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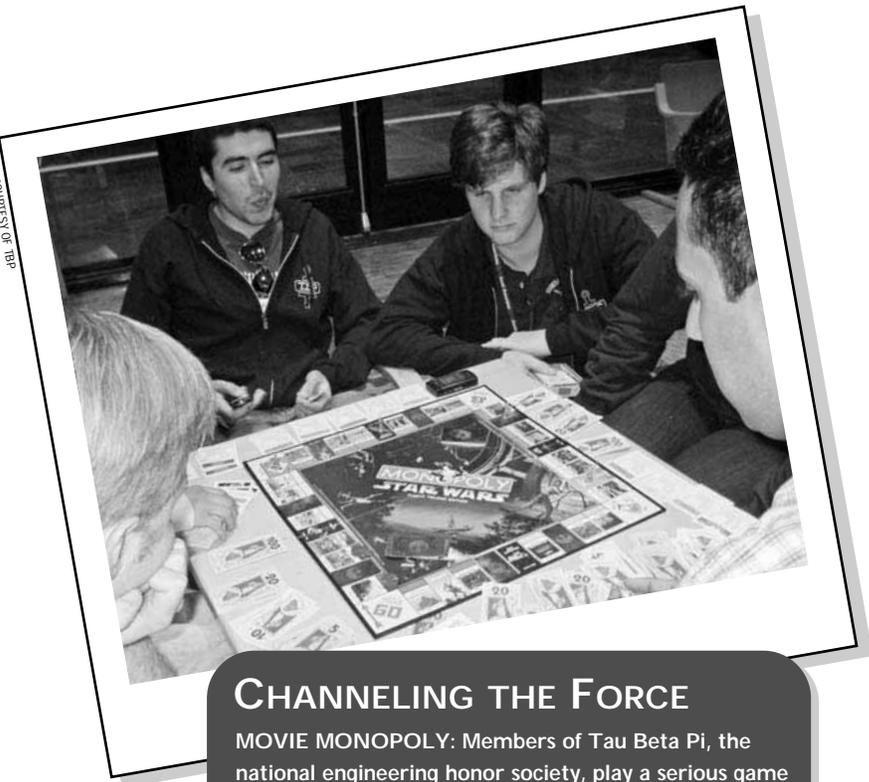
PHOTO COURTESY OF TBP

CHANNELING THE FORCE

MOVIE MONOPOLY: Members of Tau Beta Pi, the national engineering honor society, play a serious game of Star Wars Monopoly during the club's March 14 event to celebrate Pi Day. After a protracted battle for control of the universe (and properties such as Dagobah Swamp and Death Star Landing Bay), players called a truce, according to sources, and ended the game peacefully with no winner.

Handheld learning

EECS researcher creates cell phone games to improve English literacy in India

RACHEL SHAFER PHOTO

MOBILE LESSONS: Matt Kam demonstrates his cell phone game that teaches the basics of English to children in India.

EECS Ph.D. candidate Matthew Kam (B.S. '01 EECS, B.A. Economics) pulls a cell phone out of his bag and plays a game on the tiny screen. A voice says the letter 'A' in English. By toggling the keys, Kam moves an on-screen character toward an icon labeled with the letter 'A'. The screen indicates he's correct.

This learning game, simple by design, is the basis of Kam's doctoral work. Its goal is to teach basic English to children in rural India to supplement their school learning. Kam invented the game and several others like it by drawing on traditional games children play in their villages. He and his adviser, EECS professor John Canny, recently won $238,000 in funding from the John D. and Catherine T. MacArthur Foundation to

POP QUIZ

★ ★ ★

In your opinion, when does childhood end?

Anant Singh, ME/MSE junior
"It depends on the person. Some people can be 40 and retain those characteristics. I've seen people in their teens who've lost their childhood."

Humberto Gonzalez, EECS Ph.D. student
"I think around 14 or 15 years old, when you're in high school."

Anna Sofranko, CEE Ph.D. student
"I still consider myself a child. I'm curious, and I love to play."

Matt Hammond, EECS sophomore
"As soon as you have a lot of responsibilities. A lot of people I've met in college I wouldn't consider adults yet, including me."

Handheld learning

continue their project, called MILLEE (Mobile and Immersive Learning for Literacy in Emerging Economies). MILLEE was one of 17 projects chosen for funding.

"After doing this for four years, the project is now really starting," says Kam, who will complete his Ph.D. this summer. "If it works, it'll be exciting. In India, almost every parent views English literacy as the path to socio-economic advancement."

