

First Pass

***Before enlightenment:
chop wood, fetch water.***

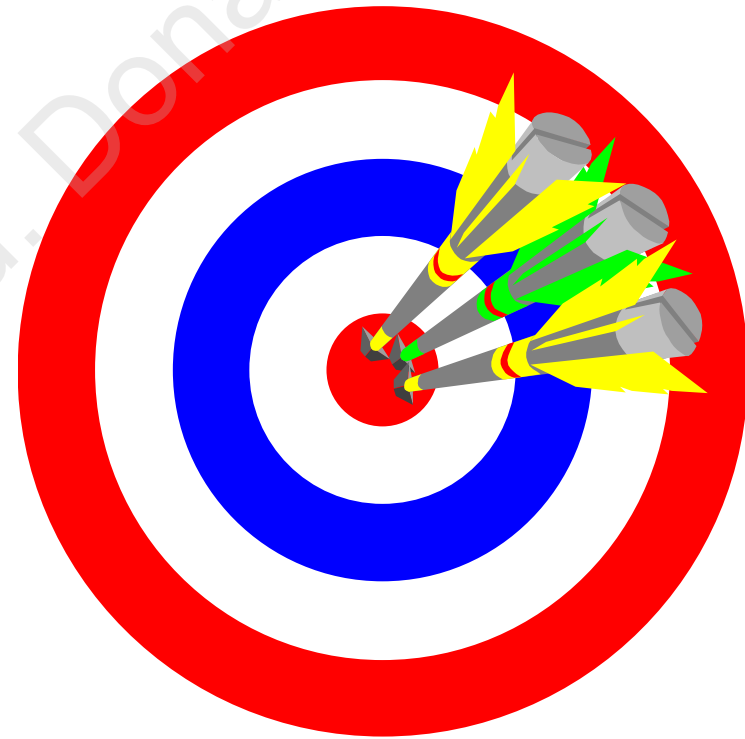
***After enlightenment:
chop wood, fetch water.***

—old Zen saying

First Pass

- What is Java? The brochure says:

- ◆ Simple
- ◆ Object Oriented
- ◆ Distributed
- ◆ Robust
- ◆ Secure
- ◆ Architecture Neutral
- ◆ Portable
- ◆ Interpreted
- ◆ High Performance
- ◆ Multi-threaded
- ◆ Dynamic



“It’s a dessert topping and a floor wax too!”

First Pass

“Java is a blue collar language. Its not PhD thesis material but a language for a job. Java feels very familiar to many different programmers because I had a very strong tendency to prefer things that had been used a lot over things that just sounded like a good idea.”

—James Gosling, “The feel of Java”, *IEEE Computer*, June 1997

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“Well, I suppose that’s true if ‘blue collar’ means, ‘just get something done and worry about the consequences later’...the folks at JavaSoft didn’t bother to look at the experiences of the millions of C++ and Smalltalk developers. They must have thought that they were much smarter than all of those folks. Obviously, doing it ‘right’ was not a priority.

And the idea that they preferred ‘things that had been used a lot’ is a joke. They did no such thing.”

—comp.lang.java newsgroup poster, October 1997

First Pass

- What is Java?
 - ◆ Java is an object-oriented programming language
 - ◆ Java ostensibly has a standard library
 - ◆ Java programs can be downloaded and run from the network
 - ◆ Java programs can be run from within a browser, but don't have to be

First Pass

- What is Java?
 - ◆ Java is compiled into “ByteCodes”
 - ◆ ByteCode is run (interpreted) by a Java Virtual Machine (JVM) and is what is downloaded from the network
 - ◆ ByteCode is small - all complexity is in the class libraries: GUI, file, network, etc.
 - ◆ The ByteCode is checked before it is run.

First Pass

- The Role of Java
 - ◆ System-independent / architecture neutral development and deployment
 - ◆ Enable network-resident applications
 - ◆ Enable component-based applications
 - ◆ For development of full applications
 - ◆ For development of applications which execute within Web browsers - applets
 - ◆ Standard platform for NC technology

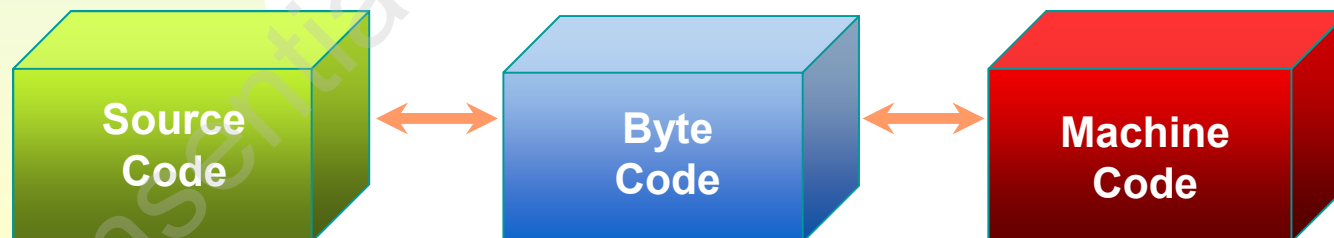
First Pass

- Java's History: *"The Most rapidly adopted prog. lang. in history"*
 - ◆ '90: *Further* (Bill Joy) & *Oak* (James Gosling)
 - ◆ '91: *Green Project* - Smart Consumer Electronics (Gosling & Mike Sheridan)
 - ◆ '92/93: *First Person Inc.* - Set-top box operating systems for Time Warner - interactive TV
 - ◆ '94: Back to *Sun* - growing Web requirements realised
 - ◆ '95: Prototype browser (Patrick Naughton) - becomes *HotJava...*
 - ◆ '95/6: Netscape 2.0 released with Java support
 - ◆ '97: JavaOne & JavAus

