The Future of Java

Thorbiörn Fritzon
Sr. Java Architect
Sun Microsystems

"Java is boring"

Things We Like With the Java Language

- Automatic Memory Management (GC)
- Strong Typing
- Object-Oriented
- No Pointers
- WORA
- Run-Time Optimization
- Rich Class Library
- Static Typing (well, sometimes…)
- Simple, Clean and Expressive

Things We Like With the JVM

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Languages For the JVM?

Infiqs, Java+, BDC **Scheme**, Armed Bear **Common Lisp** (ABCL), Lili, Jatha, Bigloo, SISC, **Lisp**, PS^{3}I, Scheme package, HotScheme, webLISP, Jaja, JScheme, Skij, Kawa, Jscheme, LispkitLISP Compiler, Lambda Calculus Interpreter, The UncommonLisp Interpreter, uts, Grasshopper, Testalgo2, Mapyrus, MaVerickBASIC, CONVERT, JBasic, HotTEA, JavaBasic, COCOA, TSR-80 Model 1 **BASIC**, StarLogo, AJLogo, Turtle Tracks, rLogo, Yoyo, K.U.Leuven JCHR, TermWare, Drools, **XProlog**, tuProlog, PROLOG+CG, DGKS Prolog, JLog, Java Internet Prolog, NetProlog, CKI Prolog, JavaLog, Jinni, LLPj, LL, W-Prolog, jProlog, JESS-Java Expers System Shell, javalog, MINERVA, Kiev, Bruce, SmallWorld, SmalltalkJVM, Talks2, Bistro, G, Groovy, Nice, Scala, Anvil,

http://www.robert-tolksdorf.de/ vmlanguages.html

SmallWorld, **SmalltalkJVM**, Talks2, Bistro, G, **Groovy**, **Nice**, **Scala**, Anvil, Ephedra, dSelf, Hojo, foo, Correlate, MetaJ, Demeter/Java, Bolero, **Sather**, PERCobol, **Ada**, JGNAT, **FScript**, Sleep, WLShell, Bambookit, JudoScript, **JRuby**, ObjectScript, Jickle, Yoix, Simkin, **BeanShell**, Dawn, DynamicJava, W4F, Netscript, Rhino, PolyJsp, Resin, Iava, WebL, FESI, iScript, **Jython**, Pnuts, Yassl, Janino, JAsCo, Join Java, Kanaputs, Jam, JEX, JMatch, Javassist, Jiazzi, ArchJava, **MultiJava**, Gilgul, dejay, Guarana, AspectJ, PolyJ, xkjc, Jass, Borneo, GJ, Jamie, Scriptic, OpenJava, Kiev, JavaParty, JAVAR, JAVAB, Pizza, myForth, Delta Forth, FIJI, Misty Beach **Forth**, AMPC, **Snobol3**, Processing, Qexo, Frink, **ANTLR**, JavaCC, ZigZag, ComponentPascal, JOMP, Tea, Tiger, **perljvm**, f2j, **Oberon**, Luck, **Occam**, E, **Assembler**

Categories

- Precompilers: 10
- Tcl: 3
- Functional: 6
- LISP & Co.: 21
- BASIC: 11
- Logo: 5
- Logic Programming: 19
- Eiffel: 1
- Smalltalk: 4
- Various: 53

- COBOL: 1
- Ada: 2
- Scripting: 27
- Extended Java: 31
- Forth: 5
- Assemblers: 4

$$\sum 203$$

JSR-292: Supporting Dynamically Typed Languages on the Java Platform

- New bytecode: invokedynamic

- Looking at closures, first class functions and autonomos methods

- Looking at tail recursion
  - > Continuations?

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Thorbiörn Fritzon
thorbiorn.fritzon@sun.com