

SD Times

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TESTING 101: AWOL ON THE COLLEGE CAMPUS

BY EDWARD J. CORREIA
 Despite its importance in the software development life cycle, testing is included in only a handful of college and university computer science curricula, industry experts indicate.

Theresa Lanowitz, research director at Gartner Inc., said that colleges do not emphasize software quality through testing. "The myth is that if you're not coding, you're not working," she said, referring to what she said is a perception common on college and company campuses. "People tend to think that if they're going to learn something in computer science, it's going to be around language development and construction."

Robin Goldsmith, president of Go Pro Management Inc., has made a living on this gap. His consulting and development training company offers courses on testing, requirements definition, project management and outsourcing.

Goldsmith believes that college curricula place too strong an emphasis on people and project management skills at the expense of vital QA techniques. "There's a notion that a project manager should not be directing attention to hands-on skills associated with testing, requirement analysis and design because if they are busy doing that, they are not doing project

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IBM to Sun: Open J2SE As a Start

Despite McNealy's negative reaction, analysts want Sun to define Java role

BY JENNIFER DEJONG
 Following its late February open letter asking Sun Microsystems Inc. to consider open-sourcing Java, IBM Corp. last month articulated what it sees as a first step in making that happen: releasing Java Standard Edition (J2SE) and its associated libraries to the open-source community.

"These parts of Java are well known and very stable," said Rod Smith, vice president of emerging technologies for IBM's software group. "We think that is a good starting point."

On March 19, Smith said he and Sun's chief engineer, Rob Gingell, were engaged in ongoing, informal discussions regarding IBM's pro-

posal, and he characterized Gingell's response as "positive." Gingell declined requests for an interview, but a Sun spokesperson said mutually respectful discussions were taking place between Gingell and Smith.

Sun did not respond to requests for interviews with other Sun executives. But according to a March 24 published report, Sun CEO Scott McNealy indicated during a news conference at the 2004 FOSE conference, held in late March in Washington, D.C., that the company will not open-source Java anytime soon. According to the report, McNealy said, "We're trying to understand what problem [open-sourcing Java solves]



IBM understands open-source communities, says Smith.

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Pervasive Wants to Be Just That

Repackages Data Junction technology to broaden its reach

BY DAVID RUBINSTEIN
 In an attempt to keep the Data Junction brand associated with low-cost tools for midmarket companies while leveraging its own name for broader solutions that use the acquired technology, Pervasive Software Inc. on April 5 released three new tools for data integration.

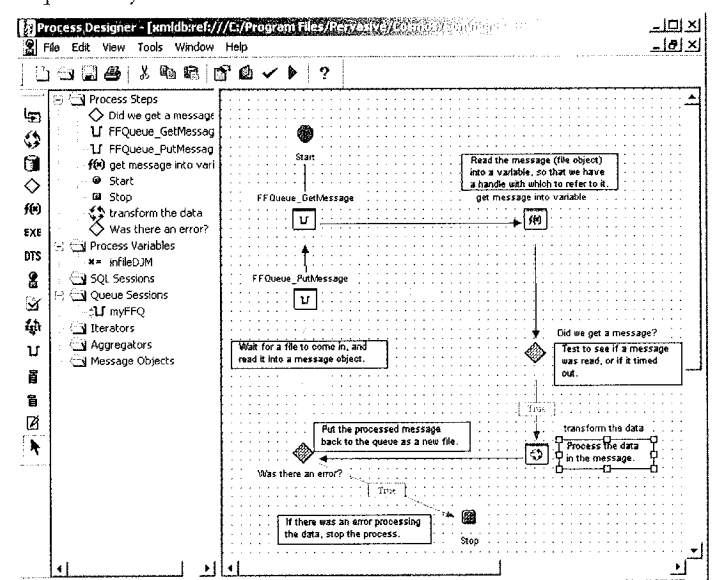
Data Junction Migration Toolkit, Pervasive Data Integrator and Pervasive Business Integrator are designed to span from simple, repetitive extract-transform-load (ETL) functions up to real-time message-oriented integration, according

to Mike Hoskins, Pervasive's vice president and general manager of the integration products division.

Hoskins had been CEO of Data Junction before it was acquired by Pervasive late last

year for US\$52 million in cash and stock. In the 100 days since the transaction closed, Hoskins said all but one of the 112 former Data Junction employees joined the Austin,

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Data Integrator allows event-driven message flows to be created graphically.

