

# Keys2IT

Come play the America's Tech Team Challenge at the NACCB Conference, Dallas 10/22-10/25

## Computer Science Needs a Reboot

By Ian Palmer

The trend toward sending more IT projects offshore hasn't impacted enrollment at Glendale Community College (GCC) in Glendale, Ariz., says Steve Smith, a Systems Programmer II at the institution—but

domestic job market for knowledge workers is still shrinking.”

While some believe the increased competition U.S. students face could separate the contenders from the pretenders, other believe students and guidance counselors should be more realistic about what to expect in the changing

**“Computer science was a safe bet for a long time...There are niches for talented people, and rare growth areas like security, but the domestic job market for knowledge workers is still shrinking.”**

—Steve Smith, Glendale Community College

statistics revealing a nationwide decline in computer science enrollment suggest GCC may be the exception that proves the rule.

Smith, who mostly focuses on system administration—VAX, Netware, Linux—and all-purpose computer security, believes talented U.S. students who find a niche will continue to eat, drink and be merry regardless of offshore developments.

“So far I haven't seen it impact enrollment,” says Smith. “Career counselors may be out of touch with the job market, and perhaps there's some wishful thinking going on. When the economy goes to hell, many people go back to school. Computer science was a safe bet for a long time...There are niches for talented people, and rare growth areas like security, but the

labor environment. And yet others believe schools have to better prepare students for the real world.

### Declining Computer Science Enrollment

One report detailing declining enrollment in computer sciences courses looks at why some students throw up the white flag. Released earlier this year, “Departmental Factors in Gendered Attrition from Undergraduate IT Majors” concentrates on mid- to large-sized undergraduate programs in the U.S. and focuses on 71 institutions.

According to the results, from 1994 to 1999 enrollment into undergraduate computer science courses rose by about 100 percent at the average institution. But *Computer continued on pg. 3*

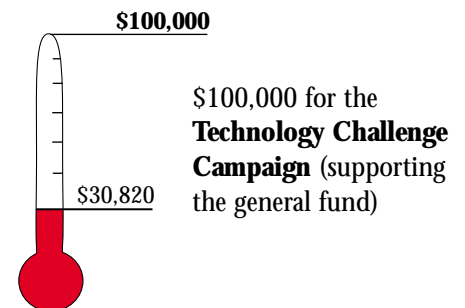
## Letter from the President

By Stephanie Skinner

What an interesting year we have ahead of us! A jobless recovery underway in the economy, a presidential election only 13 months away, and here we sit, our industry, the talent industry, right in the cross hairs. Will there be a candidate who will run on the platform of legislation to halt the flow of jobs offshore? Will there be a final American capitulation to a pure service economy, and how will the seesaw drama of the last 10 years affect the choices of today's young minds? Let the games begin!

This issue of Keys2IT introduces a new feature we hope to be including in every future issue: a donor profile. It is particularly noteworthy that this donor, Extensity, hails from the software side of the universe.

We have a long way to go to develop a sustaining foundation, so we need your help. We've set a goal of raising \$100,000 for the Technology Challenge Campaign (supporting the general fund) by the end of 2003. We have long-term goals to take the Open Door to a fully sustained foundation but, given where we've all been, we think this is an attractive start. And with your help, and the added support of your clients, the Open Door will be able to continue its life-changing mission. I urge you to help us make a difference to a bright young mind. Not only do you get the psychic benefits, you also get to invest in your own industry, alongside your clients. ■



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## Donor Profile

# Extensity – Named Scholarship Donor

One of the founding members of the Open Door Education Foundation, Grace Gentry, approached Extensity about making a corporate donation. After explaining the purpose of the Foundation, it made sense for Extensity, whose employees were very active in community volunteer services, to become one of the Named Scholarship Donors that provides scholarships and help to students interested in the computer industry. In 2001, Extensity made a generous donation to the Open Door Education Foundation to become one of the Foundation's NSD. By becoming a NSD, their company is honored by awarding scholarships to individuals who both excel academically and who are in need of financial assistance in order to achieve their dreams of



becoming an IT/computer professional.

In March of this year, Extensity was acquired by Geac, and became part of the Geac Enterprise Solutions division. Geac is a global enterprise software company for business performance management, providing customers worldwide with core financial and operational solutions and services to improve their business performance in real time. Geac is comprised of 2,500 professionals throughout 56 locations worldwide with the vision to turn their customer's ordinary business processes

into extraordinary advantage through software solutions. Prior to the acquisition, Extensity had 270 employees, the majority of whom were technical professionals in different functional areas (i.e. engineering, marketing, consulting, customer support and IT).

