



Project Looking Glass

Cool LG3D Apps and How to Write Them

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Paul Byrne

LG3D Project Owners

Sun Microsystems

<http://lg3d.dev.java.net>

TS-7992

java.sun.com/javaone/sf

What's Cool and How You Can Do It!

Learn more about Next Generation 3D Desktop Apps

Latest Updates

Lots of Demos!

Coding Examples

Moving Forward...

What is Project Looking Glass?

- Next Generation 3D UI exploration project
- Based on Java™ Technology
- Hosts existing 2D apps in a 3D space
- Provides APIs for 3D app development
- Evolving in the open source community
<http://lg3d.dev.java.net>

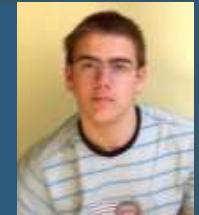
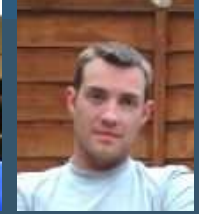
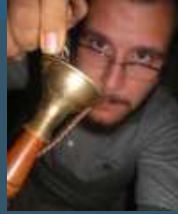


Year's Progress

One year after open sourced...

- Open sourced in JavaOne 2004
- More stable, esp. X11 integration
- LG3D App API
- Community growing
- Apps being developed





DEMOs

LG3D Applications

Developed by the Community Members!

<http://lg3d-incubator.dev.java.net>

* Photos are of key contributors

Zoetrope

Image Viewer with a Touch of 3D...



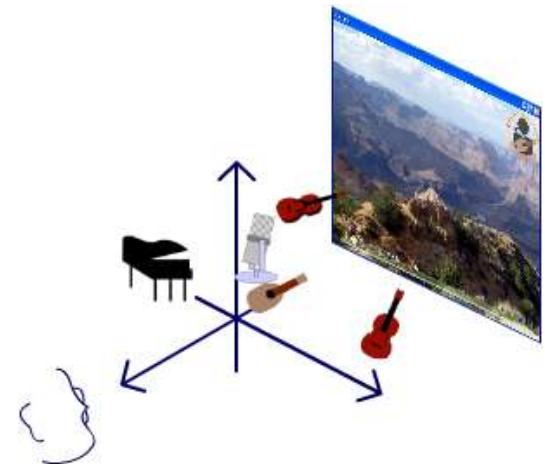
Yuichi Sakuraba

GigAGig

Music Player Meets a 3D Space...



Yuichi Sakuraba



BgManager

Which Background Do You Use Today?



Radek Kierner
Academy of
Humanities and
Economics,
Poland

Alice

Award Wining 3D Media Player!



<http://alice.dev.java.net>

“Best in Group” at the University of Colorado Design Expo 2005!



Cooper Porter

Ben Marsh

Neal Meier

Justin Legary

Dan Lueth

**University of Colorado,
USA**



CosmoSchedulerD

“Geez, too many planets on my orbit!”



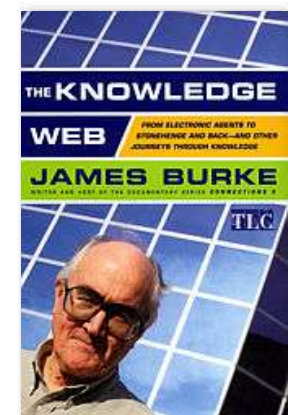
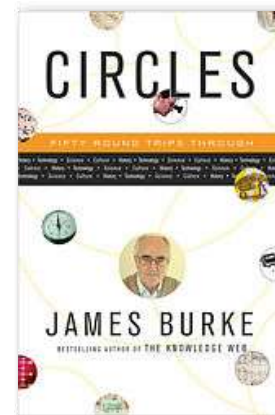
YAKUSHIJI Koji
MAEDA Yoshifumi
MINAMISAKO Hirokazu
KOIDE Hiroshi

Kyushu Institute
of Technology,
Japan



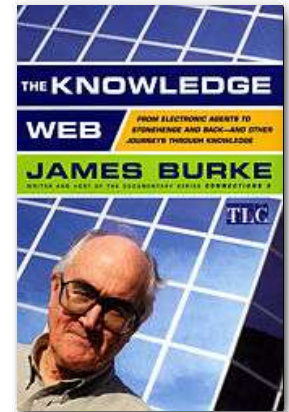


James Burke



James Burke's Knowledge Web

Making History Engaging!



