Human Catapult Takes Prize in Flugttag Contest

By CHRISTINE CHANG

As forty thousand people staked in anticipation, four men dressed in kilts and khaki life vests wheeled out their team of art, the culmination of months of calculations, testing and construction. After a five-minute skit and a brief flash of their fire-alarm-red Speedos, they at last embarked on the San Francisco Bay. Whistles blew and the audience cheered. And the man in the chair was catapulted sixty-one feet into the San Francisco Bay.

A team of five men, named El Toro Guapo, competed along with thirty-one other teams in Red Bull Flugttag San Francisco on Saturday, October 15. El Toro Guapo, which included Caltech Mechanical Engineering graduate student Sean Humbert, won the competition for the second year in a row with their human-catapult design, which they affectionately called the "Medieval Missile."

"We're just happy to go there and do crazy stuff," said Humbert when asked why he and his friends entered the competition.

ME 72 winners Ben Solecik and Dylan Owens prepare their robots for the championship battle as opponents Jesse Escoyro and Colleen Moody head over to their joysticks.

Cage Against the Machine: Entrants Command Robots in Battle for Title

By JENNY IOFINOVA and ARTHUR SRENVANAS

The 19th annual ME 72 competition was held on Thursday, December fourth, in Beckman auditorium. There were 23 students in the class, as well as one TA who competed against the 12 teams. The competition was intense and exciting to watch and as usual, drew a lot of spectators, mainly Caltech undergrads, who cheered on the competitors in their houses.

This is the sixth year in which containests competed in teams of two and the first year, in which an odd number of students took the class. Therefore, Salomon Trujillo '94, who took the class last year, also competed this year as Mr. X. Trujillo and his partner Kyle Chryson '04 started out the nameless candidates to design an entirely new device. "There are two ways to get velocity," said profs. Joel Burdick and Curtis Collins. However, Antonsson said that he still "picked his head in occasionally," and he was one of the few for whom the competition might have been a letdown. He explained to the audience that the goal of the class was to solve an open-ended engineering problem and go through the complete prototype of solving such a problem, from design to implementation.

As always, the competition was preceded by a long introduction consisting of a video compiled of recordings of students from previous years on the first day of class, working on their projects and finally the finished robots. Aside from explaining the purpose of the class, Antonsson described the kit of materials each person gets, which includes two motors and such items as gears, aluminum siding and wooden dowels. Participants must not use any external materials in building their robots. He also remarked that although ME 72 is a 12-unit class the average student spent in around 170-180 hours of work into their project over a ten-week period.

In his speech, Antonsson commented that part of the challenge of this class is that it is very much like a real world engineering situation, in that there is a time limit and a budget limit; the machines must be built out of a fixed kit of materials. This is the third year that the de...
Plans Underway for Renovating Houses, Expanding Card Uses

Continued from Page 1, Column 3

Tom Fletcher '04. "It had fireworks, it had a kazoo band, it had everything. It was pretty intense." After Campus Life's quiet transition last spring, the festivities were the first visible reminder of the new kid on the block. And Mannion wasn't cutting corners; he'd been setting this stage for months. "Perhaps our accomplishment with the biggest impact was the carnival," he said. "Nothing like that's been done before."

And the new guy may have a few more tricks up his sleeve. He's presently working with Cox to revise "Muddo," an activity filled day of tug-of-war and fire-fighting in the mud that dates back to the 1920s. Shelved since 1998, the idea now sits under the Campus Life microscope, as Cox plans to reintroduce a broadened version of the event, formerly "an excuse to drag the fresh through the mud," as a full-blown inferno-home mud fight sometime this spring.

Another Mannion brainchild is the joint effort now afoot to "universalize" the Caltech student card—that is, to broaden the range of services, both on-campus and in downtown Pasadena, which a student's account can fund. Not only would this lighten the burden on the C-store, but, as Mannion hopes, it would "serve a full range of student needs."

"We're trying to enlarge our services of the card system," explained Mallie. "We're trying to have our card a lot more convenient, meaning you could go to the library and maybe do some photocopying or maybe use your card at the bookstore." On the depositing end of the equation, too, Mallie and Mannion are formulating a system that would allow parents to add money directly to students' cards.

The success of this plan set to take effect next winter. By the time students return, an assortment of vendors—chosen by a survey last month that placed President Thai, Jamba Juice and Trader Joe's at the top of students' wish-lists—will accept student IDs as payment.

