IMPLEMENTING JAVA 2 PLATFORM STANDARD EDITION 5.0 IN CS1

WORKSHOP/TUTORIAL

John W. Stamey – jwstamey@coastal.edu
Bryan T. Saunders – btsaunde@coastal.edu
M. Ryan Watts – mrwatts@coastal.edu
Department of Computer Science
Coastal Carolina University
Conway, SC

ABSTRACT
The new Java™ 2 Platform Standard Edition (J2SE™ 5.0) includes a number of features not found in the previous major release, Java™ 1.4.0. Material and examples presented in this workshop illustrate a number of programming techniques and concepts that will change in the CS1 curriculum as a result of the new J2SE™ 5.0.

WORKSHOP/TUTORIAL PRESENTATION

The target audience for this presentation is computer science and information systems instructors in colleges and universities. Five new features of J2SE™ 5.0 will have a great deal of impact on CS1. These include:

- GENERICS: An enhancement to the type system, generics allow a data type or method to be used with objects of different types without casting. They perform the same function as templates in C++.
- BOXING: This new construct eliminates manual conversion between primitive data types and wrapper types, such as conversion from *int* to *Integer*.
- FOR EACH LOOPS: Index manipulation, required in traditional for-loops, is eliminated when iterating over collections and arrays with this new construct.
- FORMATTED OUTPUT: A new *Formatter* class makes numeric, string, and date/time data easier to present. A C-programming Language-styled *printf* function is now included in System.out library.
- SCANNER CLASS: One of the many advantages of the *java.util.Scanner* class is automatic conversion of text input into primitive or String data types.

Participants will see a comparison of live code from ten example programs written in both Java™ 1.4.0 and J2SE™ 5.0. Supporting material and code examples will be available online at http://www.softwareengineeringonline.com/Java5/ beginning January 2005.