Patrick McKercher Jim Zaun



<http://www.k-web.org>



Our James

3D Model Integration

How many James do you want?



Eitaro Nishijima, CEO

EitaroSoft

<http://eitarosoft.co.jp>

How to Create Such LG3D Apps?

A Quick Peek at LG3D Programming

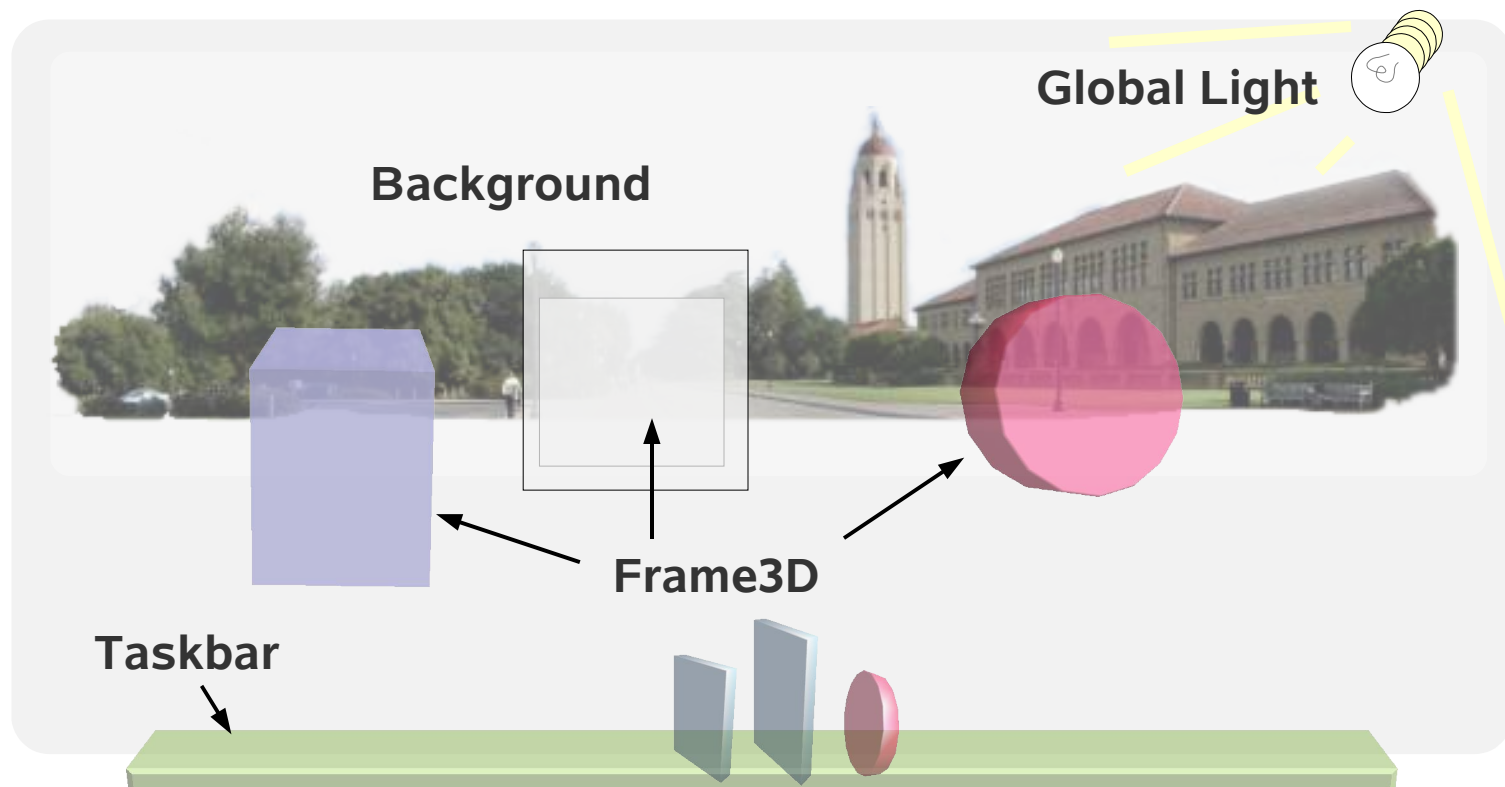
- **High-level View of LG3D Desktop and API**
- **Overview of LG3D Components Use**
- **Coding Examples**

