

WELCOME  
TO  
**JAVAPOLIS**



# Java's Upcoming Consumer Releases

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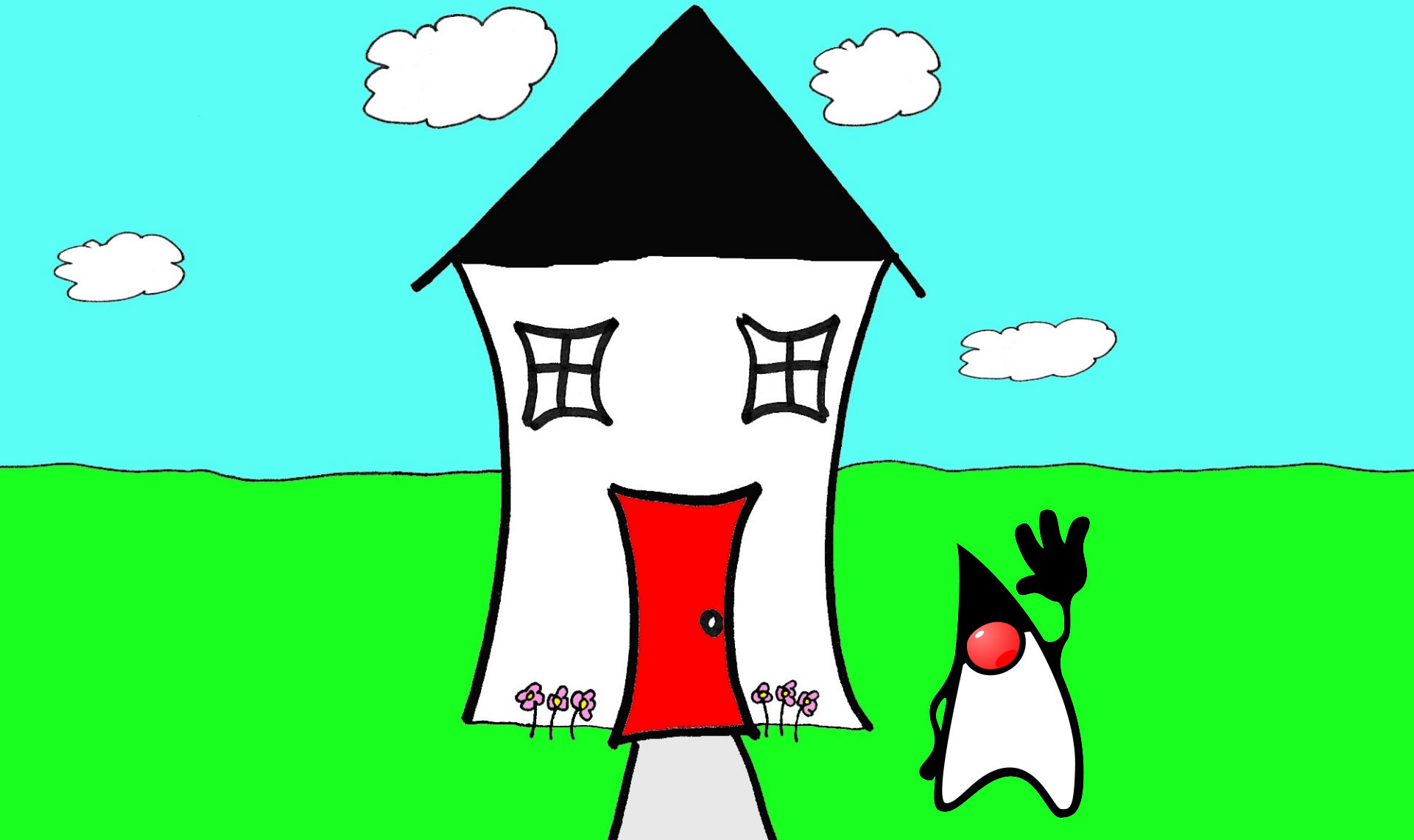
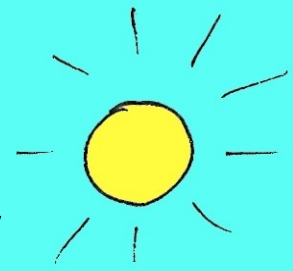
Chet Haase  
Client Architect  
Sun Microsystems



