

# JavaFX 2: Java RIA Reloaded



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# Real World Java EE Night Hacks

Dissecting the Business Tier

[ Iteration One ]



X-RAY

Adam Bien

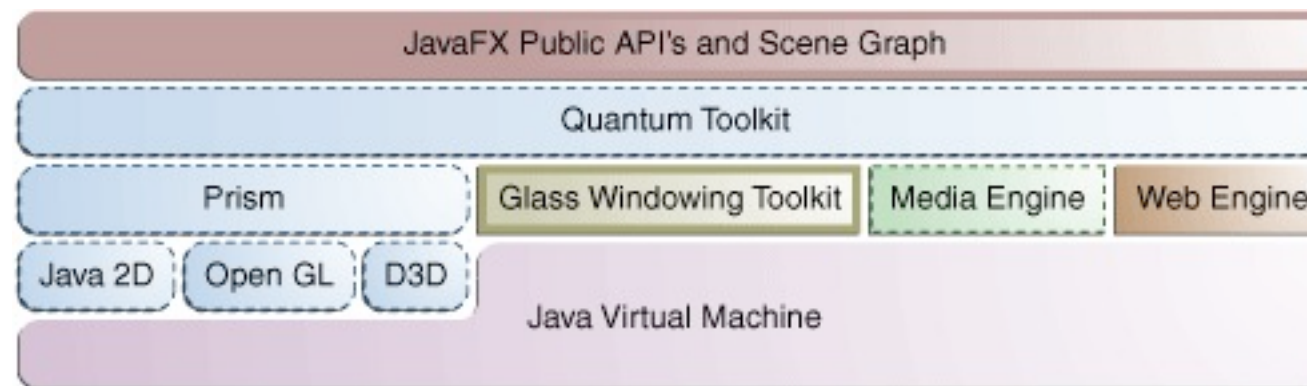
Foreword by James Gosling

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# Architecture



From: <http://download.oracle.com/javafx/2.0/architecture/jfxpub-architecture.htm>

# Java FX Overview

- Java FX 2 is a rewrite of JavaFX 1.3.1
- Most of the APIs were migrated from JavaFX Script to Java
- Is going to be a part of JDK 1.7...

# Glass

- is platform dependent
- native operating services
- unlike AWT, Glass uses OS event queue
- unlike AWT, Glass runs in Java FX application thread
- responsible for Pulse execution

# Prism

- hardware or software renderer of Java FX scenes
- DirectX (9, 11), OpenGL, Java2D (software renderer)



# Quantum Toolkit

- The glue between Prism and Glass

# Multi Threaded

- JavaFX application thread
- Prism render thread (can use "helper" threads)
- Media thread (background synchronization)

# New in Java FX 2

- Just Java
- Fluent API for UI construction
- Support for alternative languages
- Hardware acceleration

# New in JavaFX 2 Media:

- Media framework based on GStreamer
- VP6, MP3 playback
- Low latency audio support
- Alpha channel
- Full screen video

# Swing / Java FX Interop

- Java FX <=> Swing Embedding
- Using JavaFX features in Swing

# Pulse

- synchronizes Scene with Prism
- Throttled to 60 fps
- CSS and layout are performed once per pulse

# Scene Graph

- What you start with
- Hierarchical tree of nodes (DAG)
- Nodes: UI elements and graphic primitives

# Nodes

- UI Controls
- Graphic primitives
- Has an ID, style class and bounds



# Embedded Browser

- Based on WebKit
- Support for HTML 5, CSS, JavaScript, DOM and SVG
- Exposed via Java API

# CSS Styling

- Based on CSS 2.1 with some CSS 3

# FXML

- A XML "Object Instantiator"
- Scriptable XML markup
- Any JSR-223 scripting language can be used

# Thank You!

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