"When I heard this idea I immediately jumped on it," exclaimed Food Committee head Natalia Deligne '04. "It's a great opportunity, especially for weekend food." Only that, but as Mannion pointed out, it'll save students the state's 8.5% meal tax.

A related fruit of Mannion's labor is the C-store, which he's seeking to renovate and expand. "We had a lot more requests to enlarge the store and bring a lot more grocers," offered Mallie. "It is a priority for us to increase it, so it will be a matter of getting the funding for the renovations."

The adjacent nook of Chandler seating is the likely casualty, although Mannion's still pondering what to do with the microwave. Troubled is, he put it in the C-store with out incurring a state-mandated meal tax on frozen burritos because they'd be "prepared food." Leave it out, however, and the ons will fail to students to heat the cheesy chops. Another area of concern is the bookstore, where Mannion has coordinated with Caltech Wired to host periodic LAN parties for students and with Bookseller Director Bill Burrows to build up an inventory of USGS maps for sale. Campus Life also spearheaded the push for a students-only "insignia discount": 10% off the first logo-laden merchandise; 20% off the second; and 30% off everything after. "We have a full picture of student demographics," explained Mallie.

A larger project is the long-awaited Campus Center, slated to occupy the Physical Plant's present location, for which Mannion has spent the term brainstorming blueprints with the 건. They've been hammering out details on just which artistic amenities they'll include; Mannion's pushing for a full-blown movie theater, in addition to a basic auditorium for student performances.

"We're asking: what are the true needs of the Caltech community?" explained Downes. "And we're melding that into the facility to address the creative and performing arts space. Also on the drawing board is a related ASCIT survey to assess student opinion on the matter.

The first phases of this plan are set to take effect next winter. By the time students return, an assortment of vendors—chosen by a survey last month that placed President Thai, Jamba Juice and Trader Joe's at the top of students' wish-lists—will accept student IDs as payment.

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When the stories of this year's student houses are a little less-sung aimed. Campus Life has teamed up with Student Affairs Assistant Vice President Erica O'Neal to nail down a schedule. "We definitely hope we'll be able to do some work to improve student houses—in terms of physical space," said O'Neal. "Some basic repairs needed to be made."

First on the agenda, however, is expanded campus housing for graduate students, who, despite their numbers, have little recourse beyond Avery and Braun. "We've been talking about what can be done for grad. students," recalled O'Neal. "One of the things Tom did this year was to pay more attention to that. We need to have a little bit more structure and programming in housing for graduate students. Our graduate students actually outnumber our undergrads, so I think it's a nice idea to pay attention to them as well."

In a larger sense, Mannion has been making strides towards empowering the traditionally fragmented student community. When Marshak gave him the department last spring, Marshak's first personal move was to retain Fred Romberg, a former graduate student and four-year RA in Blacker and Marks, on the Campus Life staff.

Perhaps foremost among Romberg's tasks is to mastermind "Graduate Life," a division of Campus Life that will handle exclusively graduate needs. "I have been asked to work more with groups of graduate students to understand their needs with the intention of creating a more comprehensive division of Campus Life called "Graduate Life," explained Romberg.

The initial thinking is that Graduate Life would provide support to graduate students as they relate to residence life. In the coming year, he plans to feel out graduate needs through an individual departmental dialogue and assessments of outside institutions with similar programs. But last undergraduates feel left out, perhaps they'd be pleased to know that Chang, Mannion's "man behind the scenes," has some nice and immediate stockpiling stuffers for the student houses—brand new big-screen TVs. Daehy and Rickets are slated first, to be followed by others as budget permits.

But the perhaps more intriguing twist is that Chang put off computer upgrades to raise the money. While Simpsons blares in 21st-century color, Campus Life's FCs will languish into the new millennium. "We know they really need new TVs, but we didn't have it in our budget," said Chang.

"So we're trying to stretch things a little bit more than in the past and we've been saying, 'Maybe we don't need those computer upgrades right away.'" The housing director graciously went forward with the reallocation after he determined that the system was stable enough to last a couple years longer.