In a pilot program that began in January, a select group of children play Kam's cell phone games three times a week after school. Next January, they'll take a test to compare what they've learned against what they knew before. Kam is hopeful they'll show progress. Last summer he field tested prototypes with a different group of children, whose short-term vocabulary retention nearly doubled after working with the cell-phone games.

Kam describes himself as a computer scientist, but along the way he's learned other roles, including that of language educator, project manager and fundraiser. It's all to fuel his passion for bridging the digital divide. "I grew up in Singapore, and my family didn't have enough money to buy a computer," he says. "I learned to program computers by reading books and making mental models."

Kam applies that same dogged determination to MILLEE. The cell phone games represent countless, methodical decisions from the most basic (cell phones are better than computers, Kam found, because they're far more prevalent in rural India and don't require much electricity) to the complex (the game blends the latest pedagogical and English-as-a-Second-Language [ESL] theories while digitally mimicking a playground game). Kam has visited India seven times and works with a team of undergraduate programmers and outside advisers, including School of Education professors and, most important, an Indian ESL teacher.

While digital literacy games in India aren't new, Kam's project is the first to draw on the children's own experiences for game design. If the India pilot is successful, he hopes to bring cell phone games to the United States to help migrant farming communities learn English.

www.cs.berkeley.edu/~mattkam

Puzzle by websudoku.com

How does $25K sound?

Deadline for CITRIS research competition is April 11

Student researchers: CITRIS (Center for Information Technology Research in the Interest of Society) is once again looking for great ideas that demonstrate the ability of information technology (IT) to address a major societal challenge. The third annual "IT for Society White Paper competition" will give away $25,000 in cash prizes.

Last year, BioE Ph.D. student David Breslauer and his team won first place (with another team) for their project, "Telemicroscopy for Disease Diagnosis," which aims to create a simple, convenient and cost-effective optical microscopy system for developing countries by converting camera-enabled cell phones into microscopes capable of disease diagnosis. With their $8,500 award, they bought additional cell phone and optical equipment.

"The money enabled us to set up the project's infrastructure," Breslauer says. "But what was really helpful was the publicity we received and the connections we were able to make as a result of being in the competition. Organizers put us in touch with other engineers and doctors in developing countries, and we formed a core group of advisers."

Contest rules are few but crucial.

Apply by 5 p.m. on Friday, April 11. At least one member of the research team must be an undergraduate or graduate student from UC Berkeley, Davis, Santa Cruz or Merced. Multidisciplinary approaches are strongly encouraged but not required. White papers must run 5 to 10 pages in length. For additional details, go to *www.citris-uc.org/Big-idea-deadline-2008.*

"Really emphasize the societal impact," Breslauer advises. "And have a well thought-out target with a specific goal and timeline on how you'll pursue that goal. Most important, have a good idea!"

AARON WALBURG PHOTO

2007 GREAT IDEA: Contest organizer Tom Kalil (right) congratulates David Breslauer on his team's win.

E-mail your submission to it4society@gmail.com.

Commencement 2008

The 2008 Commencement will be a traditional all-College ceremony held from 8:30 a.m. to 12 p.m. Saturday, May 24, at the Hearst Greek Theatre. Departmental receptions will follow at various locations on campus. To register for the ceremony and reserve your tickets, go to *www.coe.berkeley.edu/commencement*. There is a six-ticket limit per graduate. Questions? Contact Dawn Kramer, Commencement manager, at *dkramer@berkeley.edu*.

Be a tour guide!

Cal Day organizers need six engineering students to lead tours of the College from 11 a.m. to 12 p.m. on Cal Day, Saturday, April 12. Talk to prospective students and their parents about your experiences at Cal and your favorite spots on northside! In appreciation of your "tour duty," you'll get free lunch and a thank you gift! To volunteer, e-mail *dkramer@berkeley.edu*.

Senior Gift Campaign

If you're a graduating senior, you've probably seen e-mails, fliers, posters and banners about the 2008 Senior Gift Campaign. Separate from the Cal Senior Class Gift Campaign, this campaign aims to raise funds that directly support engineering student programs and activities, including scholarships, research, student societies and much more. Learn about the campaign, or make a donation online by visiting *www.coe.berkeley.edu/giving/seniorgift*.

What's new, what's next

The Spring 2008 Management of Technology Lecture Series presents, "An Inside Track to What's New and What's Next," a talk by Randy Komisar, general partner of Kleiner Perkins Caufield and Byers, who will discuss Silicon Valley's new investment environment. The event will take place on Wednesday, April 4, at 4 p.m. in the Wells Fargo Room, C420 Haas.

