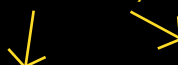


The MYSTERIES of ENGINEERING

- + ENGINEERING STYLE:
CLASSY AND BUSINESS CASUAL
- + REVEALED: SWITCHING MAJORS
- + 14 WEBSITES EVERY ENGINEER
SHOULD KNOW ABOUT

(Like how to dress with class)





DEC/JAN 2011:

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"BONJOUR"

Dear Reader,

As the semester comes to a close and the average number of exams each week steadily increases, life starts to move more rapidly than it ought to.

We begin to try to recall what happened to October and November, and we question whether September even occurred this year. Fortunately, through our notebooks filled with class notes and pictures on Facebook, we can look back and solve the mystery of what happened to the semester. Other mysteries here at the Cockrell School of Engineering, however, require a little more effort to solve.

Mysteries abound at UT Austin, where there are things that everyone ought to know about but very few have actually heard of or figured out. These mysteries include how to switch majors efficiently and (for some) how to dress with class. To solve a few of these quandaries, Vector took on the challenge of investigative journalism and illuminated the foundations under the hype.

For this issue, the Vector staff also put together a list of hidden website gems of the internet for our readers to explore and enjoy. We have also held the first Vector photo shoot to produce many of the images featured throughout these pages.

If you like exploring the mysteries of engineering and more in this issue of the Vector magazine, let us know by sending us an email at vector@sec.engr.utexas.edu or get involved by attending our weekly committee meetings next semester. There are openings for new staff members, and we also invite you to share your stories, comics, society ads, and more by sending in your content to articles.vector@gmail.com.

While we are still in our beginning stages in developing our official Vector website and in building up the Vector Vlog, we are proud of our printed issues of Vector that our staff pieced together this semester. I look forward to another excellent semester of Vector this year, and I can't wait to read your comments and submissions next semester.

As is customary at the end of every semester, congratulations to our graduating seniors, and good luck to everyone else on final projects and exams!

Best,
Darius Bunandar and Jen Nordhauser
vector@sec.engr.utexas.edu

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FAST FACTS:

Texas 4000

**Participants
this year - 46**

**Number
of years in
existence - 8**

**Money
raised this
year so far -
\$133,000**

**Starting city -
Austin, TX**

**Ending city -
Anchorage,
AK**

**Distance -
4500 mi.**

50 students
bike from
Austin,
Texas to
Anchorage,
Alaska each
summer
in order to
raise hope,
knowledge,
and charity
in the fight
against
cancer.

UT Engineers Bike to Alaska to Battle Cancer

Mansi Raythatha

This year, the UT student organization Texas 4000 for Cancer donated \$50,000 dollars to two biomedical engineering professors at UT Austin, Dr. Markey and Dr. Baker, to aid in cancer-related research projects. Weeks later at the UT vs. OK State football game on October 15th, Texas 4000 presented a \$1,000,000 check to M.D. Anderson Cancer Center in Houston, Texas. For an organization founded only eight years ago, Texas 4000 has already made a large impact on the UT Engineering Department as well as cancer-related research within some of the top oncology divisions in the state.

Texas 4000 for Cancer is an organization through which 50 University of Texas at Austin students participate in the longest annual charity bike ride from Austin, Texas to Anchorage, Alaska each summer in order to raise hope, knowledge, and charity in the fight against cancer. As part of the 2012 LiveSTRONG Texas 4000 for Cancer team, along with fellow engineers Ross Davis, Kaitlyn Hunt, Royce Change, Nick Meriwether, DoSoon Kim, and Rojesh Maharjan, I have had

complishments of the organization come full circle. From raising money for cancer research and learning about the latest innovations in cancer treatment in my biomedical engineering classes to volunteering with cancer survivors and actually working in a biomedical engineering research lab, I continuously find myself relating to how Chris Condit, the founder of Texas 4000 and a former biomedical engineering student at UT as well, must have felt. When Chris Condit started Texas 4000 in 2004, he may not have imagined what great things could come out of the ride. However, I can tell you that it is an amazing feeling to know that what I am doing directly affects those I work with each day and that I am extremely excited and proud to be part of this team.

Each rider is responsible for raising a minimum of \$4500 for cancer research, a dollar for every mile we bike. Only two months into the school year, the 2012 team of 46 riders has already raised over \$133,000 towards the fight against cancer.

To learn more, read rider blogs, or donate to the cause, please visit www.texas4000.org.



Snipping Budget Woes with Green Scissors

Tania de Souza

Sponsored by The Heartland Institute, Taxpayers for Common Sense, Friends of the Earth, and Public Citizen, the Green Scissors campaign is a practical and nonpartisan effort to eliminate wasteful and harmful spending by the federal government. The 2011 report focuses on four areas of expenditure: Energy, Agriculture, Transportation, and Land and Water.