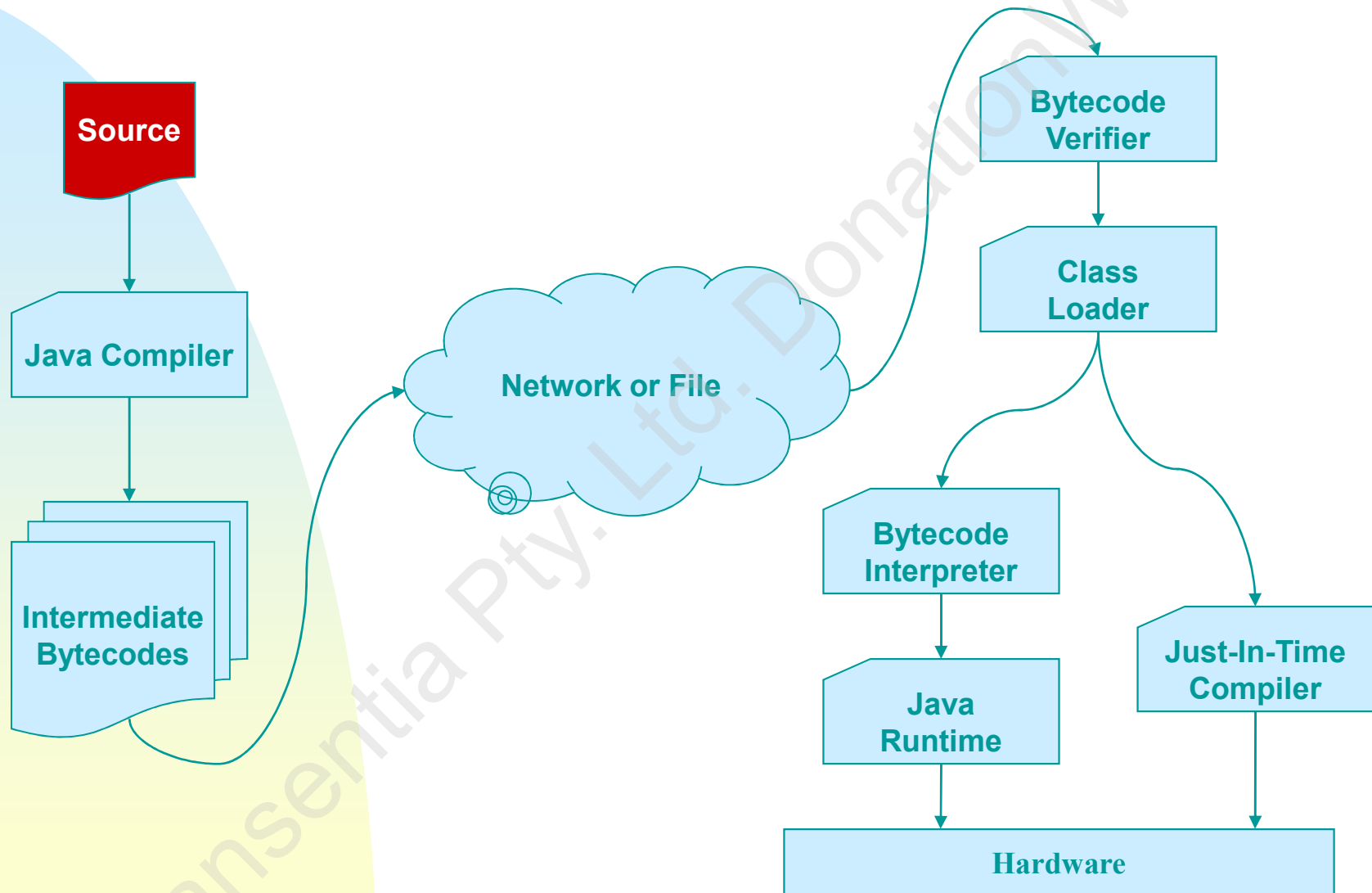
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- How Java Works

- ◆ The JVM provides a standard operating environment for Java programs
- ◆ This is what makes Java cross platform
- ◆ ByteCode is interpreted, therefore slower
- ◆ JVM enforces all checking so theoretically no “crashes” or “nasty code”
- ◆ There are “Just In Time” compilers



First Pass



Sunday, July 05, 2009

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- Various species of Java program:
 - ☞ Applications
 - ☞ Applets
 - ☞ Servlets
 - ☞ Beans
- Applications
 - ◆ Applications are stand-alone
 - ◆ Run by the user, generally with the Java Interpreter
 - ◆ Full access to the OS, networks, files, etc.
 - ◆ Just like a normal program

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- Applets
 - ◆ Applets are executable content within a Java enabled Browser
 - ◆ Zero access to files, limited access to network
 - ◆ Generally used to provide interactive elements on a web page
- Servlets
 - ◆ Servlets are executable content within a Java enabled Web Server
 - ◆ Generally used in a similar fashion to CGI programs

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- Beans
 - ◆ Reusable software components
 - ◆ Intended to foster a component market
- Java and Web Content
 - ◆ Secure, cross-platform way for code to be executed
 - ◆ Interactive content moves the emphasis to the Client (Browser) & reduces Server load
 - ◆ Browser side program is stand alone - it gets data from the server and then works by itself
 - ◆ Arbitrary content & handling

First Pass

■ Essential URLs

- ◆ <http://www.javasoft.com>
- ◆ <http://developer.javasoft.com>

■ Online Resources

- ◆ <http://javaboutique.internet.com/>
- ◆ <http://www.gamelan.com>
- ◆ <http://www.javaworld.com>

■ Free Book

- ◆ <http://www.bruceeckel.com/javabook.html>

■ Useful Tools

- ◆ <http://www.alphaworks.ibm.com>