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element)  
*If applicable, place  
your company logo  
here*

# UpdateN and JavaFX

## Java Comes Home to the Consumer





# Agenda

- Update N
- Java FX



# Consumer JRE



~~Consumer JRE~~

Project Hamburg



~~Consumer JRE~~

~~Project Hamburg~~

Java SE 6, Update X



~~Consumer JRE~~

~~Project Hamburg~~

~~Java SE 6, Update X~~

Java SE 6, Update N



~~Consumer JRE~~

~~Project Hamburg~~

~~Java SE 6, Update X~~

~~Java SE 6, Update N~~

Java SE 6, Update 10

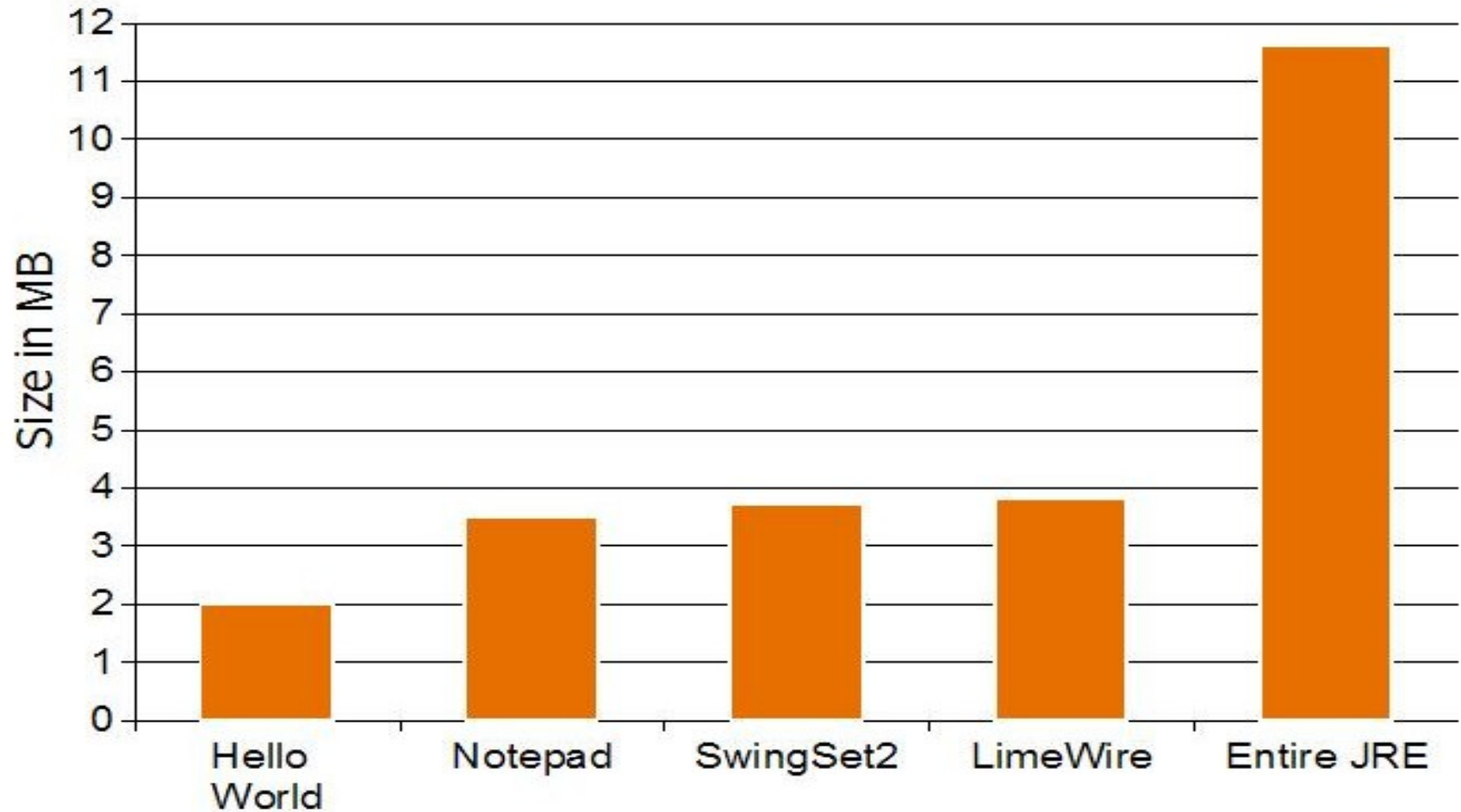
- **Startup Time**
- Install Time
- JRE Detection
- Applet support

