

# Bangkok Post database

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## AIT HOMES IN ON LINUX

University will set up centre of excellence to develop Linux for the Desktop

Story by DON SAMBANDARAKSA

The Asian Institute of Technology will soon be home to an open source centre of excellence for "Linux on the Desktop" following the signing of a memorandum of understanding with the United Nations University. This will be the first centre of excellence of its kind funded by the UNU outside of Greater China.

AIT's vice president for Academic Affairs, Professor Peter Haddawy, Assistant Professor Matthew Dailey and Dr Paul Janecek explained the importance of open source and distributed development at a strategic level for Thailand and for Asia in general.

Haddawy said that 2007 would be an exciting year for AIT. Not only did it sign the MOU with the United Nations University, but it also signed an Academic Initiative Agreement with IBM for work with IBM software development tools and on Services-Oriented Architecture (SOA) development.

AIT is also working with around 300 regional universities to develop a shared open source computer science curriculum similar to MIT's Open Courseware project.

Dailey explained how the funding for these centres of excellence is from the United Nations University and from Intel as well as a number of other countries. In Thailand, the funding will be used for bringing in technical expertise and state of the art equipment, starting with a new open source computer lab in AIT's science department.

One full time researcher and 14 research students will receive funding and start work on developing Linux on the desktop come Chinese New Year 2007.

"The ultimate goal is to turn Linux into a viable desktop operating environment," Dailey said.

More important than open source itself, the project will teach students about today's new distributed development model that is the direction the entire industry, not just open source software, is headed.

Haddawy said that open source was the only way AIT students will have the opportunity to access real-world industrial-grade software source code and contribute their own code to software that is used by millions of people across the globe.

Open source is also a perfect way to springboard into industry with real world skills that are needed for real world pro-



Scott McNeil, general manager of the United Nations University's International Institute for Software Technology, left, and Professor Said Irandoust, president of AIT, exchange copies of the Memorandum of Understanding, right, that will set up the UNU's first Open Source Centre of Excellence outside of Greater China. AIT will help develop Linux on the Desktop here in Thailand.

jects. Indeed, the UNU is promoting competency in open source software development in the Asia-Pacific region as it sees it as of strategic importance for the development of the region's industry.

As of today, no concrete projects have been identified, but rather than just tweak and debug current aspects of Xwindows and Gnome, Dailey spoke of using computer vision and machine learning algorithms to allow the user to use hand gestures and even face recognition to operate the user interface.

While the initial funding was for Linux on the Desktop, the AIT professors did not rule out working on the server side in the future.

Another project AIT is working with the UNU and hundreds of universities in the region on is collaborative e-learning development. It is using an MIT Open Courseware-style approach to collabora-

tive curriculum development shared among various Asian universities.

Today, any university can take the MIT Open Courseware and use it to teach their students, but any suggestions and modifications are rarely incorporated into the course by the MIT professors—hence the need for a regional focus where universities can help each other develop a vibrant, evolving set of courses.

Janecek explained how AIT had also recently signed an academic initiative agreement with IBM whereby IBM will provide free software—such as its DB2 database, Rational UML tools, Websphere development stack and SOA tools and Eclipse open source development environment—as well as staff to train AIT faculty and students.

Most importantly, the agreement allows for AIT students to be placed for internships with IBM researchers, the first of which will join the IBM RFID

R&D team, in a similar way to its current collaboration with Nectec's R&D labs.

Dailey said that during the summer, he sat down with Microsoft, IBM, industry partners and in particular former Sipa director Manoo Oradeedolchest to get a feeling of what was lacking and most needed in Thai industry. The answer was that Thailand today faces a severe shortage of skilled enterprise software developers and those competent in SOA.

Despite this shortage, many of his own students did not see themselves in programming for long and would rather start their own business. "Students tend to focus on becoming the boss immediately after graduation," he said.

To combat this, the IT industry needs to do a much better public relations campaign and get the message across that the software industry is an exciting and rewarding profession for students to go into, Dailey said.

## STUDENTS COME TO THE RESCUE

Story by DON SAMBANDARAKSA

All too often, when academics are promoted into management, they have no time to continue their academic research. AIT vice president for Academic Affairs, Professor Peter Haddawy, however, has managed to combine his new responsibilities with his research—and he gets his students to develop software and tools that he can use in his managerial role.

Haddawy explained that his students have developed a decision support system to help AIT's selection of students for admission and future performance. "The system can successfully predict to within a quarter grade point the grade a student will graduate with," he said.

AIT is unique in Thailand for having to accept students each year from over 300 universities across the region, rendering more traditional scoring and reputation based methods impractical.

Today, the system is being extended to financial optimisation—to decide who to offer scholarships and grants to. For instance, some students would come to AIT anyway even without a grant, whereas others cannot afford to.

Haddawy said that the data mining component is developed by students before being passed on to his IT services department for maintenance and full-scale deployment.

He is also developing his own dash-

board system to give management a real-time view of data, such as financial aid spending across the university.

Haddawy is now planning to follow up on last year's COMET artificial intelligence medical tutor project, which monitored chat sessions and whiteboards to guide students in tutorials. By combining the same principles and established algorithms with visual recognition technology, his new project would allow a user to mount a camera over the shoulder and have a computer recognise what the medical student is doing and give feedback and suggestions through augmented reality via over the eye displays.

"The glitch is that we have to get the equipment first," Haddawy admitted.

Assistant Professor Matthew Dailey, while not chasing up the United Nations University for funding and collaboration agreements, is working on getting robots to see and understand motion. This could lead to security cameras that understand when something out of the ordinary is going on for robots to be used in landmine clearing.

Dr Paul Janecek is working closely with IBM and Nectec on RFID and food traceability. While this may sound relatively straightforward, he is working on developing middleware and business process execution language models.