

Workshop Proposal for ITiCSE 2002

Workshop title

Using BlueJ for an Introductory Java Course

Presenter

Michael Kölling

Abstract

Object-oriented languages have been taught for some time at universities. A common approach has been to teach those constructs required for imperative programming first and to introduce the notion of classes and objects somewhat later in the course. More recently, many educators have been promoting the notion of teaching about classes and objects first. This helps students to adopt the object-oriented paradigm at an early stage and encourages them to focus on the application structure before beginning coding. Most new textbooks have followed such an approach.

Java is now the most commonly used language for teaching introductory object-oriented programming courses. Many instructors are trying to teach "objects-first" courses in Java, and they are encountering numerous difficulties. The question of how to structure an introductory object-oriented programming course in Java that follows the objects-first approach still seems to be largely unanswered.

This workshop will discuss numerous problems that teachers face in teaching an introductory object-oriented programming course with Java, and show how the BlueJ environment can be used to solve or avoid many of the problems. We will present many examples of teaching techniques, exercises and assignments that may be used in such a course.

Length

Half day.

Intended audience

Teachers, newcomers as well as experienced, responsible for teaching object-oriented programming. While many of the principles discussed in this workshop are applicable to all object-oriented languages, and many others can be used in any Java course, teachers using Java and BlueJ will benefit more directly, since all practical examples and demonstrations use these tools.

Participants must have a working knowledge of Java, C++ or any other programming language that supports object-oriented programming.

Expected outcome

At the end of this workshop, participants should

- have some insight into possible teaching techniques;
- have ideas for exercises and assignments;
- know common problems encountered when teaching OO and Java and ways to address them;
- know how BlueJ can be used to teach an introductory Java course.

Audio Visual Needs
A computer projector.