- “Coldstart” vs. “Warmstart”
- Root problem:
  - Large files + Disk access speed
- Solution: QuickStarter
  - Pre-warm the disk cache
- Note: QuickStarter != running VM
  - Smaller footprint, more targeted disk pages

- Startup Time
- **Install Time**
- JRE Detection
- Applet support

- Java's not small
  - J2SE 5.0: 7.1 MB
  - Java SE 6: 10+ MB
  - rt.jar: 40+ MB on disk
- Lots of bits being moved around
  - Download, Unzip, Unpack200, Copying
- Solution: Java Kernel
  - Download only core dependencies first
  - Launch application
  - Download and install in the background

# Kernel: Most Apps Only Need a Portion of the Full JRE



# Problems to Fix

- Startup Time
- Install Time
- JRE Detection
- Applet support

- Detecting Java from a web page is hard
  - Does the user have Java?
  - What version?
  - How to get user to install and return?
- Result: Most applets use old (1.1) APIs
  - Allows them to run compatibly on old versions
    - e.g., MS VM
- Solution: Deployment Toolkit
  - JavaScript hosted at Sun for general detection
  - Plugins (ActiveX and Mozilla) for more specific detection
  - Detect, start installation if necessary, launch

# Problems to Fix

- Startup Time
- Install Time
- JRE Detection
- Applet support

- Out-of-process
  - Small core process for overall plugin
  - Separate process(es) for applets
  - Faster startup
  - Better signed applet behavior on Vista
- Increased robustness
- Better JavaScript/Java communication support
- Different JVM options per-applet
- Different applets can run different JRE versions
- Built for IE 6&7 and Firefox 3

- Please test it and let us know!
  - <https://jdk6.dev.java.net/6uNea.html>
- Windows:
  - Java Control Panel, “Advanced” tab
  - “Java Plug-In” node
  - Select the checkbox:
    - “Enable the next-generation Java Plug-in”
- Linux/Solaris
  - Symlink to `lib/{i386,sparc}/libnpjp2.so` from `firefox/plugins` or `~/.mozilla/plugins` directory
  - Remove any old symlinks to `libjavaplugin_oji.so`



But Wait, There's More!

- Better Windows graphics performance
  - GPU-accelerated, using Direct3D
  - On by default
- Nimbus:
  - Cross-platform look & feel
  - More modern than current Metal look & feel
  - Opt-in: Not the default look & feel
    - Preserves backwards compatibility
  - Design tool for creating new skins

Laffy

File Look & Feel test

Pages: Buttons

**Buttons**

**Text Components**

### Button

	Normal	Over	Pressed	Disabled
Normal	<input type="button" value="Cancel"/>	<input type="button" value="Cancel"/>	<input type="button" value="Cancel"/>	<input type="button" value="Cancel"/>
Focused	<input type="button" value="Cancel"/>	<input type="button" value="Cancel"/>	<input type="button" value="Cancel"/>	
Default	<input type="button" value="Cancel"/>	<input type="button" value="Cancel"/>	<input type="button" value="Cancel"/>	
Default + Focused	<input type="button" value="Cancel"/>	<input type="button" value="Cancel"/>	<input type="button" value="Cancel"/>	

