We previously had 2 BOFs demonstrating enhancements in the JogAmp project.

This year we are able to demonstrate and deliver platform support for mobile including Linux ARM and Android ARM as well as video streaming and other high level toolkit/application users like NASA's WorldWind, Processing-2.0 and Ardor3D.

**Organizer contact information:**

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## Permissions:

Complete license: <http://jogamp.org/git/?p=jogl.git;a=blob:f=LICENSE.txt;hb=HEAD>

The JOGL source code is mostly licensed under the New BSD 2-clause license, however it contains other licensed material as well.

The JOGL source tree contains code from the JogAmp Community which is covered by the Simplified BSD 2-clause license:

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You can address the JogAmp Community via:

Web	<a href="http://jogamp.org/">http://jogamp.org/</a>
Forum/Mailinglist	<a href="http://forum.jogamp.org">http://forum.jogamp.org</a>
JogAmp Channel	server: conference.jabber.org room: jogamp
Repository	<a href="http://jogamp.org/git/">http://jogamp.org/git/</a>
Email	mediastream_at_jogamp_dot_org

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<http://jogamp.org>

JogAmp provides JOAL/OpenAL, JOGL /OpenGL, JOCL/OpenCL on top of Java, enabling applications to run unmodified on embedded, mobile and desktop platforms utilizing audio JOAL/OpenAL, 3D JOGL/OpenGL, and processing JOCL/OpenCL.