Mannion says this is "the guy on campus who really doesn't get enough credit. This year's first ASCIT Movie; thanks to delays in his appointment, incoming ASCIT Social Chair Abe Ferriterman '05 gave Chang only two days to orchestrate the "Matrix: Reloaded" midnight party. But "they weight around," Chang managed to pull off what seemed an impossible feat—and one that the mission and framework of Campus Life gave him the motivation to complete.

"We're bending over backwards more than we have in the past," he said. "We get asked to see if we can get that movie for ASCIT with two days' notice, which meant we dropped everything to do it—but we wouldn't have been able to do that in the past." In the end, he managed to pull it off without burning any bridges with the theatre's management and students were pleased. "I'm more impressed by how [Campus Life] handles problems," praised Fletcher. "I think they've been very responsive."

After the stories of sacrifice, you might say this term's been all work and no play for the Campus Life team. They'll get their own share of spoils, though, when they move from the cramped CABS office and scattered campus cubicles to a联合ized new office in the Center for Student Services.

Mannion himself will also personally move to a new house, at which he'll host barbecues where, of course, students will be welcome. Chiastophores, who has been mastering many of Residence Life's essay contests, "fin fun" drawings and other popular programs, looks forward to the unfolding. "Right now, I'm still over in CSS, while all the rest are elsewhere," she said. "We're a little splintered in that regard."

And somehow, between all these dealings, Mannion's managed to keep open avenues to individual students. Filling a MOSI role refined last spring to emphasize student-administration relations, Johnno has teamed up with Mannion to teach a wine course, a cook a few recipes, and set up a series of "student dinners" were students are taught the art of cooking.

"There's a lot of informal things students do together," explained Jerca, "but there's a dearth of informal things students do together outside the houses. In addition, I think knowing about wins is just incredibly useful. Therefore, I write a handout out to the Kirchheim Committee, which he took pains to include in negotiations for a tick- edged rate board increase. "Tom showed up to our meeting at 11 that night—good luck getting any other administrator to do that, with printouts showing exactly what their costs were," recounted IBC Chair Jeremy Pitts '04.

Mannion also painstakingly prepared what Pitts called "a fair change to the damage fund"—and when the president rejected it, he backed down. "He seems to always have the students in mind," said Pitts. "and only does something that we won't like if it is clearly the only choice." But as Pitts puts it, "It's unfortunate that we have student leaders; he is always open to helping out any-
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21 Grams Tips the Scales

By HARRISON STEIN

When one sees a movie, he wants nothing more than to leave the theater in a chipper mood. Therefore, if a film is downhill, it is better off being well written, expertly acted, and perfectly directed that the audience's artistic appreciation of the movie outweighs its sadness at the dismal subject matter. 21 Grams, the new film from talented Mexican director Alejandro Gonzalez Inarritu, is one of the most depressing major motion pictures in recent memory, but because of a trio of virtuoso performances, it manages to stay afloat.

In 2000, Inarritu directed the unforgettable Amores Perros, a character study where three lives were altered by a single car accident. 21 Grams is his much-anticipated American debut, and while its plot follows a non-linear storyline, it is hopeful enough to let the audience know that the film will tell the story in a non-linear fashion. The film technique is distracting and completely unnecessary because the plot is of secondary importance to begin with. Also, the awkward filming style disrupts the meticulous pacing that Inarritu established so well in the first act. A linear storyline would have been just as captivating, if less confusing, and more effective.

Still, 21 Grams is saved by three of the best roles you'll see all year. Sean Penn proves that he is also one of its most accomplished actors in the world today. His acting in Mystic River was absolutely breathtaking, but he actually outdoes himself in this film. Penn has never won an Oscar, but so far, he has given the two finest male performances of the year, and it will be a shame if he doesn't win the Best Actor award for one of his roles. Nonetheless, Benicio Del Toro shows his Oscar win for Traffic was no fluke by perfectly portraying the hardened criminal whose role in God's fluc­tuates like the stock market. However, both actors are overshadowed by Naomi Watts who displays more energy and raw emotion than the entire cast combined. Watts, 30, takes a real risk starring opposite young, inexperienced cast, 21 Grams is not for you. If you're looking for a stimulating, with the patient awake and able to communicate, with the patient awake and able to communicate, with the patient awake and able to communicate, with the patient awake and able to communicate,
By JEAN-PAUL REVEL

I hope you had a great Thanksgiving,
all of you, those who stayed behind.
I know that for those who thronged and
went home to a turkey such as only a
cook can. Unfortunately, that’s all
history; you are already back in your
company and the term is near its end.