### Toggle Button

	Normal	Over	Pressed	Disabled
Normal	<input type="button" value="Cancel"/>	<input type="button" value="Cancel"/>	<input type="button" value="Cancel"/>	<input type="button" value="Cancel"/>
Focused	<input type="button" value="Cancel"/>	<input type="button" value="Cancel"/>	<input type="button" value="Cancel"/>	
Selected	<input type="button" value="Cancel"/>	<input type="button" value="Cancel"/>	<input type="button" value="Cancel"/>	<input type="button" value="Cancel"/>
Selected + Focused	<input type="button" value="Cancel"/>	<input type="button" value="Cancel"/>	<input type="button" value="Cancel"/>	

### Radio Button

	Normal	Over	Pressed	Disabled
Normal	<input type="radio"/> Cancel	<input type="radio"/> Cancel	<input type="radio"/> Cancel	<input type="radio"/> Cancel
Focused	<input type="radio"/> Cancel	<input type="radio"/> Cancel	<input type="radio"/> Cancel	

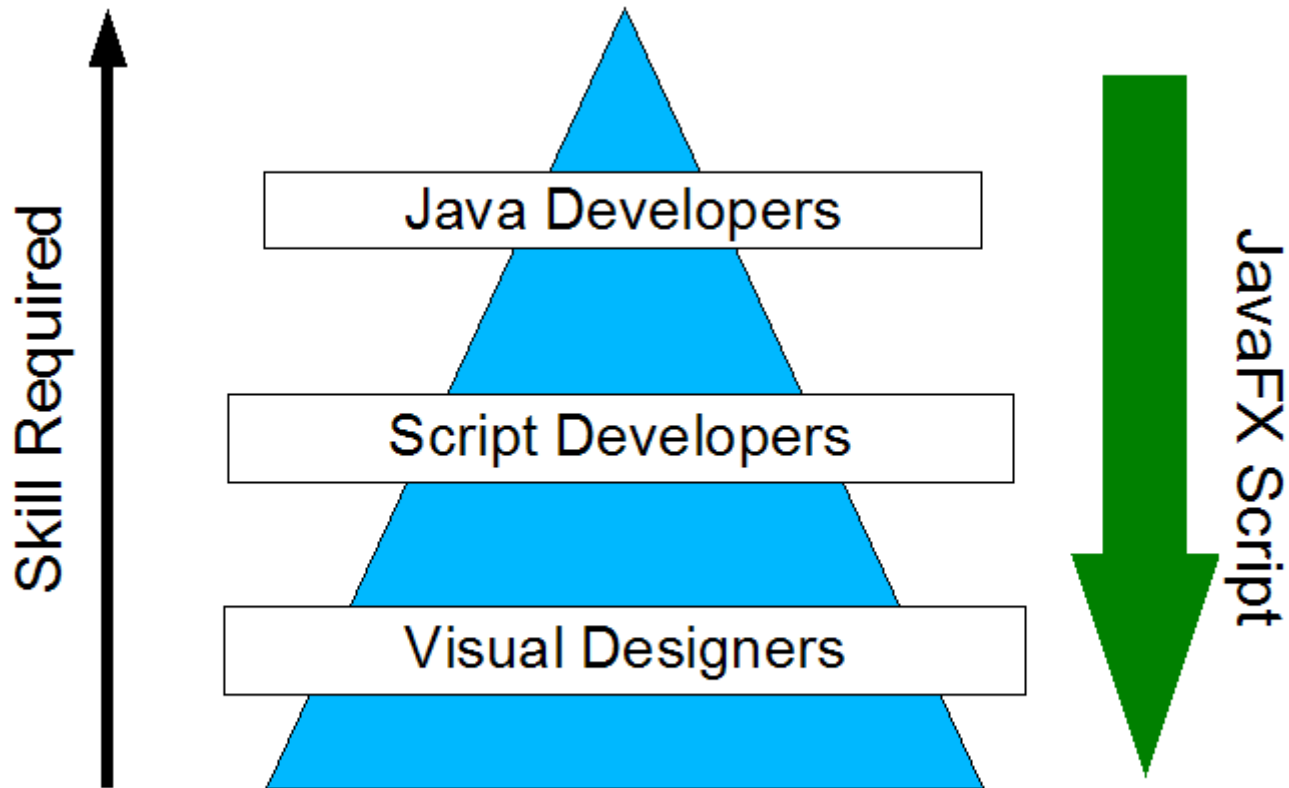
- Early Access available now
  - <https://jdk6.dev.java.net/6uNea.html>
  - Everything seen here except:
    - Java Kernel will be available by Beta
- Beta planned for February
- GA planned for early second half of 2008

