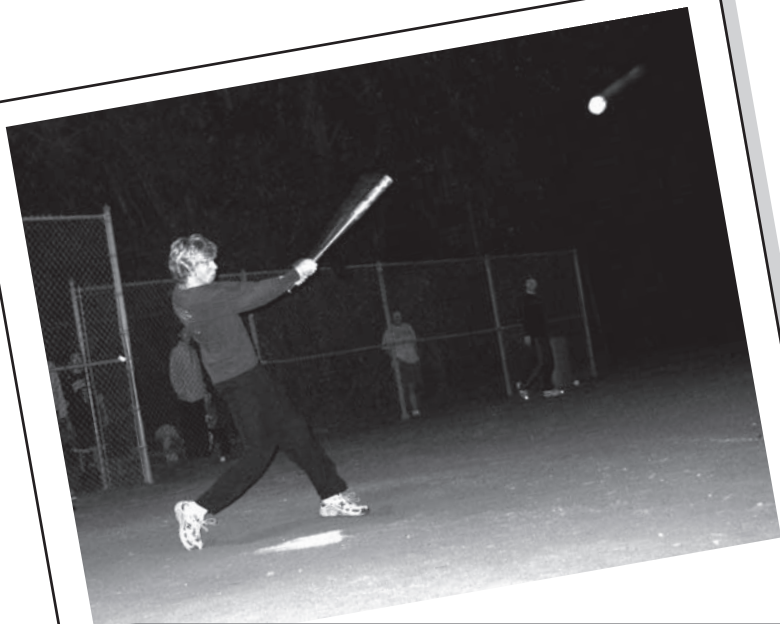


engineeringNews

DECEMBER 11, 2008 VOL. 79, NO. 9F

RACHEL SHAFER PHOTO



'TIS THE SEASON

NICE HIT: EECS Ph.D. student Kevin Peterson rips one for the Parlab team during a playoff game at Golden Bear softball field on December 1, part of the EECS Graduate Student Softball League. The league's fall season, comprising more than 50 players and six teams with names such as "Salty Meat Softballs" (it's a long story) and "No Glove, No Love," held its championship game on December 8. Team Headgear won with a score of 16.

Real-life lessons in native design

PHOTO COURTESY OF RIAN SHREY



COLLABORATIVE: Students work on a Pomo tribe house design for E10.

What started as a six-week project for freshmen engineering students may create culturally sensitive and energy-efficient housing for a small tribe of California Indians.

A roundhouse-style design conceived in last spring's E10 Engineering Design and Analysis course has been embraced by members of the Pinoleville Pomo Nation. The tribe plans to submit the UC Berkeley concept when it applies for federal funding to build up to 25 new homes in the community of Ukiah.

"There's an acute need for housing here," says David Edmunds, environmental director for the tribe, which has about 300 members scattered throughout Northern California. "Housing is considered a linchpin for a lot of things the tribe wants to accomplish."

The concept, still a balsa wood model, is the product of ongoing discussions between the stu-

Continued on page 2

POP QUIZ



How obsessed are you with getting good grades?



Hamed Hamedifar, CEE grad student

"Students here are pretty obsessed. The level of competition is high. You need good grades if you want to go to grad school or to a Ph.D. from a master's degree."



Maxwell Davis, Eng. Und. freshman

"In high school, it was pretty important so I could get in here. Now, it's relative to how hard the classes are, I guess."



Devi Khoday, BioE freshman

"This semester not as obsessed because I'm finding it very difficult."



Diane Ko, EECS senior

"Not obsessed at all. Grades don't matter. I just like the classes, and I try to do as well as I can."

Real-life lessons

Continued from page 1

dents and tribal representatives. It features a rounded structure containing a large communal kitchen and living room to accommodate extended families and tribal gatherings. Five small attached units can be used for bedrooms and storage. The dwelling has a living roof and plenty of natural lighting.

The collaboration got its start earlier this year when Edmunds and tribal representative Linda Noel approached a Native American student group at UC Berkeley for help in developing new homes. Their request found its way to ME professor Alice Agogino, who teaches an E10 module on human-centered and sustainable design.