Bob Spinner, former Extensity CEO, always maintained that employees should take pride in the company's position as both a leader in its technical space and in the community in which they are located. "Employees should be proud of saying what company they're from and know that we're making a difference on many levels," he said. It was his decision to award scholarships to schools in the East Bay where Extensity was founded in 1996 and is still currently located.

Geac has already benefited from the great feeling that results from helping people who can put our resources to use. This past May, Geac awarded two scholarships to students attending Diablo Valley College – Edwin "Alberto" Fonseca and Vlad Kaplun. Thus, Diablo Valley College (DVC), located in Pleasant Hill, California, was selected to work with the Foundation to offer the scholarships to students. At DVC, Geac and the Foundation found a tremendous advocate in Cynthia Heilesen, *Extensity continued on pg. 4*

### Our Purpose:

The Open Door Education Foundation is a non-profit foundation dedicated to increasing the quantity and quality of trained Americans necessary to keep our country a world leader in the technical industries. Founded in 1998 by NACCB members, our vision is to open doors for America's future computer professionals in the spirit of those who have opened doors for us.



### Our Goals:

The Open Door has many plans and programs to support America's future computer professionals!

- To provide funding support for education through scholarship programs.
- To excite young minds and inspire an interest in technical knowledge.
- To encourage Americans of all ages and backgrounds to challenge themselves and seek a technical career.

### You can help!

Your donation to the Open Door Education Foundation will help open doors by supporting our programs and helping create a permanent endowment to support the ongoing operation of the foundation. To make a donation, call the Open Door at (703) 838-9580 or email us at [opendoor@naccb.org](mailto:opendoor@naccb.org)

Visit us at [www.Keys2IT.org](http://www.Keys2IT.org)



# Edwin “Alberto” Fonseca

By Beth Fells

Open Door Program Assistant

Edwin “Alberto” Fonseca, one of our newest scholarship recipients, worked part time in television production while pursuing his interest in computers and programming through self-study. He worked and attended school part-time, though he had not yet decided on a career path.

As Alberto struggled with the decision to return to school full-time, he participated in the Diablo Valley College Annual Programming Contest and placed third. This accomplishment was instrumental in his decision to enroll as a full-time student.

Alberto believes that education is very important to achieving his goals and is taking full advantage of the opportunities presented to him. He is most appreciative of the scholarship that was awarded to him through Extensity and the Open Door Education Foundation, as this award has made the difference between continuing or delaying his academic career. Following his coursework at Diablo Valley



College, Alberto plans to transfer to the University of California-Berkeley to attain his BS degree in Electrical Engineering and Computer Science.

Following his educational career, Alberto plans to work as a software engineer. His long-term goals are to start his own business and develop innovative products to help society. As a professional, Alberto endeavors to reach out to young students, particularly of Hispanic descent, and encourage them to pursue engineering-related fields in which Hispanics are traditionally underrepresented. ■

games, arcades and console games. Learning about the kinds of jobs in the field and having first-hand experience working in it has been truly inspiring.

## 2. What is your favorite non-work activity?

I enjoy a variety of activities including reading, being outdoors, browsing the Web to keep up on the latest technology and programming on personal projects.

## 3. What person would you most like to meet?

The one person I would like to meet is Bill Gates. I have always been inspired by his contributions to society. I'd be interested to talk with him about what he envisions for the next 20 years and how software developers will play a role in that vision.

## 4. What person do you most admire?

My girlfriend. She has provided me with support and encouragement in returning to school and completing my education. Having already earned her bachelors degree and currently pursuing an advanced degree, she inspires me to excel and serves as an example of what hard work can accomplish.

*Computer continued from pg. 1*

since 2000, the massive demand not only started to dwindle, but also teetered on the brink of decline. Combine this with another factor: while the growth from 1994 to 1999 was occurring, another phenomenon was unfolding, as students who remained at the 71 institutions switched out of computer sciences programs at an average rate of 16 percent annually. Why the mad rush out of computer sciences? One reason, according to the study, involves students looking at changes on the labor landscape—perhaps assessing the threat of more IT jobs hopping, skipping and jumping offshore—and deciding to cut their losses and move on to another program.

