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3-D Graphics APIs for the Java™ and JavaFX™ Platforms

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Agenda

- Status of Java 3D
- 3D for JavaFX
- Demos
- Next Steps
- Q&A

Java 3D Status

- Java 3D is a feature-rich, mature 3D graphics API
- Source code now released under the same license as OpenJDK (GPLv2 + CLASSPATH)
- Coming soon: 1.5.2 release (GPL + critical bug fixes)
- Future improvements are on hold
 - Bug fix releases will be done as needed
 - Many of the fixes will come from the community

3D for JavaFX

- The JavaFX GUI provides an easy-to-use 2D interface
- Many Rich Internet Application developers want to add 3D transitions or elements without becoming 3D experts
- JavaFX Script also lends itself to casual games and viewing of simple 3D models
- Scene Graph 3D (SG3D) makes it possible

SG3D: A New 3D Scene Graph

- Why a new 3D scene graph?
- Main goals
 - Ease of use
 - Better integration with the 2D scene graph and JavaFX
 - Simpler, lighter-weight renderer
 - Smaller footprint
 - Ease of deployment
- Target application spaces:
 - Simple 3D GUI effects
 - View/manipulate 3D models
 - Casual games

SG3D Overview

- High-level, object-oriented scene graph
- Targeted at making 3D easy-to-use
- Currently in prototype phase
- Initial release will be via JavaFX Script
- Java APIs will be released eventually
- Open source strategy will be forthcoming
- We anticipate that SG3D will satisfy the needs of many existing Java 3D applications

Scene Graph 3D Technology Demos



DEMO

JavaFX Script Example

```

import javafx.gui.canvas3d.*;

public class ColladaViewer extends CustomNode3D {
    attribute collada = ColladaModel3D {
    };
    function createContent():Node3D {
        Group3D {
            lights:
            [
                DirectionalLight {
                    color: LIGHT_COLOR;
                    x: 1.0; y: -1.0; z: -1.0;
                },
                ...
            ]

            content: collada
        };
    }
}

```

JavaFX Script Example

```

class ColladaModel3D extends Model3D {
    static attribute COLLADA_MODEL = Model3D.ColladaModel {
        url: "{__DIR__}models/SeymourGeom.dae";
    };

    attribute scale: Number;
    public attribute normalTransform: Transform3D =
        bind Transform3D.scale(scale, scale, scale);
    attribute modelTransform: Transform3D =
        bind Transform3D.translate(0, -5.0, 0);
    override attribute transform = bind
        [normalTransform, modelTransform];

    init {
        scale = 0.1;
        model = COLLADA_MODEL;
    }
}

```

Next Steps

- Early access of SG3D will be available some time after the early access of the JavaFX SDK
- We hope to announce an open source strategy soon

Q&A

DEMO

THANK YOU



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