Learning Tools for Java

Introduction

- DrJava
- BlueJ

Web-based

- Blackboard
- WebCT

No Evaluation Toolkit, sorry

An aside: Java as an introductory language

- Gartner Group, 1997
  - Taught in 78% of schools (C++ primary 95%)
  - Mandatory in 50% (C++ 82%)

- Gartner Group, 2000
  - Taught in 87% of schools (C++ no longer primary, 87%)
  - Mandatory in 56% (C++ 65%)
  - 13% replaced Pascal with Java, 21% replaced C++ with Java
Two Panes (third for file mgt):

- Interactions Pane
  - Immediately see results of expressions & statement
  - Makes use of REPL
  - Alternate entry points (testing simpler, no main(), no debugger to learn)
- Definitions Pane (code)
  - Brace matching, syntax highlighting, automatic indenting, pretty printing
  - Compiler integration

Diagnosis: Needs work, better support, more tuning

BlueJ

Premise: Environments for OO are not OO environments; they do not reflect the paradigm

- Designed for teaching
- Downsides:
  - Student must learn both java and protocols for BlueJ
  - Does not scale to large systems (at all)
  - Students must eventually move to Java text after all

BlueJ supports:

- Graphical class structure display
- Graphical and textual editing
- Built-in editor, compiler, virtual machine, debugger, etc.
- Easy-to-use interface
- Ideal for beginners (but unsuitable for pros)
- Interactive object creation
- Interactive object calls
- Interactive application development and testing
Blackboard

- Public company building e-Education products
- Blackboard Learning System
- Blackboard Community Portal System
- Blackboard Transaction System

Measuring and improving student performance
Increasing instructor productivity
Enabling "Web-enhanced" classroom-based teaching and learning
Delivering distance learning
Leveraging technology to enhance institutional competitiveness, applicant selectivity and retention
Integrates course and learning management capabilities with an organization's student information, security, and authentication protocols

System Utilities

- Content Management and Content Sharing
- Assessment Management
- Gradebook
- Collaboration and Communication
- Assignment and Portfolio Management
Virtual Classroom

Grade Book

WebCT