In the energy sector, the campaign targets out-of-date policies and subsidies; high-emission, high risk, and water-intensive industry subsidies; imitation “renewable energy” programs will cut an estimated \$61 billion in the next five years. An example of imitation “renewable energy” is corn ethanol fuel, which has been around for a long time and was originally proposed as a water-intensive substitute for fossil fuels in the 1980s.

The 2011 Green Scissors report also recommends cutting agricultural spending by eliminating commodity crop subsidies and other antiquated policies, some of which are a legacy from the Great Depression. Green Scissors claims that “these subsidies end up as windfall profits for the wealthiest and largest agro-corporations, crowd out funding for agriculture-related conservation programs and do little for rural development or the struggling family farm.” Following these recommendations, the federal government could save \$56 billion in the next five years.

In the transportation sector, Green Scissors proposes revised airline policies, better planning to fund highway construction, and eliminating the hybrid car tax credit to avoid subsidizing less efficient hybrid vehicles. These measures, Green Scissors claims, will save the government \$106 billion in the next five years.

The Green Scissors campaign condemns “taxpayer giveaways of federally owned resources” in the form of public land, timber and mined minerals. Timber companies are virtually paid by the government to log public timber, and mining companies are not required to pay for the minerals they extract. In addition, the Green Scissors report discusses the disastrous consequences of the National Flood Insurance Program, which “encourage[s] more intensive development in flood prone, environmentally sensitive areas.” Also targeting the Army Corps of Engineers projects, Green Scissors

contends that “in many cases these projects serve little to no national interest, are not economically justified, have serious environmental impacts and are based more on political power than national priority.” Eliminating these policies would save \$15 billion in the next five years.

For more information about the Green Scissors campaign, go to greenscissors.com.



Cutting wasteful
and environmentally
harmful spending



Green Scissors claims that ethanol subsidies cost taxpayers \$6 billion each year, helping large oil companies but not creating any jobs.



Deforestation is a major cause of land desertification.

Seminar Review: The Perils of Human Activity

Tania de Souza

The Teresa Lozano Long Institute of Latin American Studies (LLILAS) is an interdisciplinary center for learning that boasts faculty working in the fields of sociology, law, Spanish, Portuguese, indigenous languages, history, and many more. Nevertheless, the institute's interest in science and sustainable development, which is in contrast to the nature of what it boasts of, may come as a surprise.

This emphasis on the sciences is exemplified in the programs LLILAS runs for visiting scholars. The Institute invites scholars from Latin America to share their expertise and engage in discourse with UT Austin faculty members. These visits last from a few weeks to an entire semester. LLILAS's first Tinker Visiting Professor, Juan Restrepo, is one of Colombia's premier marine scientists and has spent the fall semester of 2011 at UT. In a talk entitled "The Perils of Human Activity: Colombia's Experience with Soil Erosion," Dr. Restrepo cited "anthropogenic influences" such as mining, urbanization, construction, and deforestation as the primary causes of land desertification and increased sediment yield

erosion) in the Magdalena River Basin. Using predictive models, he and his team calculated the erosion due to natural factors and from there derived an "anthropogenic factor" by which human activities have intensified erosion. Dr. Restrepo emphasized the complexity of the "connected system" encompassing rivers, oceans, and dry terrain. "Many variables explain erosion," he said, including "maximum water discharge . . . climate, geology, land cover change and human activity." The results of Dr. Restrepo's study indicate that "78% of rivers in the region are experiencing increasing erosion" and that "32% of observed variance in erosion" is due to deforestation.

While Dr. Restrepo and others draw attention to the negative effects of altering the landscape, deforestation continues at an alarming rate. Only "5% of primary forests remain" in Colombia, and other countries around the Amazon Basin are following this trend. For more information about water resources and erosion, please visit the World Resources Institute and Community Surface Dynamics Modeling System (CSDMS) websites.

Clueless?

Sometimes it takes a detective to figure things out around here.



The Mysteries of Engineering: Switching Majors

Switching majors in the Cockrell School of Engineering and at UT Austin as a whole can be quite a mystery to students who are not quite satisfied with their current major. To demystify this process, Vector asked a couple of students who have transferred both out of and between majors in engineering to share their stories.

Chemical Engineering to Biochemistry

Siân Behrendt-McLeroy

"I took 'Survey of Biochemistry' as a chemistry elective my second semester at UT Austin when I was a chemical engineering major. Chemical Engineering had seemed like a good major for me because I was interested in chemistry, and a degree in engineering from UT would probably open up employment opportunities with high salaries after graduating. Other than that, I was unsure of what I wanted from my major, but chemical engineering seemed to be a safe option.