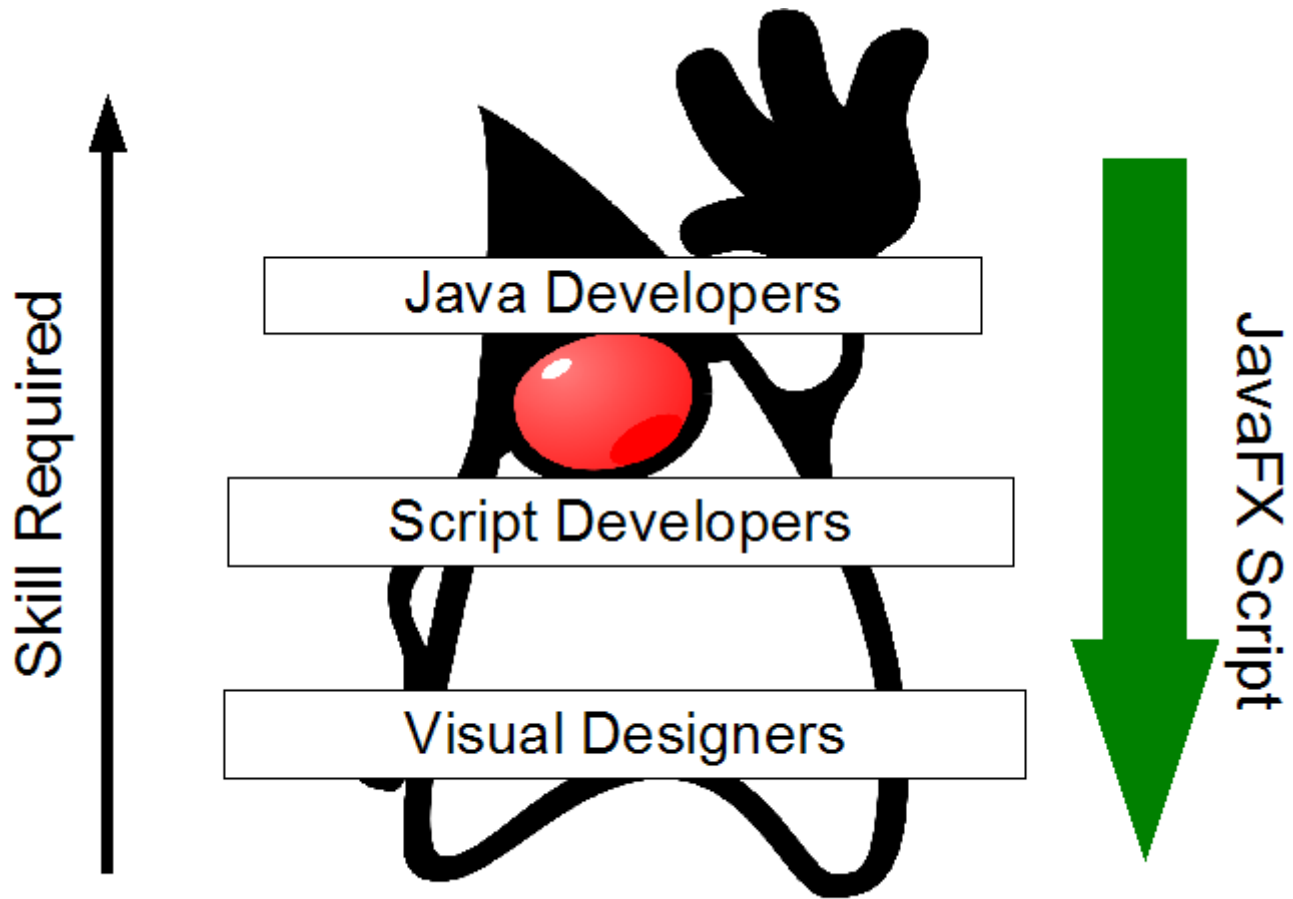


# Agenda


- Update N
- Java FX

# JavaFX: Expanding the Developer Base



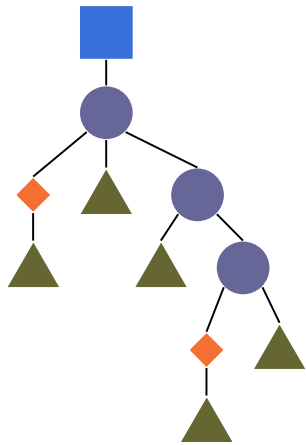


- Java FX Script
- Scene graph
- Media
- HTML
- Multiple Device

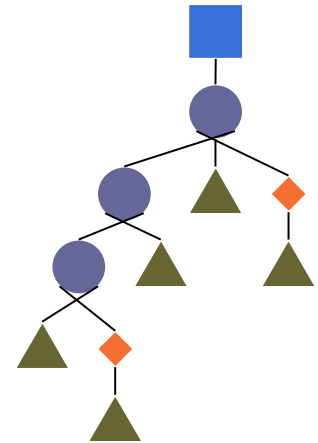


# *Java FX Script*

- Language
  - Simple data binding
  - Fast prototyping
  - Declarative GUIs and graphics
  - Easily programmed animations
- Compiler
  - Interpreter (now): okay for demos
  - Compiler (soon): necessary for real applications



# Scene Graph



# DEMO

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## Scene Graph



- “Retained mode” graphics
  - Versus immediate-mode 2D API
- More declarative model for:
  - Graphics
  - GUI
  - Media
  - Animation
- Used by FX Script
  - Also usable from Java

- Announcing This Week!
- Open source project now available
  - <http://scenegraph.dev.java.net>
- Early early (early) access form
  - Functional
  - APIs not final



Media

Media

Media

Media

Media

# Old Client TODO List

- PERFORMANCE
- DATA BINDING
- SWING FRAMEWORK
- EASE OF DEVELOPMENT