The amino acids you extracted from
the turkey are well ensconced in
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too has done its thing to you.

Also on the down- side, the
glow of seeing family and friends is
slowly dissipating. We are all mem-
bers of groups, some acquired
through self-selection, such as our
friends, others, “inclusively,”
prompted by traditions. Even while
enjoying your short visit, you
probably looked forward to coming
back here, feeling a bit lost without
the company of your pals at Caltech.

The friends that we make on our
own are in a special category. We
select only a few among the people
that fate brings us near to. There is
no telling what attracts us, what
the chemistry is, who knows, maybe
the attraction is a pheromone. I am
sure you have all heard of the Gypsy
Moth females who draw potential
mates to them from far and wide
by sending out a cloud of 7.8-epi-
xy-2-methyldecane. The males detect
vanishingly low amounts of the stuff and follow the conversations
that result in the formation of
potential mates.

We don’t know much about
human pheromones, contrary to what Coco Chanel wants us to believe,
and it is unlikely that we are
finding friends will be found to be
based on perfume. All we know
is that among those with whom we
share a common space, a
common place of work, the same
tolerance or openness to other per-
sons of different ethnic back-
grounds, so too does
the strength as a community depend
on having a diverse mix. As we have
learned so well through dealing
with the grad students, there is
no one culture or belief system,
no specific feature, could help to start bring
people together through belief or
simply discussion of it.

Unfortunately, the amount of
consideration for this faculty has received
is immeasurable, the most
shocking and saddening. Such
demonstrations of a spiritual aspect
of many societies are better understood only within the Caltech bubble,
and does not demonstrate the sample of non-religious
aspects. In the same way that our
strength as a community depends
on being inclusive, so are the
strengths of national and
international aspects. This
territory is a great and
unknown ground.

Continued on Page 6, Column 1

THE CALIFORNIA TECH
Post Turkey Ruminations

By FRANCES DAVIS

As you are no doubt aware, the
term is winding down quickly.
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Continued on Page 6, Column 1

THE CALIFORNIA TECH
Wrapping Up the Term in our Bubble

By TOM FLETCHER

Plagiarism is well ensconced in
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turkey are well ensconced in
behind and those who braved the
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wishing to address every pressing issue,
from global warming, to supplying
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Continued on Page 6, Column 1

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Breaking Out of the Bubble

Continued from Page 5, Column 5

important part of their lives, but I do not think that would be obvious looking around inside our bubble. How does this affect us? Despite our seemingly best efforts, Caltech is not an isolated kingdom within a bubble. Religiously motivated decisions directly affect the progress of science. Stem cell research is held back by religious belief in this country. Evolution, even landing on the moon, is defined by the majority of society because they don’t trust the “godless scientists.” If we are to lead this society forward, this society where more people believe in creation than evolution, we will need to understand where they are coming from. Whether we choose to believe or not, we will need to explain science in terms that do not conflict with their beliefs so that we can continue to progress, or we will continue to fail as we do now.

Sadly, we are not even making the first steps. Our campus parking does not serve the campus body. Fuller Theological Seminary is making enormous strides to bridging the gap between religion and science and successfully integrating the two at every level. Prof. Murphy recently gave us an overwhelmingly successful talk to the New York Academy of Science, and the rest of the school is working hard to find ways to tell science and religious understanding each other. Imagine if the nation’s largest evangelical seminary and the nation’s premier institute for scientific research were to team up to work on healing the divide between these ways of looking at the world and help us move forward! Remember, we are only a few blocks away, and I think the gains of understanding each other (stem cells, environmental protection, etc.) are too good to pass up.

I will keep saying it until I am blue in the face, but as a community we must integrate more, lest we continue to drift further apart and polarize even more. Doing so means leading the way forward, not doing so condemns us to remain bitterly divided and alone.

I look forward to your feedback, and good luck on finals, Caltech.

Peace out.

Tom Fletcher

PS: For more on Fuller, Murphy, and the attempts to reach out to science, from the LA Times: http://www.latimes.com/features/la-me/prints/edition/magazine/la-me-fuller4oct21story

Letter: Campus Takes Tree Management Very Seriously

Dear editor,

In response to Mr. Zhang’s article “Raddock Tree Trouble to fall on Deady” in the November 24th issue of the California Tech, the Grounds Section of the Facilities Management Department takes tree care management very seriously.