At this point in time, it would be hard to fault students who distrust IT employers, many of whom teleport jobs out of the U.S. to somewhere over yonder as readily as a captain aboard the USS Enterprise could teleport an away team to another vessel. Case in point: Forrester Research conducted a survey involving 145 U.S. firms and not only finds that 88 percent of the companies going overseas for services claim better value for their dollar, but also finds that 71 percent claim offshore workers do a better overall job. While this survey wasn't IT-specific, it still tells a harrowing tale.

And then there's the report by Gartner. According to the research firm, one out of every 10 jobs at U.S.-based IT firms and IT service providers will be shipped offshore by the end of 2004, as will one of every 20 IT positions at user enterprises.

And then there's the report by AeA—the trade organization formerly known as American Electronics Association. Analyzing statistics from the U.S. Bureau of Labor Statistics, AeA finds there was a decline of 560,000 high-tech jobs from January 2001 to December 2002, suggesting that the high-tech sector is somewhat volatile.

## Man in the Mirror

Headquartered in Walnut Creek, Calif., manageStar provides corporate asset and service management software. Jason Henriksen, the firm's server technologies lead, has a few things to say about the impact sending IT jobs overseas has on U.S. students.

“The perception I see is that offshore development is not as good but it is cheaper,” says Henriksen. “It is fairly obvious that U.S. developers cannot *Computer continued on pg. 5*

## Quick Facts

### NACCB Chapter Sponsor:

Extensity (Named Scholarship Donor) in conjunction with the Northern California chapter.

### NACCB/ODEF Chapter Representatives:

Antoinette Mailliard

### Scholarship:

Spring 2003 - \$1,000

### Degree Attained:

N/A

### Employer:

N/A

## Q & A

### 1. What is your greatest inspiration?

My greatest inspiration has been learning about the computer entertainment industry. I have always been a fan of computer

# Passing the Torch

By Grace Gentry  
Former President, Open Door

I'm writing to you today as the Past President of the Open Door. Yes, we are fortunate enough to have a great new President, Stephanie Skinner, assuming the responsibility and leadership of our organization. Stephanie's experience over the years as founder, owner and President of New Work Media, publishers of *The Talent Economy*, means that she can bring a broad view of the computer industry and strong communication skills to this job. These will serve us especially well during these challenging times.

Let me hasten to add that I will continue to serve on the Board and am looking forward to having even more time to work on Open Door programs. And you'll still see me raising money at NACCB Conferences and hear me asking for support in other ways. In other words, you haven't seen the back of me yet!

Since it is customary to indulge outgoing officers in their rambles down memory lane, I

thought they were special. They pledged to work hard to justify our faith in them. We were touched and pledged — to ourselves — to work hard and support them in the future when they enter the computer industry.

- The most heart-warming was meeting those who gave your money and time to make it all happen. Your stories are as remarkable as those of our recipients. You told me of early struggles, of being helped by others and of your gratitude and desire to help others in return. I realized that one of the joys of working for the Open Door is the self-screening process for meeting especially terrific people. Everyone I met was someone who wants to give back, someone who cares about the future and is willing to invest time and money in helping others. My kind of folks — superior beings walking the face of the earth!
- The most interesting was learning more about the not-for-profit industry and the people who work in it, and about grant applications and program design. I love learning new stuff — and much that I learned was different than I had imagined it would be.

Now indulge me in one more tradition, that of a parting message. Thanks to all who have donated your time and money to the Open Door in the past. PLEASE stay the course with

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## Many said the money helped, but even more important was realizing that someone cared about their future.

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am requesting your indulgence as I ramble through some favorite memories and lessons from my last four years with the Open Door.

- The most adrenaline-pumping was surely the three remarkable days at the 1999 NACCB Conference when we unveiled the Open Door and received pledges for over \$500,000. Since we opened by hoping to raise \$100,000, we were excited, and greatly touched, by the enthusiasm our members and vendors showed for "opening doors for others."
- The most tear-jerking was meeting scholarship recipients and hearing their remarkable stories of struggle and courage in the face of adversity — and their testimonies about what Open Door scholarships meant to them. Many said the money helped, but even more important was realizing that someone cared about their future and

us. We are painfully aware that your money is scarce and your troubles are plenty. Still, we hope you can help by donating whatever you can, including your services and time.

