UCI Innovation for Developers: Cut to the Action CodeGenie

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A brilliant innovation by graduate students of the University of California, Irvine. The CodeGenie will cut down on hours of painstaking search and filter. It is an Eclipse plugin that searches Open Source code and its results are amazing.

The Donald Bren School of Information and Computer Science at the University of California, Irvine has added another prestigious award for innovation. Graduate students Sushil Bajracharya, Joel Ossher combined with the efforts of visiting Brazilian student Otavio Lemos have captured the OOPSLA Award in Montreal, Canada. The innovation CodeGenie is an Eclipse plugin that uses test cases as the interface for searching open source code on the Internet.

Eclipse is an open universal platform for tool integration, IDE and an open source community. It is royalty free and offers developers choice in multi-languages, multi-platform, multi-vendor supported environment that can be supported by multi-vendors. Eclipse has been noticed by and the subject of interest for developers in Windows, Linux, Solaris, HP-UX, AIX and Mac OS. It is an invaluable source for academic research and design.

The abstract of CodeGenie explains that the tool allows developers to test cases first for a desired feature. This is comparable to a Test-driven development. The distinctive feature of CodeGenie is that instead of implementing the feature from scratch, it automatically searches for an existing implementation based on information available for the test.

CodeGenie automatically checks the suitability of candidate results and compares the local context. Then the result is automatically woven into the developer's project and tested again using the original test. This allows the developer to reuse the most suitable results. Following this set of functions the developer is at liberty to unweave the reused code at will during the course of the project. CodeGenie relies on Sourcerer, an Internet-scale source code infrastructure for code searching and wrapping facilities. Sourcerer was also developed by the UCI team.

The purpose of the innovation is to free up developers from the laborious task of formulating code queries, filtering the results, and weaving them into the developers project. Open Source code is vast and while it promises almost limitless possibilities for developers the task of getting to suitable results has been daunting and painstakingly slow. CodeGenie plugin has cut out some of the busy work.

The OOPSLA Award for the graduate students achievement in developing CodeGenie in Professor Crista Lopes' lab entitles them to compete in the finals of the ACM Student Research Competition.