E10 students, supervised by Agogino and graduate student instructor Ryan Shelby, eagerly accepted the challenge. In April, they made the 115-mile trip to Ukiah to meet with the Pinoleville Pomo group. During a daylong workshop with 20 tribe members, the students asked about the community's needs and solicited input on concepts. Several tribal representatives later visited Berkeley to help evaluate the resulting student designs.

"It resembles our traditional roundhouse," says tribal vice chair Angela James, adding that she and others appreciate the students' collaborative and green approach. The tribe wants to build centralized housing in hopes of unifying the Pinoleville Pomo and letting members take advantage of job training and other services. "It would strengthen our community, not only economically, but traditionally," James says.

Seven UC Berkeley undergraduate and graduate students continue to work on the project. Sponsoring the overall effort is a student-run community outreach program called CARES (Community Assessment of Renewable Energy and Sustainability).

"It's a real-world project the students can actually own," says Shelby, an ME Ph.D. student and cofounder of CARES. "This is going to directly impact the lives of people." Shelby is also incorporating the project into his doctoral research on sustainability and alternative energy.

"It's a really fulfilling thing to do," says ME sophomore Che (Tommy) Liu. "You feel like you're helping people who need the help, deserve the help. I wanted to see it through." ■

—Written by Abby Cohn and first featured in *Innovations*, the college's online research journal. <http://innovations.coe.berkeley.edu/>

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THE COEFFICIENT: PEOPLE INSTRUMENTAL TO COLLEGE LIFE

Dennis K. Lieu

Title: Associate Dean of Student Affairs

Call him: Dean Lieu

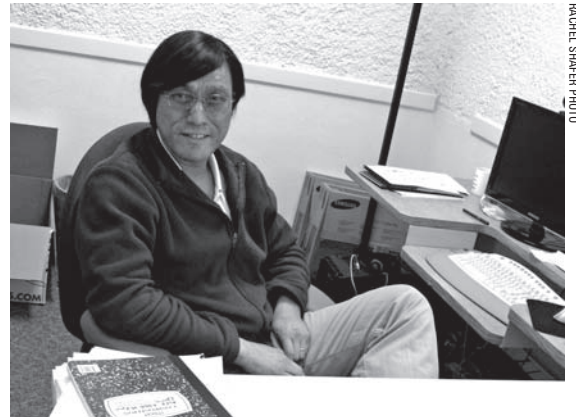
His job: Responsible for the welfare of undergraduate students, from classes and advising to living and health. Oversees undergraduate recruiting and retention.

His goal: "I know students perceive our office as having a police function, that we're there to check up on them academically. I want to change that so students think of our office as student-friendly and look forward to coming here because we cater to their needs."

San Francisco native: Lieu grew up in the Mission District and graduated from Lowell High School. His father owned a grocery store and his mother worked as a maid in a hotel.

Etcheverry forever: Lieu earned his B.S. in 1977, his M.S. in 1978 and his D.Eng. in 1982, all in ME at Berkeley. He joined the ME faculty in 1988.

What you might know: He holds a fourth-degree black belt in taekwondo (competitors nicknamed him "Doctor



RACHEL SHAFER PHOTO

HE WAS A STUDENT HERE, TOO: On a typical day, Dennis Lieu advises engineers on academic and career matters, reviews petitions and meets with students facing special circumstances such as poor academic performance or the need to withdraw.

Doom") and is faculty adviser for the Cal Archery Club.

What you didn't know: He's known to practice moonwalking in front of the mirror.

Favorite martial arts movie: "I don't watch many because they're so bad and unrealistic."

Has a weakness for: Chocolate-covered donuts

Last word: "Grades are not everything. The knowledge that you acquire here is the thing that matters." ■



Call for entrants

The Global Social Venture Competition seeks teams to enter its 2009 competition. Organizers are looking for entrants with a financially sustainable venture that addresses a social or environmental problem. Executive summaries are due JANUARY 21. For details, go to www.gsvc.org/.