However, I did not know much about ChemE until I started taking courses. I would sit in class and quasi-learn the material, but it did not stand out to me as particularly interesting. I needed something more stimulating for me, and biochemistry provided what I was looking for. Almost everything my professor said was intriguing. His lectures made me see how biochemistry could help us begin to understand living things on a molecular level. From this understanding of the molecular level we can develop an understanding of the processes taking place inside us. From there we can begin to see how all of these processes are interconnected. Even with everything we already know about the human body, there is so much more to discover.

This seemed like the most amazing thing in the world to me. Later on that semester, because of my fascination in my intro to biochemistry class, I decided to change my major to biochemistry. Switching between the two majors did not involve a lot of effort on my part: I talked with my advisor in the Chemical Engineering department and then filled out some paperwork in the College of Natural Sciences Dean's Office in Welsh Hall. Finally, I made an appointment with my new advisor in the Chemistry and Biochemistry Department, and the switch appeared on my registration information sheet and transcript.

After I had the experience of switching between the two majors, I am glad I realized that ChemE was not for me. I wish I had started out studying biochemistry, but the switch was a learning process for me to focus on what I really wanted to get out of my degree. Now that graduation is on the horizon (I graduate this coming May!), I am happy that I have pursued something in which I have a passion to study and research, and I look forward to continuing my studies in the field of biochemistry in graduate school and beyond.

Internal Transfers

Arnold Hechanova

What's the key to internal transfers? Be proactive. Trust me, I've done it twice. You can't sit back and rely on your advisers to do the paperwork for you. Because transfer students are admitted on a space-availability basis, you have to keep your grades up. A 3.0 is the minimum GPA to apply for an internal transfer (a historical summary of internal transfer GPAs and percentage acceptance rates can be found on the Cockrell School website). Also, for students with identical GPA, the school will give priority to those who've taken more Basic Sequence courses in their target major. Unfortunately, the internal transfer process does not have rolling admissions because acceptance depends on your current semester grades. So between the time of registration and the add-drop period, you may feel like you're stuck in between majors, and you will most likely have to wait until add-drop to snag a spot in the classes you want. It's important to find out what you're truly passionate about. Do your research, and make sure you're making the right decision. The internal transfer process is hard enough; you don't want to do it twice.

For business casual, guys shouldn't be afraid to go pink; it really stands out.

A neutral sweater and a black pencil skirt look excellent when paired with tights and vintage accessories.

engineering STYLE

Photographs by Clarke Rahrig and Rishi Goel

Patterns are a great classy casual option when they're toned down in basic black and white.




One of the great mysteries for some engineering students is how to dress well for casual and business casual situations. To help solve this mystery, Vector asked some classy engineering students to dress up to help demonstrate how to dress with class (even for class!). On the following few pages, we've included some ensembles and tips on how you could program these looks into your wardrobe.

Neutral pumps complement a business casual ensemble, but be sure to pair them with a lighter cardigan to tie everything together.


A light collared shirt left untucked and relaxed khakis fit nicely in a casual setting, while tucking it in and pairing the ensemble with a dark belt brings it up to business casual.




Every engineering female needs a good pair of basic black pumps and a versatile, form-fitting sweater dress for her business casual wardrobe.



Keep things classy
by adding a
cardigan.




Dark denim with
a fun, black and
white top is a
classic option for
a casual stroll
downtown.



Printed ties pair well
with solid collared shirts
for business casual oc-
casions.

For a great
business casual
look, try a more
draping top with a
form-fitting skirt.



Open toed black sandals are great classy casual options for a classy summer look. Just make sure they're comfortable enough to walk around in.

Chic details like this feather hair clip or these crocheted earrings add personalization to solid ensembles.

Models:

Albert Chen
Simeon Duong
Garrett Galow
Arnold Hechanova
Elaine Ng
Jane Vinogradova
Lucy Xie
Shelley Xu
Helen Zeng

Director:

Jen Nordhauser

Assistant Director:

Zachary Criss

Special Thanks to:

Ali Barton & Bill Han

Hidden Gems of the World Wide Web

Fourteen Websites You Should Check Out

The Internet baffles many people with its breadth and variety of content, making it one of the most mysterious technological marvels of our times. To reveal some of the hidden gems of the world wide web, the Vector Staff hunted for the top 14 most interesting websites that many people have not heard of but should know about.

KhanAcademy ▼ www.khanacademy.org *Cyrus Iqbal*

MIT graduate professor Salman Khan silently revolutionized online education with the inception of khanacademy.org. On a mission to “provide high quality education to everyone, everywhere,” Khan single-handedly produced 2,600 YouTube

videos teaching everything from cosmology to differential equations. Even though he was endorsed by Bill Gates and Stephen Colbert, Salman Khan and his awesome website still remain relatively unknown. Khan combines his world-class education with his smooth and friendly delivery to provide a fantastic supplement to any college class.