More Info:

LG3D Tutorial: <http://lg3d-core.dev.java.net/tutorial/>

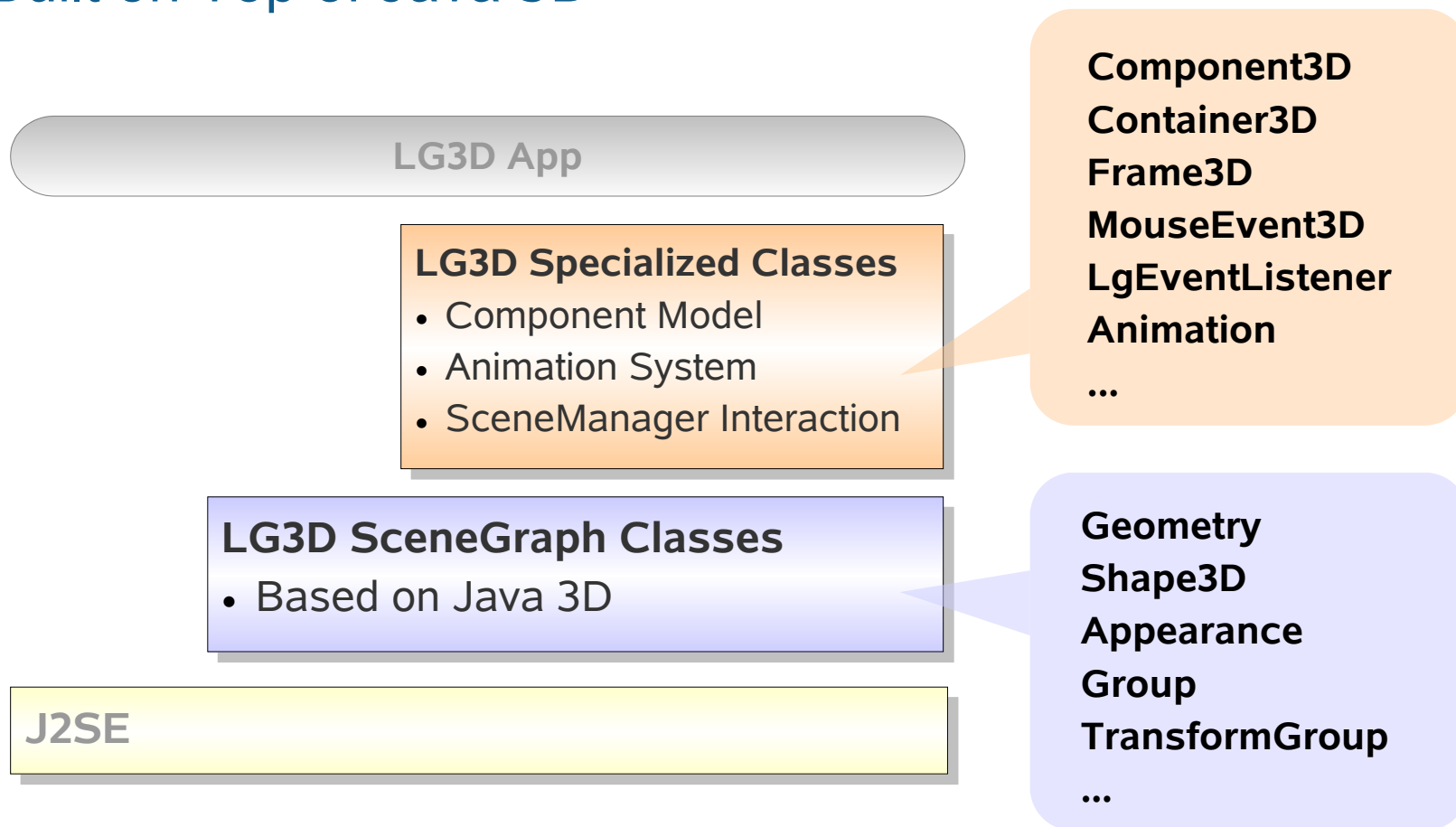
LG3D Desktop

