



Free Java
Reasons to be cheerful!
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Who are these guys anyway?





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“Java’s not dead, it’s just resting!”

- ▽ This is a fact!
- ▽ This is an opinion
- ▽ Due to time constraints, other talks and beer, this talk may be a little different to advertised...
- ▽ For bonus points find the Easter egg!





“Java’s not dead, it’s just resting!”

- ▽ It’s quite true that Java (the language) has been a bit quiet
- ▽ Yeah, but that’s a lot to do with big company stuff
 - We don’t really want to talk too much about that... maybe
- ▽ Java 6 had some significant improvements
 - It gets more bad press than it deserves
 - Performance is a key benefit
- ▽ Java 7 seemed at times to get lost in the wilderness

- Some of the features were released as updates to SE 6
 - G1, Compressed object pointers, Slimmed down web runtime

Big arguments about some features.....

- e.g. Closures (still going!)

JavaFX distraction





How did we get here? Where are my shoes?

- ▽ The community and the platform have not been quiet
 - You're a noisy bunch, that's for sure!
 - Conference attendances are _way_ up and growing
 - Oracle marketing estimates 9-10 million developers
 - Dozens of new JVM languages

- ▽ We're actually winning
 - Seriously! Java is liberated (thanks to people in this room)
 - We're now fighting over vigorously debating types of licenses and interpretations
 - And Governance!
 - Like any good democracy, we need to be vigilant of our freedoms





Along came Larry...





Google vs Oracle - Round 1 - Fight!



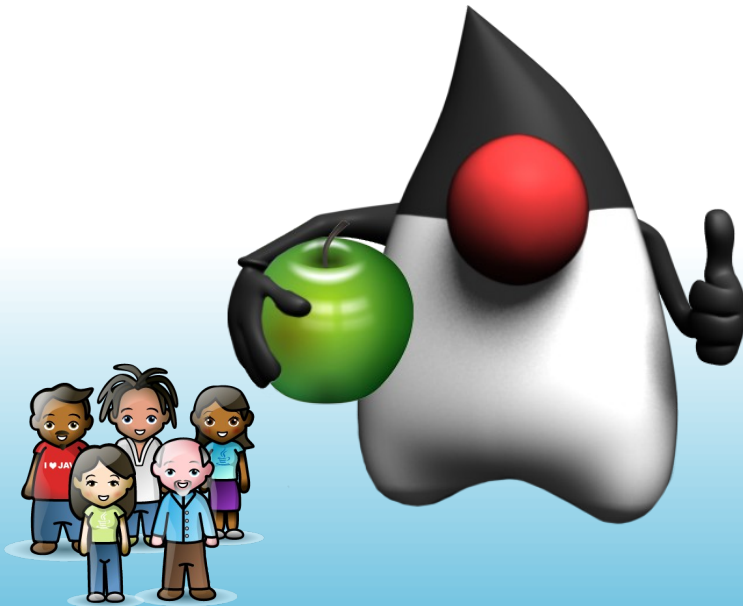
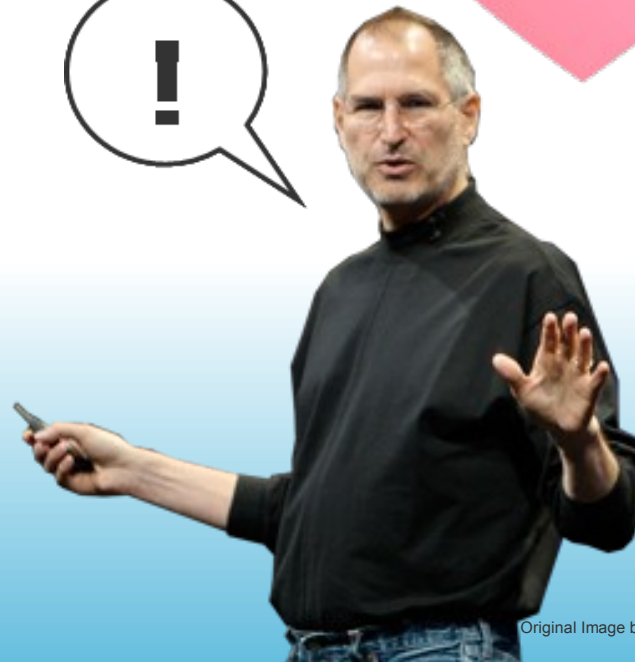


Where's the lawsuit at?