The website does not require a subscription and is run entirely through YouTube videos.



Hyperphysics hyperphysics.phy-astr.gsu.edu/hbase/hframe.html *Austin Eberle*

From Georgia State University PHY 303 got you down? Is EE 302 or 411 not making sense? Why not try starting with Hyperphysics? It's hands down one of the clearest, easiest to understand, and most complete archives of physics information out there. Even though the site is one of the best known of its kind, best known is relative in the field of physics. Covering everything from statics to the strong nuclear force, it's a great resource for those late night cram sessions. There's no subscription or account required. Just go to the address and let the science - and hopefully the answers - begin.

Lifehacker <http://lifehacker.com/> *George Song*

Lifehacker is owned by Gawker Media and was founded by editor, Gina Trapani. Adam Pash is the current editor in chief.

Lifehacker has a simple motto “Tips, tricks, and downloads for getting things done.” They offer many diverse articles that apply to anything from the best method of dual booting your computer to boiling eggs. Although sometimes Lifehacker can have a negative influence and actually become a method of procrastination, the website goes over many revolutionary tips and tricks that you would otherwise never think of to become a net force of good. If a tip doesn't work for most people or a superior method exists, Lifehacker will often release a second or even third article to let the truth be known.

Lifehacker is open to anyone to read and learn. You can log into Gawker Media through a Facebook or Twitter account. By logging in you can comment on stories.

Greedlist www.greedlist.com *Jen Nordhauser*

Created by: Wesley Fox Buchele and Dr. Suzanne Buchele

GreedList was just started a year ago and hasn't had too much press yet. It's awesome because you can ask for all of the presents that you want without having to prepare a list for whenever you visit Grandma. It's like a wedding registrar but for your birthday or Christmas. You have to sign up for a GreedList account and give your account name to anyone you'd like to buy presents for you. It links through Facebook and it is family-owned and -operated.

Code Academy

www.codecademy.com

Stephen Shi

Created by Ryan Bubinski and Zac Sims
In my ever-growing quest to succeed in college, I've had a lot of bad teachers. Some taught directly from the textbook, some lectured lazily while my mind drifted away, and some couldn't even speak English. To save my mind from becoming a slow mess of goo, somewhere along the way, I learned to teach myself.

Code Academy, which was launched this past summer, is a mind-blowing website that can teach anyone to code for free. As for people like me, who can't code to save their life, code academy is the perfect place to begin to learn. The site was created by Zach Sims and Ryan Bubinski as an effort to create a more interactive way to learn programming and actual coding. Code Academy offers courses that teach Javascript and is pushing for more languages such as Ruby and Python. This website gives you a great experience and makes basic coding knowledge available to people for free. Unlike many websites, Code Academy does not require you to create an account to use it. However, in order to save your progress, you should probably create one anyway. It also doesn't require you to download any of that java junk which makes your life tenfold easier.

TechCrunch

www.techcrunch.com

Garrett Galow

Founder, J. Michael Arrington;
CEO, Heather Harde

TechCrunch isn't just your regular technology website. It focuses not only on technology, but on technology companies, especially start-ups. It is the perfect union of business and technology. Its clean interface and smart writing reports technology business news as it happens. From information on IPO's of start-ups to which streaming music service is top dog to which cell phone you should buy, the site offers interesting, relevant content with updates all day long. TechCrunch covers business and technology news especially pertaining to start-ups. All information is available from the moment you reach the homepage, and you can post comments through your Facebook account, so you don't need to make a new account.

Fiction Connection

www.fictionconnection.com, free when accessed through the UT Library System

Austin Eberle

Powered by Bowker™

Ever finished a good book and wished it went on? Well, here's the next best thing. Take a book or author you love and enter the name. In a few seconds, you'll get a list of related books that can be further narrowed by subject matter. Science Fiction, Romance, Horror, Mystery, everything is there and easy to find. It's not hard to see why Fiction Connection isn't well-known; it normally requires a paid subscription. Fortunately for your wallet, this site is free through the UT Library. Simply go to the URL and enter your student information. Don't miss out on this awesome site. After all, your tuition helped pay for it.

Uncrate ▼

www.uncrate.com

Clarke Rahrig

Created by Larry Angell

Uncrate is a "digital magazine for guys who love stuff." Whether you are into music, books, television, film, cars, technology or fashion, Uncrate

has something that will catch your interest. There are five new posts every weekday so there is always new stuff to read or learn about. The site's interface is elegant and simple. Navigating through the different sections of the site, like "Gear" or "Tech", is as simple as clicking the subheading of interest. Uncrate always offers something a little out of the ordinary for its users, but that is why over one million monthly readers keep coming back. The best feature of Uncrate is when you are reading a post and you think to yourself "This is really cool, I want to buy this!" All you have to do is click the "Buy" button at the bottom of the post, and you can buy the product within seconds. Uncrate is the one stop shop for the best in man stuff.