It's a “Deep” 3D Environment



LG3D API

Built on Top of Java 3D™

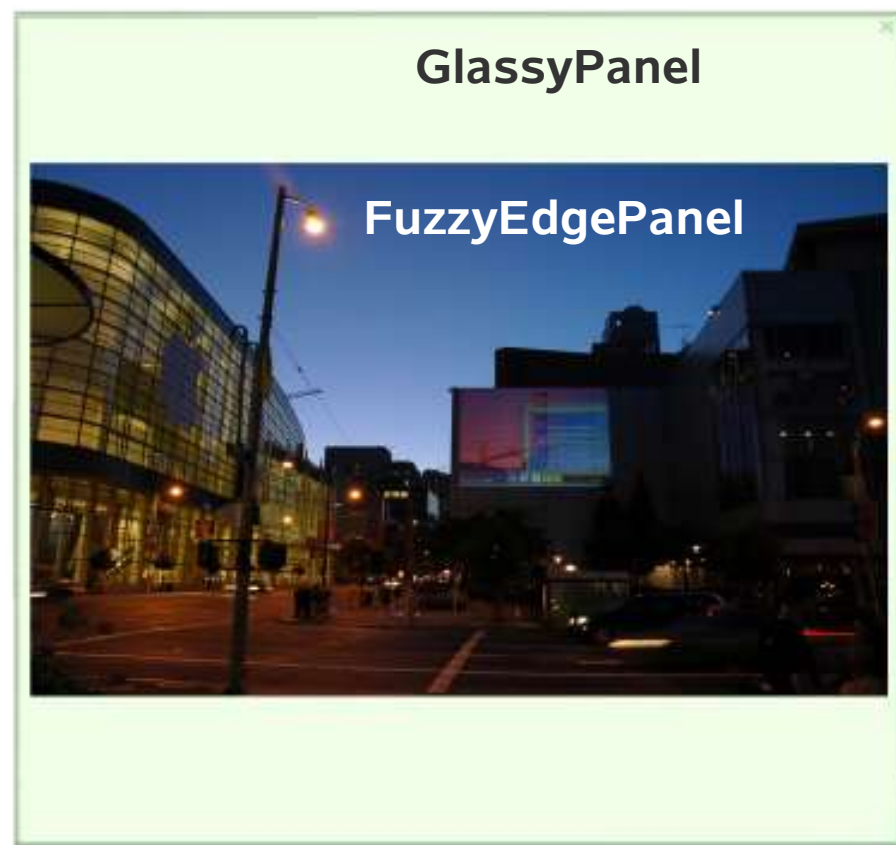
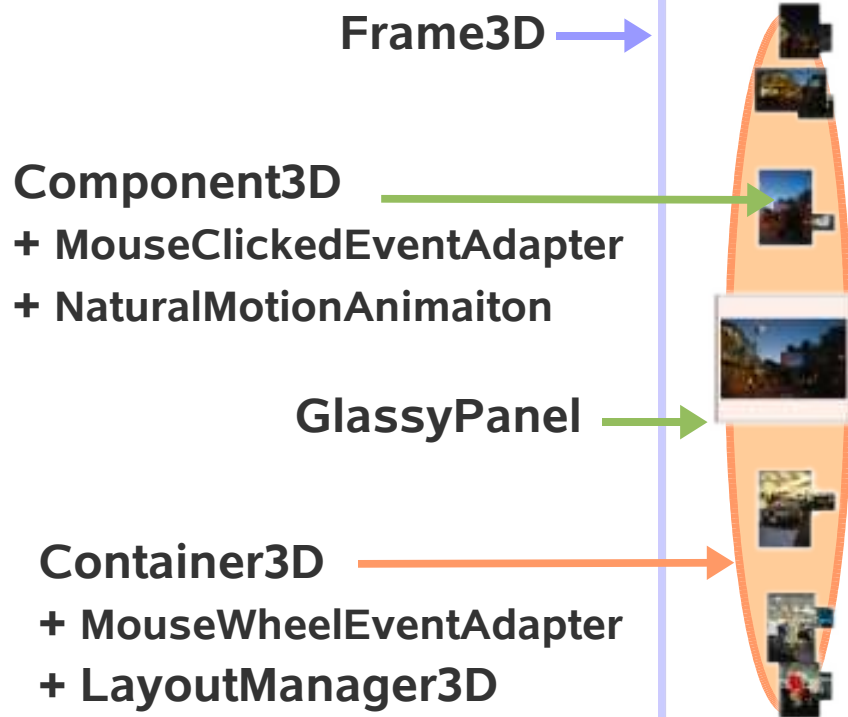