- ▽ <http://www.groklaw.net> (search for OracleGoogle)
- ▽ Most recent FUD: Copyrighted Source code found in Android!
 - A little digging showed this to be a little sensationalist
- ▽ Most recent case event: Case referred to a private mediator
 - If unresolved then trial on Oct 31 2011
- ▽ Developer community at Devovx voted (87%) that the lawsuit was harmful in some way to Java
- ▽ Is the message that this is scaring off the community & corporates getting through to Oracle management?



Parting of the ways and new joiners





OpenJDK - Plan B

- ▽ 20 Sep 2010 - Mark Reinhold announces that Oracle will go with Plan B
 - Splits the existing OpenJDK effort into Java 7 (July 2011) and Java 8 (2012)
 - Popular choice with the community
- ▽ Some JRockit features to be added to OpenJDK
 - Exact roadmap not yet clear
- ▽ Changes to the memory model (Bye-bye Permgen)
- ▽ Some new features to be delayed until JDK 8
 - Closures Lambdas SAM literals





InvokeDynamic

- ▽ InvokeDynamic is a key new JVM feature
 - It's the first new bytecode since Java 1.0
 - Joins InvokeVirtual, InvokeStatic, InvokeInterface and InvokeSpecial
- ▽ It removes a key part of the static typing system
 - Method names / signatures will not need to be known at compile time
 - User code can determine dispatch at runtime
 - Lots of interesting possibilities
- ▽ Aims to be as fast as InvokeVirtual
- ▽ No Java syntax for handling it in Java 7 - but maybe for 8



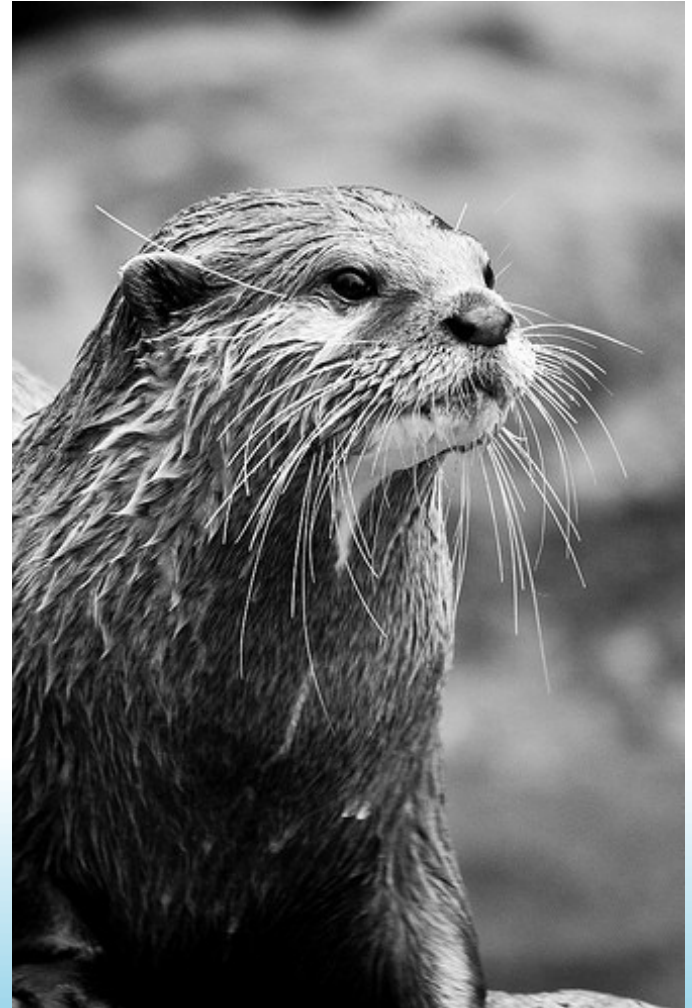
InvokeDynamic is a friend to free languages