Uncrate does not require any type of subscription but users can download their app or follow them on Facebook (/uncrate) or Twitter (@Uncrate).

Crackle ►

www.crackle.com

Rishi Garg

By Sony Pictures Entertainment

Crackle is a website with a wide selection of movies and TV shows, all of which are free to watch. These videos, unlike many other websites out there, are perfectly legal to watch because the website is run by Sony Pictures Entertainment. Also, unlike many legal video sites out there, Crackle has a lot of good movies and TV shows -- stuff that I would actually want to watch, like *Seinfeld* and *Step Brothers*. You could say that Crackle is very similar to Hulu, except that Crackle has a much better selection of movies!

The site runs on Flash and shows intermittent commercials throughout the video (like Hulu).

Hype Machine

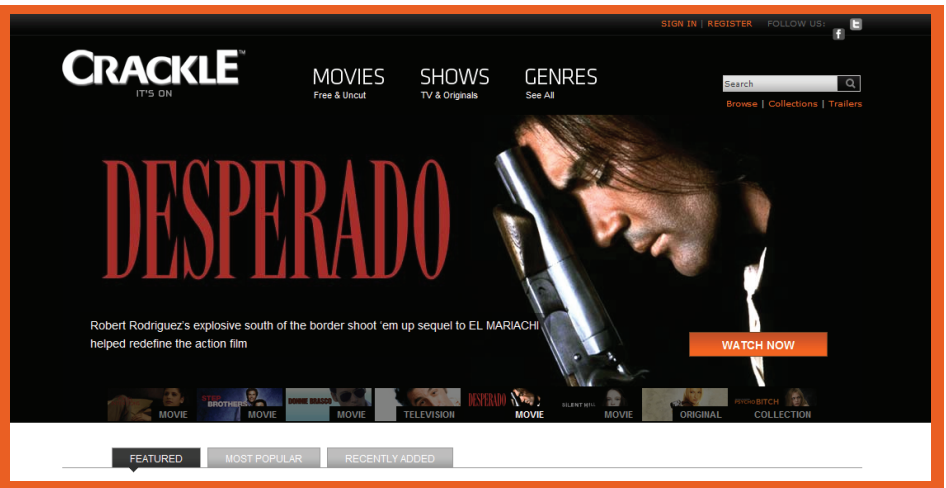
www.hypem.com

Arnold Hechanova

Created by Anthony Zolodkin and Zoya Feldman

Hype Machine is my go-to source for music. The site consolidates some of the best music blogs on the web and hand-picks the most popular songs to display on their website. You can search by popularity, by genre, or even customize your own music feed catered to your own musical taste. The Machine is one of the best ways to discover the latest indie rock, electric, and hip-hop artists. Especially if you're into the Austin music scene, these up-and-coming artists can often be found under the "Most Popular Songs" tab. Furthermore, if you're the type of person who loves listening to remixes of your favorite songs, you can find a great variety of mixes on Hype Machine, all of which are free!

The website reposts MP3 links from a variety of music blogs. You cannot download the tracks directly from the website, but you can listen to them and upvote your favorites on the site.



Top Documentary Films

topdocumentaryfilms.com

Dalton Dinderman

Site by Vlatko

Bahhhh, midterms can be taxing. I bet you sure would like to learn about something because you're interested in it, not because it's fifteen percent of your grade. And easily. And via the internet. Well, topdocumentaryfilms.com allows you to do just that. This site is a collection of over one thousand documentaries that cover topics ranging from sports to economics to history.

The documentaries are all embedded from other sites, including YouTube and Megavideo. The website layout is simple. A search bar at the top of the site allows for a quick discovery of videos that cover whatever you're looking for. Lists along the side let you choose a specific documentary topic and see recommended documentaries (which appear to be based on past searches and selections). The site also has a store (powered by Amazon)

where you can buy your own copy of that documentary that you just discovered, that you love, or that you need to own. If you ever find yourself with two hours to kill in your post-finals, hermit-like state, check it out.