Relationship among Java 3D-based and LG3D classes



LG3D Component Use Case

In Zoetrope Case...



Basic Structure of LG3D App

```
Frmae3D frame = new Frame3D();

Container3D container = new Container3D();

Component3D comp = new Component3D();
// Creation of a shape - set geometry,
// appearance, texture, animation, etc.

comp.addChild(aShape);
// Initialize event handling
comp.addListener(anEventListener);
// Initialize animation
comp.setAnimation(anAnimation);

container.addChild(comp);

frame.addChild(container);

frame.changeVisibility(true);
frame.changeEnabled(true);
```

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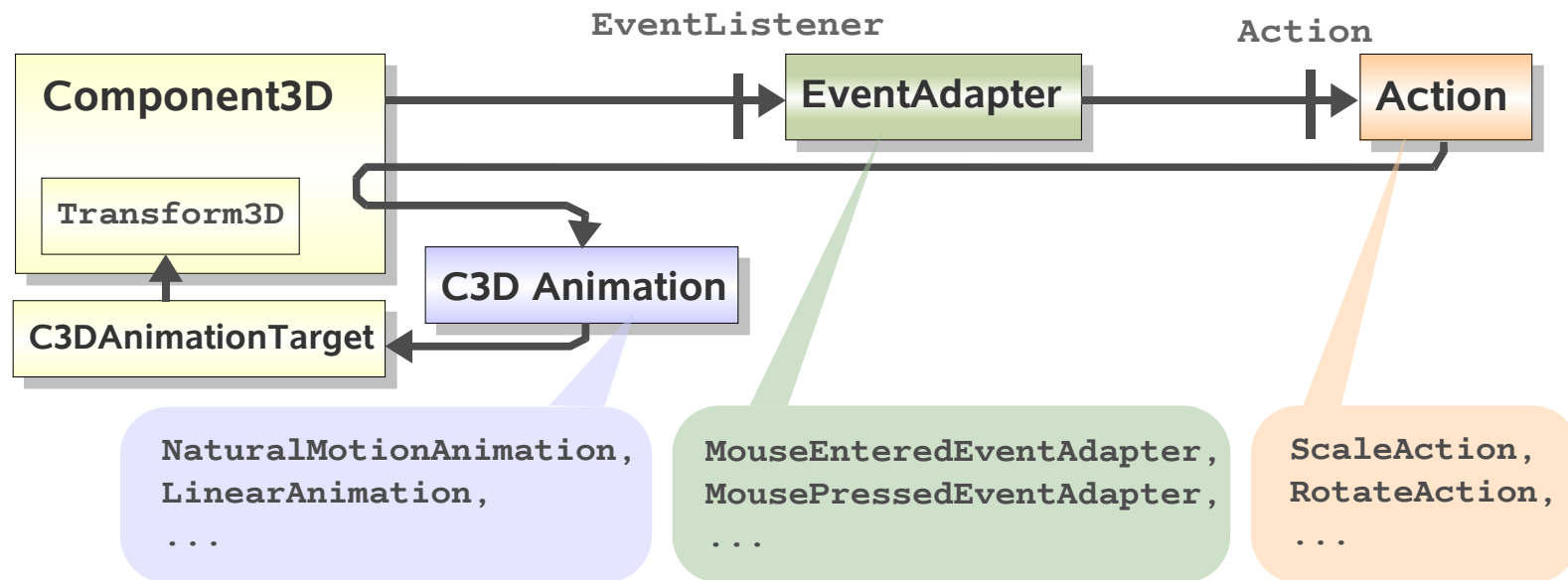
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frame.changeVisibility(true);
frame.changeEnabled(true);
```

Event and Animation System

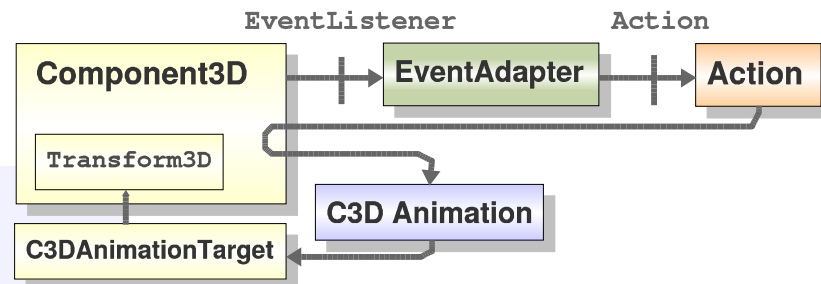
Two of LG3D API's Key Focuses

- Rich User Feedback
- Natural and Componentized Transition Animation



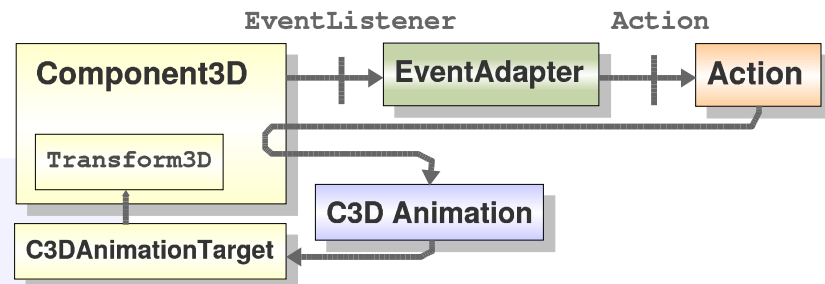
Event and Animation System

```
Component3D comp = new Component3D();