We believe our mission is needed even more today than yesterday. Available statistics indicate a significant drop in the number of American students pursuing advanced computer science related study in colleges and universities. Our concern is that America will be unable to meet tomorrow's need for talent prepared to design and develop "the next big thing" and that our inability to do so will drive even more technology jobs offshore. So we are recasting our existing programs to address this future need more directly and designing new programs as well. In doing this, we really need your ideas and comments. Please call, fax or email them to our Director, Susan Donohoe, at [susan@naccb.org](mailto:susan@naccb.org) or (703) 838-2050 ext. 118. ■

*Extensity continued from pg. 2*

an officer with the school's scholarship office. Geac is thrilled to work with such a remarkable Foundation dedicated to helping people get a good start into a successful career.

Don Smith, senior vice president, ASP & Hosting Operations, Geac Enterprise Solutions, stated, "Geac is extremely impressed with the accomplishments of their two Extensity scholarship recipients. We are proud to be a part of the important work the Open Door Education Foundation is doing to improve and grow our industry.

"As we look toward the future of computer technology, and the threatening workforce shortage, we have not had problems finding talented engineers, either entry-level or experienced. We expect to be able to find people with the skills, regardless of their nationality, to work on exciting technology, especially during this economic downturn where there are so many eager candidates to work on new technology in a stable company. Geac does not use a person's nationality to make hiring decisions. Instead, we focus on each person's talents and experience to determine if there is a match for us. We do feel the Open Door Education Foundation and similar programs that help get motivated students into subjects that will prepare them for the high tech work is essential because this industry has suffered from a huge shake-up which has had the effect of scaring many talented people away from it.

"In terms of philanthropic goals for the future, now that Extensity is part of a larger company spread out over many locations worldwide, we will be unable to continue contributing in the same manner as we did with our Named Scholarship. Our new company's policies are set up to be non-location specific, so we will have to investigate this further with Open Door and other charitable organizations we support."

For information on the Foundation's Named Scholarship Donor program and other giving programs, please visit our web site at [www.keys2IT.org](http://www.keys2IT.org). For additional information about Geac, you can visit their web site at [www.geac.com](http://www.geac.com). ■



# Vlad Kaplan

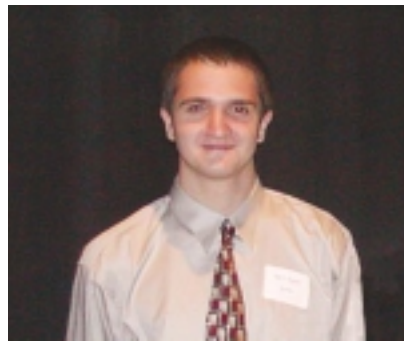
By Beth Fells

Open Door Program Assistant

The Open Door Education Foundation and Extensity's other Spring 2003 scholarship recipient is Vlad Kaplun. Vlad came to the United States from Russia at the tender age of six. Leaving Russia in 1989 was very difficult for Vlad and his family because they had to leave behind all of their money. Having grown up in New York City, Vlad developed a broad cultural view of the world, in which he fused his Russian heritage with his "new" country.

Vlad was accepted to one of New Jersey's most competitive high schools, The Academy of Medical Science Technology, whose mission is to prepare its students for careers in medicine. However, in his sophomore year, Vlad decided that he no longer wanted to become a doctor. Instead of leaving the high school, Vlad decided to remain and benefit from their advanced facilities and excellent coursework.

Two years ago, Vlad moved to California with a new goal in mind: to graduate from the University of California. After several conversations with the college's administrators he knew



exactly how many hours he had to complete at a community college before transferring to the University. That's when Vlad decided to go to Diablo Valley College. He will be enrolling at the University of California in the Fall of 2003.

Some of Vlad's interests range from networking, graphics and software development. He has completed a long-term internship with wireless ISP Wave2Wave Communications, located in Hackensack, NJ.

The Open Door and Extensity scholarship was a welcome gift, since Vlad's recent arrival to California may make him ineligible, at least for a while, for the lower tuition fees at the University of California-Berkeley enjoyed by in-state students. Vlad is currently supporting himself as a library aide at the Berkeley Public Library, which he credits for greatly expanding his literary horizons. ■

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match the rock-bottom prices of overseas developers, but at the same time offshore developers cannot possibly give the same level of interaction and clarity of communication that a person in the same room can give you."