SPEECH! MICROSOFT LAUNCHES NEW SERVER

BY JENNIFER DEJONG AND ALAN ZEICHICK

SAN FRANCISCO — As anticipated, Microsoft Corp. launched Speech Server 2004 at the combined VSLive, Microsoft Mobile Developer Conference and Avios SpeechTEK events held here last month.

Speech Server 2004, the newest member of the Windows Systems Server family, combines speech-processing services and telephony capabilities with Visual Studio .NET, making it easy for developers to create voice-enabled, customer self-service applications, without having to master the intricacies of speech technologies, said James Mastan,

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TESTING 101

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management," which generally includes such topics as process planning, tracking, data collection, personnel and cost issues. He said that while important, management training should not exclude the fundamentals of good programming. "Requirements determine what needs to be done, and testing determines if it's being done right."

Gartner's Lanowitz said many organizations and individuals see testing as just a stepping stone toward a career in software development. "That's absolutely the wrong way to think. They are both equally important parts of the development life cycle and need to be treated equally, otherwise you'll always have a lack of talent and a pessimistic attitude toward people on the testing side," particularly by developers, who she said often have contentious relationships with their testing counterparts.

While Lanowitz had no hard empirical evidence to back up her assertions, her claims were echoed in a white paper titled "Software Quality: A Curriculum Afterthought?" published

in March 2000 by the Association for Computing Machinery (ACM).

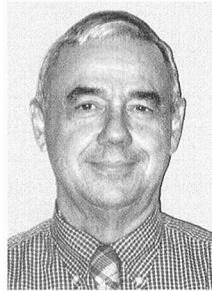
"If you look at the first couple of courses of most curricula, there is very little emphasis on quality," said Thomas Hilburn, professor of computer and software engineering at Embry-Riddle University in Daytona Beach, Fla., and co-author of the paper, which he said was based on extensive anecdotal evidence. "With a few exceptions, the most [students] get is a little on unit testing or code review," he said.

Go Pro's Goldsmith added that software engineering programs are not teaching people how to discover the basic business needs, nor the skills to determine whether their code meets those requirements. "They don't understand that [applications] need to tie back to business requirements that they are unaware of."

Goldsmith and Lanowitz agreed that the solution lies in broadening curricula. "When somebody goes into computer

science, they should learn about the whole development life cycle and take quality development into consideration," Lanowitz said, adding that students also are not being taught about the role QA takes in putting an application into production. "Colleges should have parallel tracks on how to put quality code to use by testing against requirements."

Goldsmith said that the addition of even one or two testing courses would be a big step forward. "I think that it's pretty hard to justify a program that doesn't have a course on stuff you spend half your time on."



Quality isn't stressed at colleges, says Embry-Riddle's Hilburn.

NO TESTING JOB MARKET

"We do not consider software testing to be a career," said Azer Bestavros, professor and chairman of the computer science department of Boston University, which offers no courses specifically for testing. "Testing positions are the least desired job of undergraduates. When they go for internships, they get offers for QA-type jobs."

Bestavros was quick to point out, however, that BU's curriculum is not devoid of testing. "Testing is an underlying theme of every course we teach that has programming in it," he said, with the assertion that companies hire engineers, programmers or project managers. "As part of their work, they will have to do testing, but to offer a course on testing would make it an area of its own when it should be a dimension of every area."

Paradoxically, Carnegie Mellon University has no undergraduate courses in QA, but offers it in master's degree and certificate programs for post-grads.

"Testing tends to be the lower-skill, lower-pay position," said Lynn Robert Carter, principal fellow at Carnegie Mellon's Institute for Software Research International. "Most companies have the bias that if you aren't the designer you're low-pay, and those are outsourced jobs. And why would universities want to prepare people for jobs that are going to India?"

Carter said the post-grad QA programs attract mainly industry professionals seeking to advance their careers.

Hoping to make a difference

is James Whittaker, professor of computer science at the Florida Institute of Technology. Whittaker, who introduced testing to the computer science department in 1996, said he met with resistance. "They said no one will want to take that kind of course."

Whittaker said that as mainstream applications and the tools to develop them reach parity in terms of feature sets and time-to-market, quality will be the main differentiator for applications. "In the future, quality will be the factor that determines whether one product makes a billion dollars and another fails miserably. So companies have to take it seriously."

Massood Towhidnejad, a professor of software engineering at Embry-Riddle University, said that such change has been on the horizon during the past decade. "Software testing in the industry 10 years ago was looked at as grunt work—something that was not important and done at the very end. And the lack of concentration in curriculum is in part the responsibility of the industry. Nowadays, you see the best engineers being put on the quality team because quality is now more of a major issue." ■

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