- ▽ Free, open JVM languages such as JRuby, Jython, Groovy, Clojure et al all stand to benefit from InvokeDynamic
 - These gains will vary, JRuby gains a lot, Clojure not so much
 - There's even talk of bringing it to Scala!
- ▽ Groovy is already well established as Java's flexible friend
 - Increasing its performance keeps it at the forefront
- ▽ JRuby has been working closely with the JSR-292 team
 - Big potential wins
 - Makes JRuby enticing to RoR developers



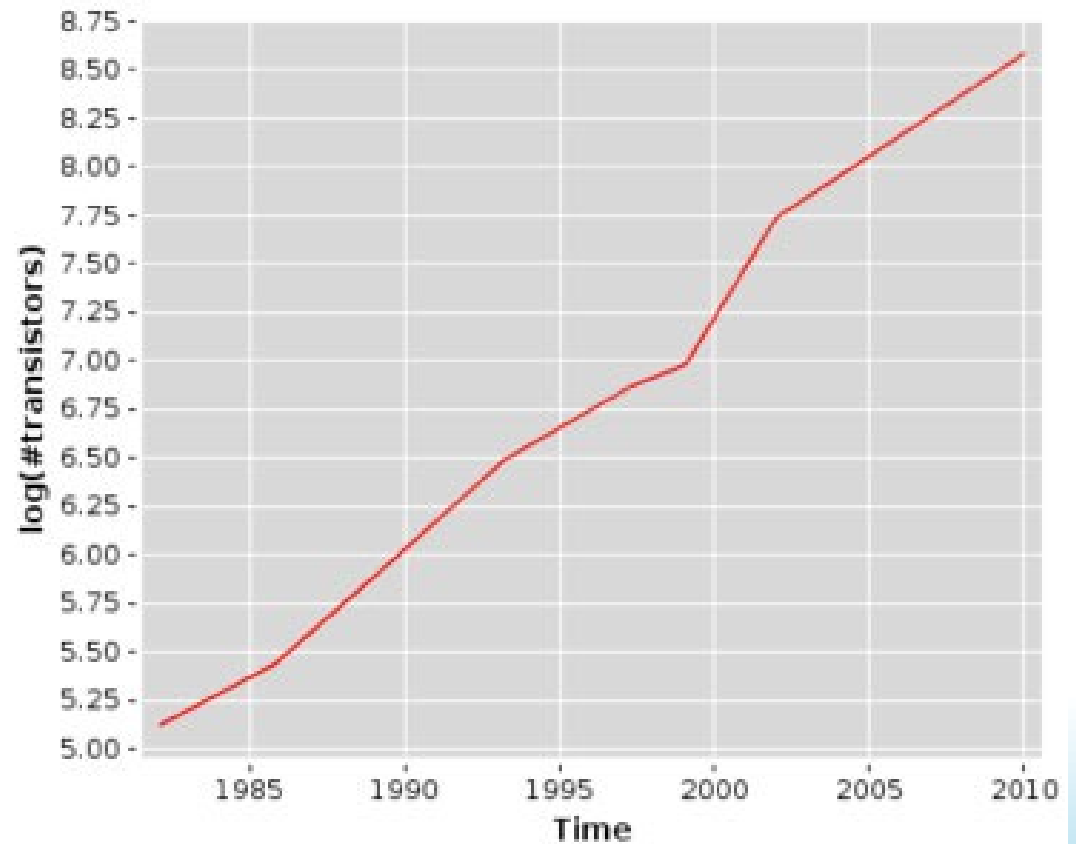
And now for something completely different... Concurrency

- ▽ Otters!
- ▽ Collaborative
- ▽ Competitive
- ▽ Sneaky
- ▽ Hare off in different directions
- ▽ Can wreak havoc if not contained





Why concurrency matters again





New concurrency models

- ▽ Java's approach of mutable state, locks and visible by default looks increasingly dated
 - `java.util.concurrent` is a big help, but can only go so far
 - Java's syntax and semantics are constraints
 - `Thread` is not a high-level concurrency abstraction
- ▽ Other languages on the JVM are free to innovate
 - Clojure - Immutable by default, thread-isolation by default, STM subsystem
 - Scala - Powerful actors model
- ▽ Java 7 gets in on the party
 - `fork` and `join` executions are not necessarily threads





What's in my Future?

