In the post-dotcom era, IT jobs are no longer the one-dimensional types they used to be. Contract work and IT-preneurs are emerging trends.

Chan Chao Peh takes a look at how universities and students are adapting to meet these new demands, and how the industry and government are playing a role.

David Hui, 23, and Ngiang Boon Loong, 24, are second-year students at Singapore Management University (SMU)’s School of Information Systems (SIS). They have classes like international economics, accounting and marketing. The dun is also learning how to counsel. Both are active committee members of SIS’ students’ society, in which Ngiang is president and Hui heads corporate relations. Since they are in an IT faculty, the curriculum includes subjects like software engineering, architectural analysis and enterprise integration.

Hui and Ngiang are a new breed of IT professionals that universities like SMU are producing to meet the needs of the IT world and tomorrow’s Singapore. New-age IT professionals are no longer seen as geeks who can write codes in computer languages like C++, C#, Java and Perl but as those who aspire to manage larger IT projects that involve management of vendors or developing new business areas.

Singapore’s IT sector is transforming, as it grapples with challenges from lower-cost locations like India. Yet Ngiang and Hui are not sweating. “Software programmers and engineers aren’t really the jobs I see myself doing when I graduate,” says Ngiang. Instead, he is betting that with the savings from outsourcing, companies would be able to create high-value jobs. “These are the jobs I would like to hold and they lean towards vendor and project management and other management-level positions in which there is an inherent need to understand the fusion of technology with other disciplines like marketing, finance, economics or accounting,” he says. Hui adds: “The idea is to identify key ‘front office’ functions such as business development, that are vital to the company’s survival.”

The local IT sector is still recovering from the bursting of the technology bubble in 2000. “There is no denying that the .com burst had an impact on the profession,” says Angela Goh, vice-dean of the School of Computer Engineering, Nanyang Technological University (NTU). “But, employment statistics and industry surveys have since indicated that the industry is doing
well again." According to the Infocomm Development Authority of Singapore (IDA)'s 2004 survey on IT manpower, the industry employed 102,100 people in 2001. This figure has been edging up, reaching 108,000 jobs last year (the latest available full-year figures). The IT industry is expected to grow at a compounded annual rate of 4.5% over the next two years, and this is likely to create 3.5% more jobs annually, says IDA.

With more viable career choices available, IT-industry stakeholders have to do something to change the perception of some students. SMU student Ngiang, who obtained a Diploma in Information Technology from Singapore Polytechnic before joining the university, says many of his classmates in the polytechnic are either working as technical support staff, holding non-IT posts or struggling in start-ups. "The IT industry is in the 'low-morale' mode. Almost none of them managed to secure jobs as programmers or IT executives in multinational corporations, like what we had envisioned as poly students," he says. "Almost all of them are pessimistic about the future of the Singapore IT industry."

Steven Miller, dean of SMU's SIS, plays down the theory that the bubble burst is still weighing down on the industry. "IT didn't go bust," he says. "Just the notion that you can have a start-up, a stand-alone dotcom company that didn't have to behave by the laws of economics, of supply and demand, and everything else we know about the proper treatment of investments — that's what went bust." He says Internet technology has moved beyond dotcoms and is now considered mainstream. But also feels there is no reason for pessimism. "In fact, with IT being more pervasive, there are actually huge areas of growth and untapped potential," he says.

The government is weighing in by identifying areas in which growth can be gained despite limitations. For one, Singapore can never hope to compete on sheer numbers. "We are quite realistic. The Singapore workforce is fairly finite," says Chan Yeng Kit, IDA's CEO. "What I am interested in is to move the workforce — the people we already have — up the value chain," he says. "We are not going to be competing at the very basic, general level, with people in Bangalore, Shanghai and so on. We want to differentiate ourselves in the quality of the IT people — not just as basic technicians, or

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Not just code-writing
SMU's Hui and Njieg are not the only students taking non-IT-related subjects like marketing and counselling. SMU has been aggressively marketing itself as a credible competitor of the two older and more established schools — National University of Singapore (NUS) and NTU. The latter's School of Computer Engineering, for example, allows students to minor in business and economics. Indeed, having the extra business-related skills is increasingly seen as a prerequisite of many IT jobs.

"For the IT industry, it is an accepted fact that if you want to succeed, there is a need for both management and technology skills," says Dhriendra Shamlail, vice-president of Kelly Services, a global job-placement agency. "You see many tech guys doing MBAs."

Computer code-writing, or programming, no longer commands the lofty positions in the value chain. "We are not going to train engineers who make this kind of electronic circuitry," says SMU's Miller, pointing to a versatile digital voice recorder, which can also play music files, tune in to radio stations and store data. "Programming is important, but it is a relatively small part of the entire process, of the whole value chain. Somebody has to understand how the pieces are put together."

Mukesh Aghi, CEO of Universitas 21, an online university, says: "There is a greater demand for IT managers, rather than specialists." Departments can no longer work in
isolation. "Computer programmers were seen, and accepted, as cost centres. But now, they have to show what their ROI [return on investments] is. It's a necessity," says Agnihotri.

**What's hot**

While IT professionals are required to do more, they are also being rewarded accordingly. Kelly's Shantilal says that, year-on-year, salaries for IT professionals have risen about 10%. And that's not all. Next year, with more opportunities opening up, coupled with a shrinking talent pool, workers in this sector can expect their pay to be driven up by another 5% to 10%, he says.

Shantilal says the top five IT jobs are: J2EE (Java 2 Platform, Enterprise Edition — a type of programming language) software engineers, IT security consultants, data warehousing consultants, solutions sales managers and enterprise resource planning (ERP) consultants.

The 10% pay increase will place the IT profession closer to the top end of pay increments in the entire job market, where Kelly's surveys show that salary increases are ranging between 5% and 12%. For the job market as a whole, those in the financial services sector, especially personal financial services consultants, are in the greatest demand.

From Agnihotri's point of view, the outsourcing trend will create a hot class of professionals: the chief technology officers or the chief information officers. Many outsourcing contracts between the IT services firms and their multinational clients usually span seven to 10 years. Managers in charge of these long-term projects have more and more things to juggle. "They are dealing with complex environments, different cultures, people from different backgrounds, as well as technology that is not static, but dynamic," says Agnihotri.

**Interesting things afoot?**

Most students aren't just content to score good grades and get a cushy, well-paid job with either the multinational corporations or government-linked companies. SMU's Hui, for example, has set his sights on running his own company — eventually. Getting a degree is just part of the process. He is not alone.

Miller notes that in recent admission interviews, a higher proportion (about one-third from the last cohort) of potential students had expressed an interest in running their own business. In recent years, the concept of entrepreneurship has been given new prominence, and Miller feels that has played a part in influencing the students. Nevertheless, the shift is discernible and significant. "Interesting things are afoot in Singapore," he adds. Clearly, the new Singapore global worker is likely to be not only IT-savvy, with the world as his oyster, but also more entrepreneurial and less tied down to the norms of the pre-IT era.