Not that an offshore developer is necessarily superior or inferior to her U.S. counterpart, but that managing offshore developers is a challenge when you consider the potential barriers of distance and language.

"Really it boils down [to] using the right developer for a given job," he continues. "Both

## Are there parallels among off-shore outsourcing when it comes to IT, auto, steel, tool and die, and textile industries?

According to Steve Smith, Systems Programmer II at Glendale Community College in Glendale, Arizona, the common thread is "cheap labor abroad."

"There's a common factor of cheap labor abroad, but I think that auto, steel, etc. were more victims of greed and unions. They made themselves too expensive in some cases and prevented some common-sense efficiency moves by refusing to let obsolete jobs go away. Eventually it was cheaper to rebuild the entire manufacturing infrastructure in countries with plentiful cheap labor."

## And then there were the stock market criminals.

"They artificially inflated the value of the entire industry then took the money and ran. The demand for I.T. still exists but there's no physical obstacle to immediately shipping programming jobs overseas. Recruit people who can code, put them in front of a computer and you're in business at a fraction of the cost—then the stock holders love you for slashing operating costs."

managers and employees are coming to realize that. Should a U.S. developer be upset at losing ... the monotonous work of ensuring five integrated data fields line up properly? No, he's probably happy to have that work done by someone who finds that work at [his] level. Should a U.S. manager be upset that he has to pay premier prices if he wants something done quickly and with minimal risk or with new ideas? No, he probably understands

*Computer continued on pg. 7*

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Antoinette Mailliard

### Scholarship:

Spring 2003 - \$1,000

### Degree Attained: N/A

### Employer: N/A

## Q & A

### 1. What is your favorite non-work activity?

Reading and watching movies.

### 2. What CD/tape is currently in your player?

"De Stijl" – White Stripes.

### 3. What book is on your bedside table?

"Atlas Shrugged" – Ayn Rand.

### 4. Why computer science, and when did this interest arise?

Two distinct interests lead me to opt for computer science. The first, which I have had since about age eleven, is an interest resting upon general fondness of using my computer for entertainment and educational purposes. The second, which developed during my senior year of high school, is an appreciation for descriptions of complex procedures. I like the idea, both within and outside of the field of computer science, of seeing and giving structure to massive and seemingly unpredictable processes.

### 5. Given today's economy, what would you say to encourage people to go into the Information Technology field?

If you are truly interested in computer science, go for it. Some networking will find you a niche.

# What Happened to the Open Door Scholarship Program?

By Rick Raybin

*Treasurer, Open Door Education Foundation*

The Open Door's original outreach program was awarding scholarships through NACCB Chapters. Although never intended to be more than one of many efforts designed to support our mission, this program was the first and has certainly been the most visible to NACCB members. To date, the Open Door has awarded 288 scholarships, distributing a total of \$350,350 with an average scholarship of \$1,200.

completely dried up. Even the best-intentioned companies have struggled to honor their pledges, and the Open Door has had to write off \$200,000 in pledges.

The financial reality was that the Open Door was awarding more money in scholarships than we were taking in. And, if we continued, the Open Door would soon cease to exist. Scholarships are a wonderful support to students, but they alone will not achieve the Open Door's mission.

To continue working toward its mission during these economically difficult times, the Open Door Board has made significant cost savings adjustments to its activities. To highlight a few:

## **The Open Door Scholarship Program for NACCB Chapters**

Our budget's largest component was the Scholarship Program. We have redesigned that

create a closer relationship with NACCB that is benefiting both organizations. Beth Fells, Open Door Program Assistant, is a part-time employee with the responsibility of managing our database and administrative functions.

## **Partnerships**

The Open Door made the strategic decision that, whenever possible, new initiatives must be conducted in partnership with other organizations having similar goals that help achieve our mission. Partnerships allow for the sharing of expenses as well as maximizing the impact of the programs. The Open Door is actively investigating partnerships with education foundations and with non-profit organizations committed to technology education, young people and technology workforce development.

We have established several different giving opportunities so that our donors can actively

## The Open Door is committed to safeguarding your continued investment in the Foundation by following sound fiscal management and developing programs that will achieve the Open Door's mission.

NACCB Chapters and their Open Door Representative promoted the program to NACCB members and students in their local schools. We have received numerous thank you notes, calls and emails from those students telling us that, without this program, they might not be in school, might not be studying computer science and might not get to be a computer professional in the future. The program made a difference in many lives and was greatly appreciated.