- MORE HARDWARE ACCELERATION
- WORLD PEACE
- VIDEO
- SHAPED WINDOWS
- MIXED HEAVYWEIGHT/LIGHTWEIGHT
- ANIMATION
- RASTERIZATION FIXES
- DRAG AND DROP WORK
- NEW LOOK & FEEL

# Recent Client TODO List

- PERFORMANCE
- DATA BINDING
- SWING FRAMEWORK
- EASE OF DEVELOPMENT
- MORE HUMANWARE ACCELERATION
- WORLD PEACE

D VIDEO

- SHARPER WINDOWS
- MIXED HEAVYWEIGHT/LIGHTWEIGHT
- ANIMATION
- RASTERIZATION FIXES
- DRAG AND DROP WORK
- NEW LOOK + FEEL

- Media player component
  - Video
  - Audio
  - Simple player component creation
- Modern CODECs
  - native
  - cross-platform



<HTML>

- Swing HTML support intentionally basic
- Need new component for “street HTML” rendering
- Will allow integrated Swing, graphics, and HTML applications



Mobile

- Java FX Script isn't just for desktop
  - Java FX Mobile platform
- Development skills that carry between platforms
  - Not *mobile developers*
  - Developers with skills that are *mobile*
- Easier authoring of applications for multiple devices

- Update N
  - <https://jdk6.dev.java.net/6uNea.html>
- Java FX
  - <https://openjfx.dev.java.net/>