// Initialize a shape and add it
SimpleAppearance app
    = new SimpleAppearance(0.6f, 0.8f, 0.6f);
Box box = new Box(0.04f, 0.03f, 0.02f, app);
comp.addChild(box);
// Initialize animation
comp.setAnimation(
    new NaturalMotionAnimation(1000));
// Initialize event handling
comp.addListener(
    // When mouse enters to the component...
    new MouseEnteredEventAdapter(
        // enlarge it by 20%
        new ScaleActionBoolean(comp, 1.2f)));
```



Event and Animation System

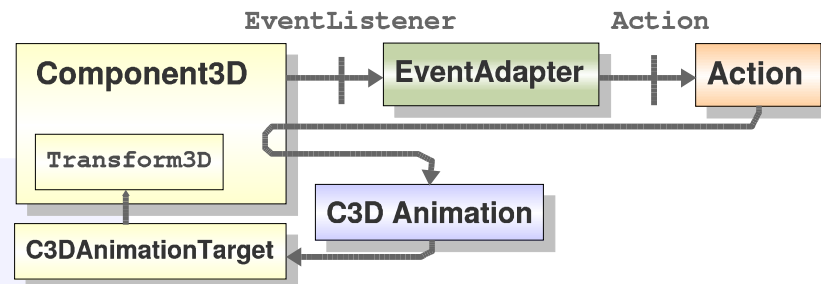
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```



MousePressedEventAdapter

Event and Animation System

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comp.addChild(box);
// Initialize animation
comp.setAnimation(
    new NaturalMotionAnimation(1000));
// Initialize event handling
comp.addListener(
    // When mouse enters to the component...
    new MouseEnteredEventAdapter(
        // enlarge it by 20%
        new ScaleActionBoolean(comp, 1.2f));
    new RotateActionBoolean(
        comp, (float)Math.PI)
```



Moving Forward

What's in the pipe line...