- ▽ Learning another JVM language won't hurt!
 - Lots to choose from
 - No “Java Killer” yet.....

- ▽ Don't forget about Java 7!
 - Some compelling new features (Coin, NIO.2, F/J, etc)
 - Yet more performance

- ▽ The Multi-core revolution is here
 - Brush up your modern concurrency
 - Java 7 makes this easier
 - Other languages offer alternative approaches



Java is not just the language





It's about the community innit!



Original Image by US Embassy Sweden



Future of Java SE

- ▽ Will be just fine
- ▽ The mainline VM will continue to improve
 - InvokeDynamic
 - JRockit feature merge
- ▽ Probably not too many faddish language features
 - But you can have what you want anyway in other JVM languages
 - Yeah, we're looking at you Scala, Clojure, Groovy fanboys/girls
- ▽ Hopefully everyone saw Mark's talk



Future of JEE

- ▽ The future here looks bright!
 - More servers are getting certified as JEE6 - but it's still early days
 - JEE7 process is starting to get underway
- ▽ JEE has shrunk whilst the open source alternatives have grown
 - They're pretty much meeting in the middle
 - This is a good thing
 - Spring is quite big these days....
 - That's less of a good thing
- ▽ Case Study - Adam Bien (Java Champion)
 - Live Demo - rapid development of apps with core JEE6

Check out the Devoxx video of him online





Future of Java ME

- ▽ On the decline
 - Nokia has dropped it from their technology roadmap
 - Still popular in the dumbphone market
 - That's still a really huge market

- ▽ Hints that with JDK 8, Java SE could eventually run on mobiles.
 - Mark mentioned this earlier
 - Will it be soon enough?

- ▽ Could Android become the official replacement for Java ME?
 - “No Comment” (Oracle and Google)
 - Seems unlikely today, but stranger things have happened

LJC* Java FX

- ▽ Yeah, well, it was a nice try
- ▽ Java FX 2.0 is coming out
 - Will anyone notice?
- ▽ Even MSFT are downgrading Silverlight from their roadmap
 - ‘HTML5’ seems to be the way forward
 - Whatever that means...
- ▽ Why have another runtime in a browser when it already has a capable (Javascript) VM?





JCP - Trouble in Paradise?

- ▽ OK, so it was never _really_ paradise
 - And we lied about not talking politics
- ▽ Stephen Colebourne's blog captures the events nicely
 - <http://www.jroller.com/scolebourne/>
- ▽ Prominent members leaving
 - Doug Lea
 - “Crazy” Bob Lee
- ▽ Allegations of ballot stuffing
- ▽ We're not sure what shape it's going to take in the future
 - But let's face it - it's dead



Rebooting OpenJDK governance?

- ▽ Was there ever really a mature OSS governance model for OpenJDK?
- ▽ Surely something is better than nothing?
- ▽ New attempt being made by Mark & the committee
 - Really positive that the team are trying to make progress
 - Open mailing list: Doug's back
 - Still an awful lot to be ironed out - but possibilities
 - The burden's still on Oracle to engage with the community
 - But the community need to step up too
- ▽ But what about the rest of the JCP?



An indecent A modest proposal

- Imagine a world...
- Where there was an independent standards body...
- Focused on delivering pure free as-in-speech and beer, explicitly patent-free, open standards for the Java ecosystem...
- Could such a body replace - or feed in to - the JCP?
 - This is similar to what Stephen Colebourne et al have suggested
 - We are just developers
 - But just imagine....



The future's bright, the future's Java!

- ▽ We have arguably the most capable VM on the planet
- ▽ We have a wealth of new languages to complement and challenge Java
- ▽ We have oceans of open source software
- ▽ We have a great community (you guys)!!
- ▽ This is a GREAT time to be working in the Java ecosystem
- ▽ We have an opportunity to engage and make the most of our “Interesting Times”



Thanks for listening: wellgrndjava50