# Q&A

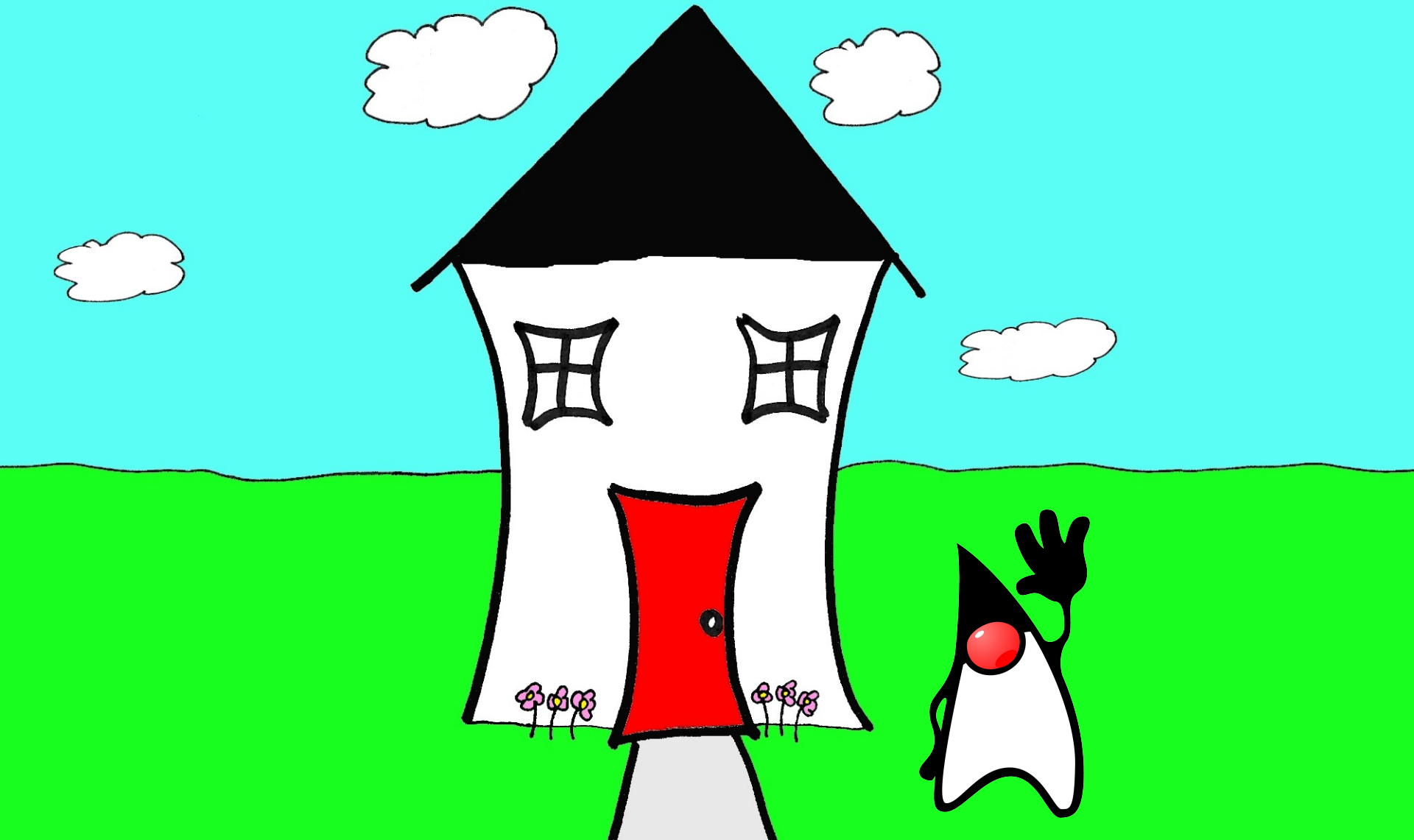
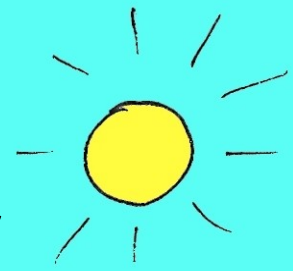
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View JavaPolis talks @ [www.parleys.com](http://www.parleys.com)



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Thank you for your  
attention

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