❬professor minute❭

PEG SKORPINSKI PHOTO

WITH EECS PROFESSOR ALAN SMITH

Smith earned his Ph.D. in computer science from Stanford University in 1974. That same year he joined the Berkeley faculty. His research interests include computer architecture and engineering, computer system performance, operating systems and database management systems.

What first inspired you to go into engineering?
I was always interested in science, math and technology; I started reading *Scientific American* in junior high, got my amateur radio license in seventh grade and started computer programming while I was in high school. I've always wanted to make sure that my career was applicable, which pushed me more towards engineering than pure science.

If you had a few extra hours, what would you do?
I like to travel, eat out, read, go to the opera, ballet, movies, collect art, etc. I try to make sure that I do all of those things as part of my life. If I had more time, I'd catch up on my reading (technical and non-technical) and movies.

What are you currently reading?
Keeping up with the *New York Times* and the *Wall Street Journal* (and sometimes the *San Francisco Chronicle*) currently consumes almost all of my non-technical reading time. But I have a thick file of book reviews for books that I want to read some day, maybe when I retire.

What should students do to ensure a successful career?
Work hard at something you're good at and enjoy doing. Develop and exercise good judgment, a wide perspective (not a "worm's eye view"), and the ability to work and communicate with people. Recognize and take opportunities when they occur. Success is usually more than just sitting at a keyboard or lab bench, no matter how good you are at that. But keep in mind that there are many types of successful careers and many ways to get there, and that there is more to a happy life than a successful career.

If you would like us to feature your favorite professor, please e-mail his or her name to engnews@coe.berkeley.edu.

⟨ of note ⟩

MSE professor **Ramamoorthy Ramesh** recently won the 2007 Materials Research Society's Turnbull Lecturer Award, which recognizes a scientist who has made outstanding contributions to understanding materials phenomena and properties. Ramesh was chosen for "his pioneering contributions to the materials science of complex oxide heterostructures and nanostructures and for his enthusiasm and leadership in conveying the excitement of this field to a broad audience."

engineering**News**

On the campaign trail

Three engineers seek seats on next year's ASUC Senate

Before you ignore the upcoming ASUC elections, think about this number: $1.4 million. That's the ASUC budget, and it is ASUC senators who decide who gets the money. Your student group may need funding for a project. But without several engineers on the Senate to represent your interests, you won't get much consideration.

Meet BioE freshman Regine Labog, BioE/Rhetoric sophomore Tu Tran and Eng. Physics junior David Nordel. They're running for the senate under the APPLE Engineering banner. All three say they want to give engineers a bigger voice if they're elected. You can meet the candidates in person this week and next around northside as they campaign for your vote. Here's a sneak peek at their platforms.

In her first year on campus, **Regine Labog** helped launch the Cal chapter of Theta Tau, the professional engineering fraternity, but found registering it with ASUC difficult. "Basically, we were lost," she reports. If elected, Labog says she wants to develop an information packet to guide student groups through the registration process. She also wants to connect the Senate more closely with residence halls by having a senator sit in on Residence Hall Assembly meetings. "It's mostly about keeping students informed," she says, describing her platform. "I love this campus, and I want to change things to benefit students."

Before transferring to Berkeley, **David Nordel** served as student government president of his junior college. Now he wants that leadership experience to benefit engineers in Cal's student government. "One of my key issues will be to address a lack of funding for sustainability on campus," he says, adding that he wants to make The Green Initiative Funds easier to access. He also wants to work with campus officials to promote sustainable practices as new buildings are built. "Energy-efficient light bulbs and water-efficient toilets don't take that much money," he says. In sum, "I'd bring dedication and enthusiasm to serve the engineering community and campus in general."

WORKING FOR YOUR VOTE: From left, Regine Labog, David Nordel, Tu Tran.
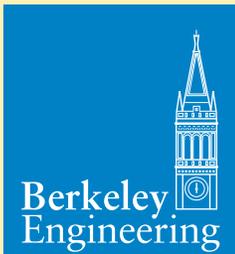
Tu Tran emphasizes a community outreach mindset with his candidacy. He helped start Cal's chapter of the organization, Engineering World Health (EWH) because, he says, "I really believe in service through science. Engineers have the ability to help lots of people." (This semester EWH members assembled electrosurgery unit testers, small plastic devices that can be sent to hospitals in developing countries to test the surgical equipment for safety.) If elected, Tran wants to concentrate on projects that reach out to youth. "I also want to improve faculty–undergraduate interaction by establishing an award where students nominate their favorite faculty," he says.

ASUC elections will be held Wednesday, April 9, through Friday, April 11. Polling stations will be located around campus.

www.asuc.org