Introduction to Embedded Systems

EECS 149 Introduction to Embedded Systems is a new, project-based, capstone design course for advanced undergrads that will be offered spring semester. Students will have the opportunity to hack robot platforms and devices such as the Nintendo Wii, interface sensors and actuators and extend systems for wireless control. Students will work in teams toward an innovative final project that satisfies the EECS design requirement. For details and prerequisites, visit <http://chess.eecs.berkeley.edu/eecs149/sp09>.

Career Center in your inbox

Sign up for Engineering CareerMail through Callisto and receive

biweekly notices about workshops, career fairs, info sessions and more. <http://career.berkeley.edu/>

Thanks for your input

We appreciate the efforts of everyone who shared their feedback with us this fall in the *Engineering News* Survey. We hope to implement your ideas and suggestions in the coming months. We'll announce the raffle winner of the \$100 Best Buy Gift Card in an upcoming issue as this is the last fall issue. *Engineering News* will resume publication on January 15. Good luck on your finals and enjoy your Winter Break!

Answer to last issue's sudoku

4	2	5	3	1	6	7	8	9
9	7	6	4	5	8	3	2	1
1	3	8	7	9	2	5	6	4
5	4	9	8	6	3	1	7	2
7	6	2	5	4	1	9	3	8
3	8	1	9	2	7	4	5	6
6	5	3	1	8	9	2	4	7
2	9	7	6	3	4	8	1	5
8	1	4	2	7	5	6	9	3

Puzzle by websudoku.com

Need a study break? Here are a few ideas

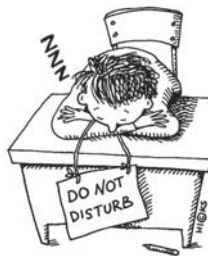
✿ Those clever EECS students have built some cool robots for EE125 Introduction to Robotics. See demos on THURSDAY, DECEMBER 11, from 2 to 4 p.m. in 290 Hearst Memorial Mining Building.

✿ Forage for free nourishment at the "Feed the Bears" study break, hosted by Berkeley Engineering Alumni Relations (BEAR) and the Institute of Industrial Engineers (IIE). Join them on TUESDAY, DECEMBER 16, from 3:30 to 4:30 p.m. in front of Kresge Library outside Bechtel Engineering Center for snacks and drinks.

✿ Find fresh air and perspective at the top of the Campanile. The ride is free with your student ID. Open Monday through Friday from 10 a.m. to 4 p.m., Saturday 10 a.m. to 5 p.m. and Sunday 10 a.m. to 1:30 p.m. and 3 p.m. to 5 p.m.

✿ Be a polar bear experiencing the effects of climate change from the comfort of your own computer. "Gas Zappers" is an online video game created by artist Kenneth Tin-Kin Hung currently on exhibit at the UC Berkeley Art Museum. But you don't have to traipse across campus to participate. Play the game now at www.gaszappers.com/play. (It's old school—and satirical—on purpose.)

✿ Satisfy your late night cravings with an order of cheese sticks from West Coast Pizza at 1706 University Avenue. They deliver until 2 a.m. on weekends. Phone 510.841.WEST.



✿ Watch a robot, built by an ME student team, solve a Rubik's cube faster than the human recordholder. www.youtube.com/watch?v=N7BksZZyAdc

✿ Get your blood moving at a showing of "Twilight," the new vampire romance movie. Consult Google Movies for this week's locations and times.

✿ Take a walk to Live Oak Park for a respite along its creek. Head west on Hearst Avenue, turn north onto Walnut Street. At Virginia Street, you'll pass the fanciful gate to the UC Berkeley Student Garden. The park is a block past Rose Street. On the way back, order a hot drink at Peet's Coffee and Tea on Vine Street, the chain's original store.

< of note >

TECHNOfile: T-Mobile G1

EECS sophomore reviews Google's push into smart phones

PHOTO COURTESY OF BERKELEY iGEM TEAM



In the COE blogosphere

The promise of synthetic biology. The quest of two research teams. The tension of international competition.