- **0.7 Release**
- **Next Year**

0.7 Release

Just released! Phew!

- WebStart support <http://lg3d-webstart.dev.java.net>
- “App” mode
Enable to run full LG3D on top of user's existing desktop
- Java 3D 1.4
Performance improvements
New features – shader support
- **open**solaris[™] support

Next Year

What's in the pipe line...

- **Ease of Development**

- Tool chain, tool integration
- Visualization library
- “SwingNode” support

- **Enriching the platform**

- Inclusion of Identity & Collaboration features
- Task oriented User Interface



Discussions are taking place at the LG3D forum

<http://lg3d-core.dev.java.net/> Please join us!

Pavilion Demos

Have you seen...

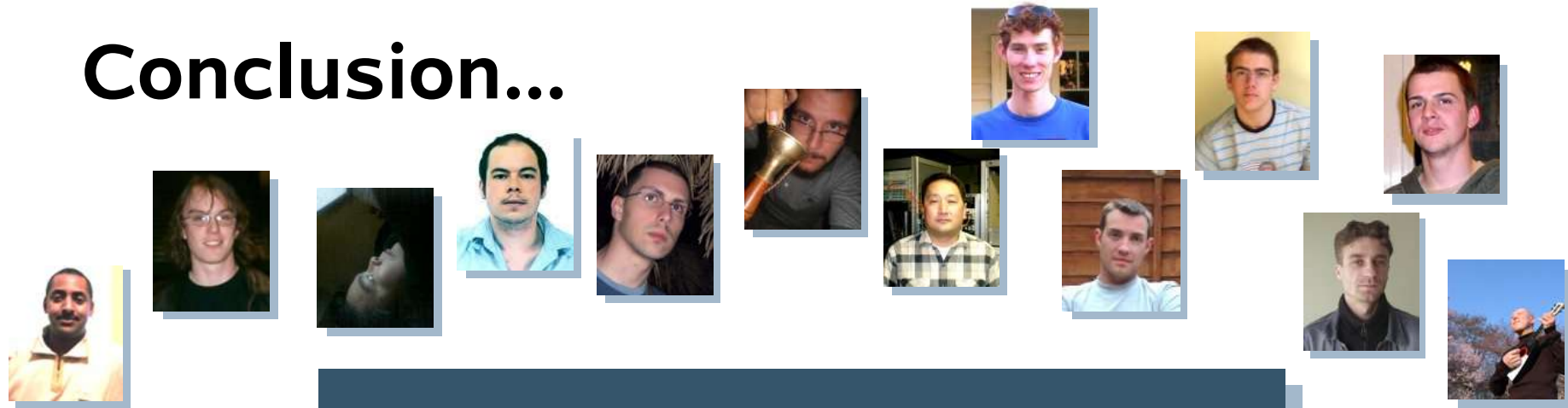
- “Philco” running LG3D?
- LG3D Look & Feel mock-up on cellphone?
- LG3D on 3D LCD Display?

Actius AL3DU
Courtesy of
Sharp Corp.

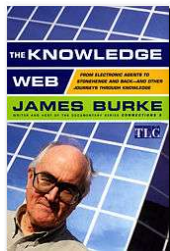


Experimental PowerPC
Embedded Board

Conclusion...



Project Looking Glass
Open Platform for Innovation!
<http://lg3d-core.dev.java.net/>



Q&A

Go run it! <http://lg3d-webstart.dev.java.net>

Go get it! <http://lg3d-core.dev.java.net>

Community Meeting Today at 6pm!
In the City Room at the Argent Hotel