Given this record of success, why has the scholarship program been changed? Many of you have asked this question, and some are upset with the Foundation for making this decision. Some have suggested that the changes, our first attempt to make awarding future scholarships possible, have effectively cancelled the scholarship program. Changing the program from the original design was a difficult decision for the Open Door Board. Unfortunately, we had no other choice. Due to the tough economic times the computer industry has faced during the last three years, new donations to the Open Door have almost

program for 2004 to be self-funding (after an initial investment by donors) as well to allow donors to select the region/chapter awarding the scholarship. We believe managing the program in this manner honors the wishes of our donors and involves them directly in how their gift is being spent.

## **Administrative Costs**

Our second largest component is administrative costs. The Open Door has always strived to keep its administrative costs to a minimum but, to reduce administrative costs even further, has reduced the staff from two full-time workers to two part-time, has lowered its general overhead and has cut back on all general administrative expenses possible (travel, training, etc).

Susan Donohoe, Open Door's Director, remains with the Open Door but is now part-time, spending the rest of her time working for NACCB (where her responsibilities include public policy and NACCB program development). This arrangement is working extremely well, allowing the Open Door to

participate in how their donations are used. A donor can select a specific activity for their contribution — for example, the Cool Sisters for Computer Science Initiative (designed to attract more young women to computer science) — or they can choose a specific fundraising campaign. Our campaigns include: The Technology Challenge Campaign (supporting the Open Door's general fund), the Open Door Sustaining Member Campaign (supporting the permanent endowment fund) or the new NACCB Chapter Scholarship program. We have developed these campaigns so you can give what you can, when you can. To learn more about these campaigns, visit our Web site at [www.keys2it.org](http://www.keys2it.org) or contact Susan Donohoe at [susan@naccb.org](mailto:susan@naccb.org) or (703) 838-2050 ext. 118.

The Open Door is committed to safeguarding your continued investment in the Foundation by following sound fiscal management and developing programs that will achieve the Open Door's mission. ■

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that you get what you pay for.”

It's not just IT professionals who see increased competition as a challenge for IT workers. Even experts in other areas acknowledge this reality.

“There is a reality that IT professionals in the United States are facing increasingly stiff competition from outside this country,” says Dr. Frank Heasley, president and CEO of MedZilla.com, an Internet recruitment firm for job seekers and HR professionals in biotechnology, pharmaceuticals, healthcare and science. “Information-based jobs ranging from tech support to high-level programming are increasingly being exported to other countries.”

Asked whether there is a perception among students, teachers and guidance counselors that U.S. students can't compete with overseas talent, Smith says this mode of thinking is starting to catch on.

“There should be that perception, but I don't think reality has set in yet,” he says. “I don't think most U.S. techies can compete economically if they want to do things like eat and live indoors. There are only so many project management jobs at Microsoft and Oracle. The jobs and money are disappearing but the cost of living isn't dropping.”

And Smith has been in the IT field long enough to know what he's taking about.

software for the school lab environment in C and Assembler.

### **Shake, Shake, Shake**

If there really and truly and sincerely is a silver lining in every predicament, then there should be a silver lining in the current offshore outsourcing dilemma. And Henriksen may have found it.

“To my mind there are two types of IT people, those who enter the field for easy money and those who are involved because they love the work,” he says. “The people who love the work are the ones we want in the industry, and the presence of competition from offshore developers is exciting to them. A vibrant community where ideas come from all over the globe is an interesting opportunity for people with this mindset.”

But there is a downside to this vibrant community, he acknowledges. For instance, with offshore outsourcing, easy money is a thing of the past, as U.S. workers now have to compete with their equals in India, in China, and elsewhere.

Consider the PayScale; the Paaras Group study, for instance. According to the study comparing average salary figures in both the U.S. and India for various jobs, outsourcing looks like an increasingly attractive option for employers. The average salary for a software program-

mer is their lust for dollar signs, which makes a recent report on the state of salaries all the more interesting.

The average offer to computer science graduates fell 13.1 percent from \$51,429 in January 2002 to \$44,678 in January 2003, according to a report by the National Association of Colleges and Employers. Contrast this result with the fact that double-digit increases were the norm for computer science grads a couple years back.

While some commentators believe some grads err by expecting top bucks right out of school, others are less critical.