It's all there in the college's first blog, penned by members of this year's Berkeley iGEM team who wrote about preparing their research for the International Genetically Engineered Machine (iGEM) Jamboree, held at MIT in November. The interdisciplinary team included BioE students Madhvi Venkatesh, Nade Sritanyaratana, Aron Lau, Jin Huh, Christie Brown and Molly Allen. Read about their challenges and successes at <http://blogs.coe.berkeley.edu/>.

The college is looking for new bloggers. Are you interested in sharing your engineering experiences with others? E-mail Susanna Spiro at susannas@berkeley.edu.

In September, Google entered the mobile market, debuting its new, Linux-based operating system, Android, for phones. The T-Mobile G1, the first handset to support this technology, fires a shot across the bow at Apple's iPhone, which has dominated the mobile market for more than a year. Does the G1 measure up? Available at T-Mobile locations for \$179 with service contract.

On day one, I bought the G1 to see what it could offer this techie, and it has been more than a satisfying purchase.

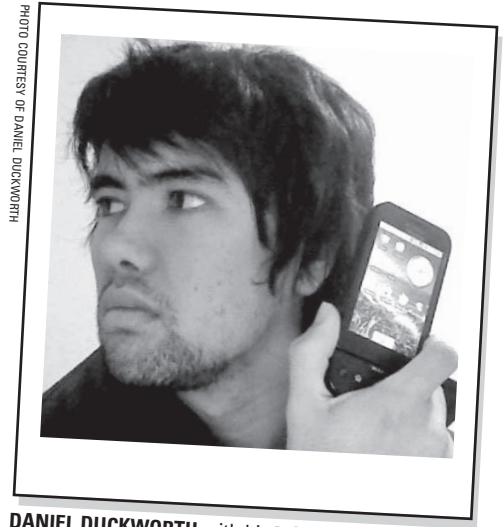
The handset, built by HTC, is a solid system. With a slide-out QWERTY keyboard, a Blackberry-style trackball, dedicated camera and phone buttons, not to mention its top-notch 480 x 320-pixel touchscreen, it's a benchmark by which all smartphones should be built. The built-in GPS and accelerometer aid location services and viewing, and the 3.2-megapixel camera is a welcome addition in these days of shoddy "camera" phones. Furthermore, having 3G data support and Wi-Fi means you're always connected, whether for news, friends or maps. My one hardware complaint is poor battery life; as a heavy Web user, I barely make it through a 14-hour day on a single charge.

Most notable, however, is what's inside—Android. Built on Linux, the entire system is open source and built for developer modifications and improvement, a polar opposite to Apple's offerings. For the user, this means that there will be more programs and faster improvements, and there's no folly there.

Unfortunately, like most Google products, Android is still in heavy development. Though I personally find it usable, it is not as responsive as the iPhone nor as supportive of many capabilities. For example, there exists no universally supported foreign text input or ability to

read PDF documents. It will be only a matter of time until these temporary problems are solved by developers.

Android scores points for supporting applications that Apple doesn't. The iPhone blocks the ability to run daemons, back-



DANIEL DUCKWORTH with his T-Mobile G1

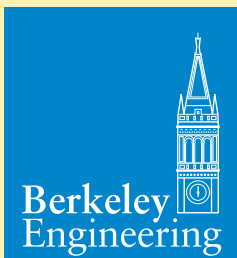
ground programs that monitor the phone and react accordingly. One excellent example of such daemon usefulness is Locale, a program which, based on time or location of the phone, changes the call and networking settings, meaning a phone never goes off in class again.

BOTTOM LINE: G1 and Android compete well with the iPhone, and in this techie's eyes, win. Apple has kept the "cool" factor firmly in its control since release of the iPod. But if you want to see what happens when Google controls the cool, I recommend jumping on the T-Mobile G1 soon.

—Written by Daniel Duckworth

In TECHNOfile, students review gadgets, devices and technology and give us the bottom line. Want to be a reviewer? E-mail the editor of Engineering News at engnews@coe.berkeley.edu.

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