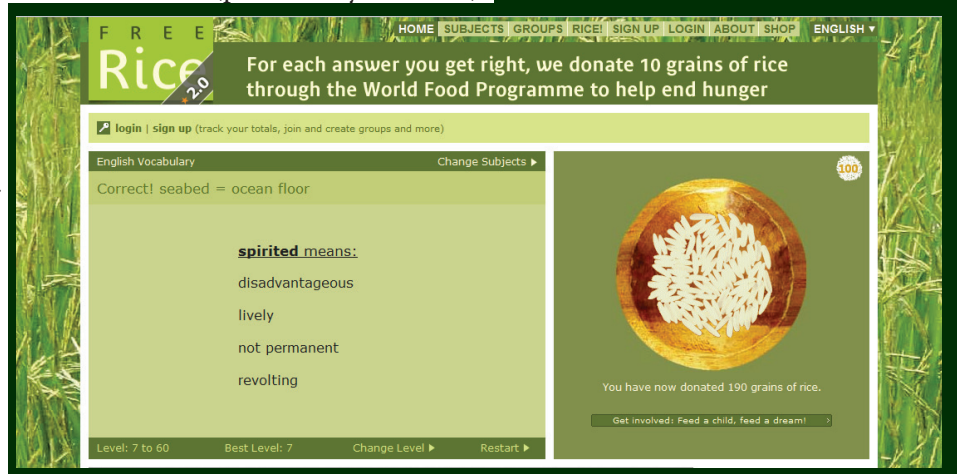
Free Rice ▼

www.freerice.com

Anali Martinez

United Nations World Food Programme

Instead of merely writing that 1,000 word essay on world hunger, why not help end it? FreeRice.com is a site that donates 10 grains of rice to the World Food Programme for every question that you answer correctly. So put those multiple choice skills that you racked up during SAT class to good use! I give you full permission to let your professor know you were flexing your brain muscles while actively relieving poverty across the world. The more answers you get right, the more rice you give.



Super Cook

www.supercook.com

Anali Martinez

Assaf Rozenblatt, Founder

This is a major life-changing website for all you Vector readers who have a kitchen. Instead of the typical cooking site where it lists the ingredients and you head out to the grocery store, Supercook asks you to type in the ingredients you have. After you have entered in the data, Supercook searches its database of recipes and spits back a variety of delicious meals. You can start cooking right away! This is perfect for a last minute dinner with the roomies. Simply type in what is laying around your kitchen (skip the moldy milk in the fridge) and let Supercook dish back the dinner.

