Using Eclipse in the Curriculum and Around the Globe

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Eclipse (http://www.eclipse.org) is known as one of the leading IDEs. The features designed explicitly to support the Java programmer include a code completion facility, options to define code shortcuts and enforce agreed Java coding styles, navigation through the code and APIs, the automatic generation of Javadocs and, the real-time compilation of and feeback on the Java code. Eclipse is an open source fully extensible universal platform that provides a plugin facility through which one can add more functionality to the baseline set of features. Currently, there exist more than 800 plugins (http://www.eclipseplugincentral.com) that facilitate programming in many languages and support dedicated activities within the end-to-end software development process.

Eclipse has been used in and around the computer science curriculum at Pace for the past couple of years. It is commonly used within CS1 and CS2 to teach Java. In CS2 the teaching of test-first programming principles is supported by JUnit (http://www.junit.org) within Eclipse. Students write the JUnit tests for problems that are integrated in the WeBWorK programming assessment system (http://atlantis.seidenberg.pace.edu/webwork2) [1]. Introducing students to Eclipse early on in the curriculum permits the subsequent ability for them to transfer and exploit this knowledge in their other classes.

For instance in the programming paradigms class, students use Eclipse plugins to write small programs in Python (Pydev, http://pydev.sourceforge.net), SML (ML-Dev, http://www.cse.iitd.ernet.in/~csu02132/mldev) and Prolog (Amzi!Prolog http://www.amzi.com). Additionally, the software engineering class emphasizes globalization via an on-going teaching initiative between Pace, the Institute of Technology of Cambodia and the University of Delhi. This partnership brings students together to work on distributed software development projects. Eclipse makes global collaboration simpler via its support for the versioning of code using CVS. Teaching students from around the globe using a professional strength, evolving and community-supported IDE makes it the ideal choice for preparing future programmers and software engineers.

[1] O. Gotel, C. Scharff and A. Wildenberg. Extending and Contributing to an Open Source Web-based System for the Assessment of Programming Problems. ACM International Conference on Principles and Practice of Programming in Java, Portugal, September 2007 (to appear).