“Our impression is that students are fixated on getting a high-paying job straight out of school,” says Heasley.

Even so, Smith doesn't condemn new graduates looking for stellar salaries soon after writing their final exams.

“Before IT made it big there was a gold rush in the legal profession,” he reasons. “There were a lot of young lawyers working at restaurants and supermarkets before word got out that the market was saturated. At least most of the techie-hopefuls won't have such huge student loan obligations. It would suck to start your professional life by declaring bankruptcy.”

Defining an appropriate salary is never easy, says Henriksen, adding that finding a pay

**“I don't think most U.S. techies can compete economically if they want to do things like eat and live indoors. There are only so many project management jobs at Microsoft and Oracle.”**

— Dr. Frank Heasley, MedZilla.com

Around 1985, one of his college professors offered to pay him to do some C programming. Not only did this professor pay him for something he enjoyed doing, but she also directed him toward his first, real post-Army job as a weekend computer operator for a VAX/VMS programming shop.

“In 1987, I started working full-time with VAXes at a community college,” Smith continues. “A few years later, I became a programmer analyst, mostly writing report programs in Datatrieve. PC networking was getting started by then and my duties migrated in that direction. I worked with early systems such as 3Com 3Server3 and DECnet DOS / DEC PathWorks. When Netware 3.1 came out we migrated off of VAX/VMS servers onto the Intel platform.”

He ultimately became a systems programmer, doing system management and creating

mer in the U.S. and India is \$66,100 and \$10,000, respectively. And the average salary for an IT manager in the U.S. and India is \$55,000 and \$8,500, respectively.

“The end of the dot-com boom was one of the best things that could have happened to the IT industry,” Henriksen says. “During the boom the industry was awash with charlatans and pretenders who claimed to have skills in IT but in fact were barely able to do their jobs and had no motivation to do their jobs well. Given the choice between an Indian developer who cares and an American developer who doesn't, I would pick the Indian developer every time.”

And as students start to perceive this changing mood in the IT industry, they are less likely to enter the computer sciences realm just to cash in on their degrees or diplomas. In fact, the great downfall of many aspiring IT profes-

scale to accurately reflect the output of workers is a precarious balancing act. All the same, students who still insist on living the big life right out of school can take the route Henriksen took: Hunt for internships while still in school.

While earning his Applied Math degree at the University of Wisconsin, Henriksen interned with IBM in the performance analysis group for the AS/400. When he graduated from college, he was hired directly into the AS/400 micro-kernel development department.

“Engineers who cannot or will not take the time to make contacts inside of companies will have a difficult time advancing in salary,” he says. “If I had not built that relationship with IBM, I would probably have started out at a much lower salary. Instead, I was offered one of the best salaries for a graduating senior that year.” *Computer* continued on pg. 8

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**What to Do?**

Margot Brown, senior director, communications and public affairs at Motorola, says the skill set for the IT leader has changed. So institutions should tailor their curriculums to meet evolving needs of the marketplace.

“Over the past five years we have seen a shift in the skills and competencies required to be an effective IT leader,” says Brown. “The shift in skills has focused on the changing IT delivery paradigm from delivering IT services to managing the delivery of enabling solutions to the business. As a result the additional fundamental skills which are required of Motorola IT professionals include a strong business acumen, leading in change and managing both internal businesses and external sourced partner relationships.”

manageStar also intends to ensure that

future batches of computer science grads can hit the ground running.

“To ensure we can find [excellent] developers, we run the Delaney Parker Internship Program, named after our first intern who worked with us over summer vacations while in college and is now one of our best full-time employees,” says Henriksen. “By working with college students we help develop people who know what a real work environment will demand and so focus their schooling to help support that.”

And perhaps if schools of higher learning, businesses and students continue to work together, solutions to the problems of declining computer science enrollment and increasing offshore outsourcing can be remedied—or at least better understood. ■

**Quick Facts**

**Women in Technology**

- In 2003, women account for 20% of computer professionals in the United States
- Women receive an average earning of \$55,000 compared to their male colleagues' \$65,000.
- In 2000, 577 new computer science doctorates were awarded in the United States, 87 (15%) went to women.

*Statistics provided by the National Science Foundation.*

**Yes!** I want to support the Open Door Education Foundation's mission to Excite, Encourage, and Educate individuals to take advantage of the incredible opportunities offered through a career in Information Technology.

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