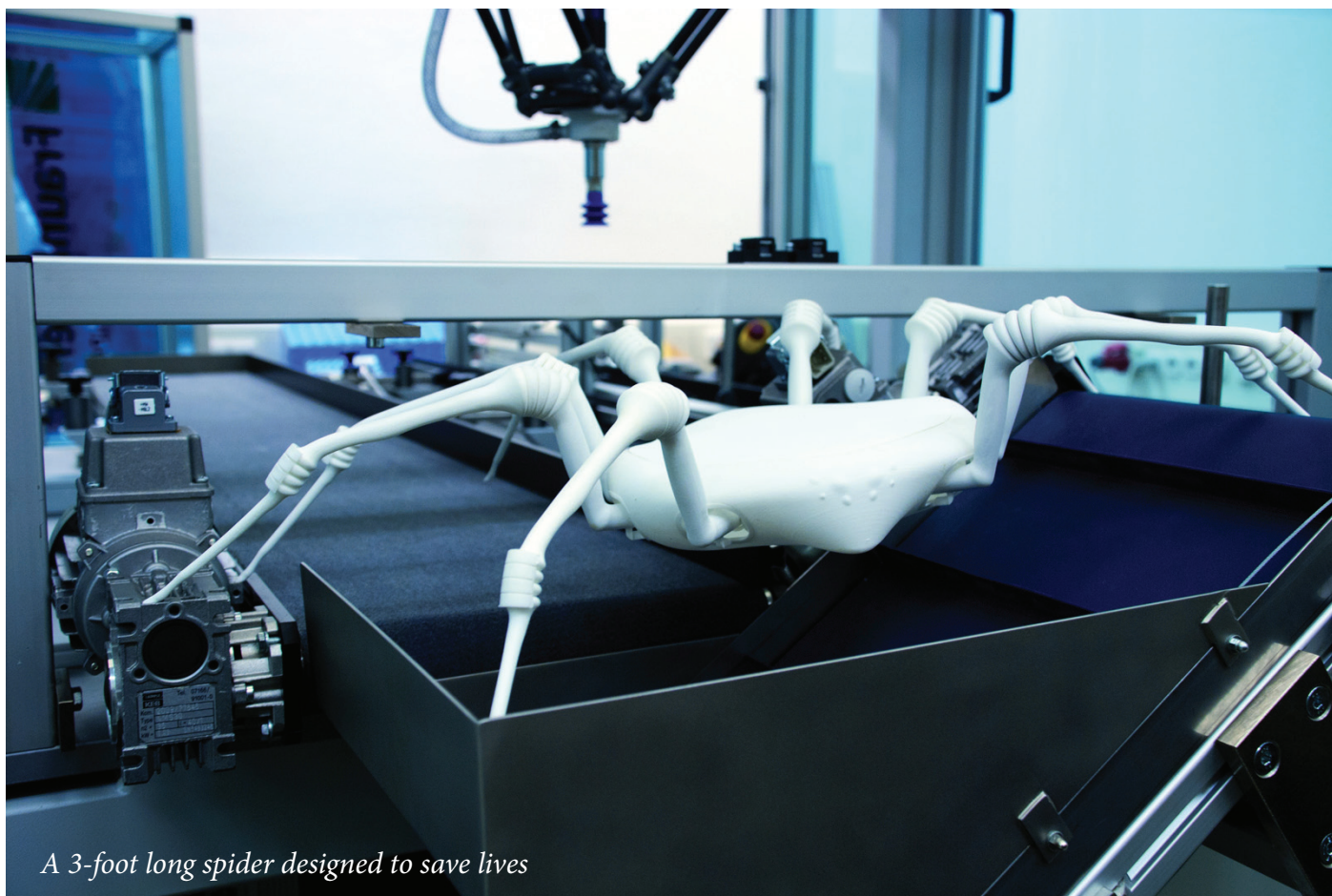
Gas Buddy

www.gasbuddy.com

Michael Chang

Founded by Dustin Coupal and Jason Toews

Gas Buddy is a website that helps consumers share gas price information in cities in the U.S. and Canada. It is a great website because it allows consumers to find the cheapest gas pump near them. The gas prices listed are updated by consumers by the minute through their phones, which makes the data very accurate. The website also has tips on how to get more mileage per gallon and has prize giveaways every week. You are given the opportunity to win prizes with each update you make on the website. In addition, there are blogs where consumers can share comments, videos, and photos.



A 3-foot long spider designed to save lives

A Spider that Saves Lives

Alex Bailey

Have you ever heard of arachnophobia? With a new invention, the fear of spiders has just taken on a whole new meaning. Engineers from the Fraunhofer Institute for Manufacturing Engineering and Automation in Stuttgart have designed a life size

robot, in the shape of a 3 foot long spider! This giant creepy crawler is no typical demon though; it is designed to save lives. This breakthrough came about earlier this year. Basically, the spider-bot was designed to be able to jump, race, move beneath rubble, fit in small spaces, and have many

more super-human strengths. With its unique abilities, people could use the robot to save the lives of those in need of rescue, without risking the lives of more people. Because of its cheap components, each spider can be disposed of after each use, just like tissue paper. If anyone is interested in learning more about this great new invention, go online and check out the EuroMold 2011 trade fair anytime from Nov. 29 through Dec. 2.

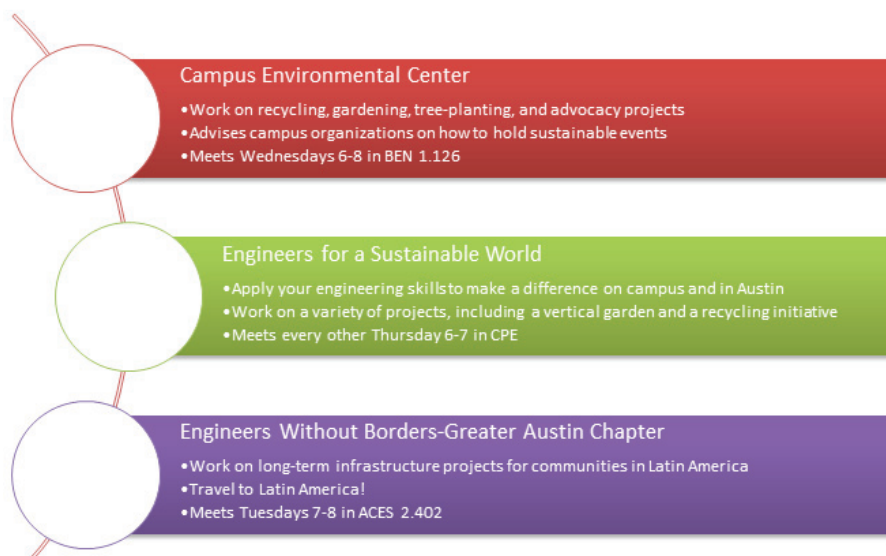
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INCREDIBLE
THINGS.

JOIN THE VECTOR TEAM.
Email us at vector@sec.engr.utexas.edu.

UT's Sustainability Directory

Tania de Souza

Many people are not aware that UT has a special Sustainability Directory devoted to cataloguing courses, degree plans, faculty, institutions, and research happening right now on campus. This information is related to such diverse topics as Green Building and Planning; Climate Change; Energy; Land and Nature; Water and Air; and Society, Politics, and Culture. For example, I can search for courses related to resource management and conservation and efficiency, and the directory narrows it down to four results.



Go to www.utexas.edu/sustainability/directory/ to explore these opportunities!

Engineers for a Sustainable World

Zachary Wilhoit

Engineers for a Sustainable World installed a 190 W, remote monitoring capable, micro-inverter-based solar system for the Perrin-Whitt Consolidated Independent School District in December 2010. The project began as a way to utilize leftover equipment from a previous sustainability design competition, and the location was selected based on input received from the 2010 ESW National Conference.

Zachary Wilhoit, the project lead, designed the system using a 190 W micro inverter and energy management unit from Enphase, a 230 W Sharp solar panel, and a pole-mount bracket. He then proposed the project to John Kuhn, the superintendent of Perrin-Whitt CISD. After reaching a site and funding agreement, Wilhoit and project members Richard Edwards

and Basel Amer installed the system near the school's greenhouse over the course of two days with the help of Tom Oleksyn, the school's licensed electrician.



Left to Right: Tom Oleksyn, Zachary Wilhoit, Richard Edwards, Basel Amer

The system was energized in June 2011 after receiving approval from the utility company, and the remote monitoring system was brought online when the site received internet access in August 2011. So far, the system has offset more than 200 pounds of CO₂ emissions and pro-

duced more than 130 kWh of electricity. The grid-tie system produces a daily average of 1.1 kWh that directly offsets some of the school's energy consumption, saving them money on their electricity bills.

These statistics have been compiled by the energy management unit incorporated with the system, a device which gathers data and posts it on a website that has been made available to the public. The school intends to incorporate this data into its science and math curriculum, turning the system into a powerful educational tool for area students.

Perrin-Whitt's superintendent has expressed a great deal of

satisfaction with the system, citing the sustainable, economic, and most importantly educational benefits that it is bringing to his district.

Find out more about ESW at <https://sites.google.com/site/eswstudentchapterut/>.

Pi Sigma Pi

Loris Chang

Pi Sigma Pi is a student organization that focuses on supporting minority engineering students at the University of Texas at Austin with guidance from the staff working with the Equal Opportunity in Engineering Program. The main goal of this organization is to promote and maintain academic and professional excellence among minority engineering students, while contributing their talents and skills to various communities through outreach events

the National Society of Black Engineers, as well as Society of Hispanic Professional Engineers.

As a member of Pi Sigma Pi, there are many opportunities for one to be involved with the organization and the student engineering body. Pi Sigma Pi participates in many Cockrell School activities, such as E-Waste, E-Week, Fall Spectacular, UT Open House, IM sports, and other university events. Members of PSP can volunteer by attending pre-college

ways to do this activity.

These volunteer activities are rewarding experiences for engineering students, because they have the opportunity to motivate children to maintain good academic standing. Pi Sigma Pi has a “3.0 Dinner” which is held once in the fall and once in the spring for students who make a 3.0 or higher the previous semester or have an overall cumulative GPA of 3.0 or higher. This is a great incentive for engineering students to keep their main focus on academics and do well in school. Corporate representatives who have visited the engineering school and have interacted with Pi Sigma Pi have met many diverse and successful engineering students who have benefited from the opportunities this organization has provided for them. Many members, in return, have positively impacted Pi Sigma Pi and the Cockrell School by striving to do their best in their studies, volunteering in the community, and developing their leadership skills through various extracurriculars and organizations. Pi Sigma Pi lays a foundation for students to be successful after graduation and continues to encourage minority students to pursue engineering while making a difference during their time at the University of Texas at Austin and onwards.



and volunteering.

Founded a little more than 30 years ago by a small group of minority engineering students, the purpose of the organization was to unite fellow minority engineering students and provide resources for them to succeed in their academic and professional endeavors. Pi Sigma Pi became the umbrella organization for two nationally affiliated and active groups in the Cockrell School of Engineering:

outreach opportunities, like the Austin Children’s Museum on Saturdays by teaching children and young students the importance of engineering in a fun and unique way. At an Engineering Saturday event at the museum, I was able to teach kids how to design a bridge out of marshmallows and toothpicks. This was a rewarding experience for me because I was able to observe kids using their imagination to think of different, creative

*For more information
about Pi Sigma Pi,
visit their website at:*

*[http://studentorgs.utexas.edu/
pisigmapi/](http://studentorgs.utexas.edu/pisigmapi/)*

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Overheard in ENS


Nikhil Garg



The Adventures of Vector Girl

Jen Nordhauser





Fall 2011 Concert Series

Saturday, Dec. 3 at 3 pm
SAC Auditorium (SAC 1.402)

Saturday, Dec. 3 at 8 pm
Jessen Auditorium (HRH 2.104)

Sunday, Dec. 4 at 8 pm
Jessen Auditorium (HRH 2.104)

FREE ADMISSION

echo.secrep@gmail.com
studentorgs.engr.utexas.edu/echo

Echo

Engineering Chamber Orchestra