Because tree failures pose significant hazards, in order to minimize the potential danger and possible damage, trees suspected of being infected with disease or otherwise susceptible were inspected and evaluated annually by a certified arborist.

The large oak tree by Raddock House was identified as a concern more than a year ago. Early last summer we had an outside expert review the potential for this tree to be a risk to the House. Because tree failures pose significant hazards, in order to minimize the potential danger and possible damage, trees suspected of being infected with disease or otherwise susceptible were inspected and evaluated annually by a certified arborist.

The large oak tree by Raddock House was identified as a concern more than a year ago. Early last summer we had an outside expert review the potential for this tree to be a risk to the House. Because these fungi inhabit the tree’s roots, their detection is difficult unless characteristic symptoms become obvious in the crown or on the lower stem. Symptoms vary, but generally include yellowing and discoloration of leaves, branch dieback, or loss of vitality. Reducing weight, branches and saddles are installed for support and on occasions the area is redesigned to minimize foot traffic in the area (you have seen several of these treatments throughout campus).

Additionally, all campus trees (over 3,000) have been inventoried and a database is maintained, which helps track the general maintenance and progress of each tree.

We take tree care and management very seriously. It is important to keep trees in good health to preserve the length of their lives and protect our environment. Currently, a new group is emergent in monitoring the trees for signs of problems.

Delmy Emerson

Campus Grounds

ICHC Update: Survey, Renovations

By JEREMY PITTS

Rotation Survey

If you have not done so yet, please go to the voting section of the IHC’s website at http://www.domel.caltech.edu/ vote/ and complete the 2003 Rotation Survey. It should only take a few minutes of your time to do this, but it will help us decide the future of Caltech. IHC’s immensely. For those of you who don’t know, rotation is a dynam- 

ic process that changes from year to year to meet the needs of current and future students. In order to accommodate all of the additional students, Avery will be closed off to Caltech students this summer. That means none of us will be able to take advantage of Avery’s air-conditioning. Also, the houses will be a bit fuller than normal be-
Kirk Here.

Set phasers to fun at Gen Con So Cal, the best four days of gaming on this or any planet.

Play in countless game events and tournaments, do all your holiday gift shopping for games and game accessories, and rub shoulders with the fantasy & sci-fi elite. Our special guest of honor, film and TV legend William Shatner, headlines a stellar cast at Gen Con So Cal. Here’s a small sample of what the world’s greatest hobby game convention has to offer:

Explore Strange New Worlds
- Round-the-clock action for four straight days
- Over 1000 gaming events and tournaments, tabletop games, trading card games, miniatures, board and computer games
- More than 150 big-name exhibitors
- Our infamous costume contest
- True Dungeons — step into a life-sized dungeon filled with combat, traps, riddles, secret passages and other mysteries
- Art Show featuring over 20 renowned fantasy and sci-fi artists — pick up a special gift for the art lover in your life
- Exciting 24-LAN game area and Alien game area

Meet Greats of the Fantasy & Sci-Fi World
You know him as Captain James Tiberius Kirk, from his many memorable movie and TV roles, and even for his best-selling Star Trek novels. Now you can meet legendary performer William Shatner in person. He has appeared as the Caped Crusader in Batman Forever, Jim Morrison in The Doors, and the title role in The Saint. And now Val Kilmer is appearing at Gen Con So Cal.

Daniel Logan made one of the most anticipated film debuts in history playing a young Boba Fett in the most recent installment of the Star Wars saga, Attack of the Clones. Meet the stars of Battlestar Galactica, Babylon 5, and Firefly. Dirk Benedict, Richard Hatch, Victoria Hey, Herb Jefferson, Jason Carter, Richard Biggs, Robin Aiken Downes, and Jerry Doyle.

Enter a World of Famed Exhibitors
Many of the most renowned game companies will be showing off their latest creations, and you can even demo games firsthand. Some prominent names include:
- MIDWAY - Mortal Kombat, Mortal Kombat II
- LUCASARMS - Star Wars Galaxies, Star Wars Knights of the Old Republic
- NINTENDO - Pokémon
- UPPPER DECK - Yu-gi-oh
- ALDERAC ENTERTAINMENT GROUP - Legend of the Five Rings, Warlord
- DEEP SILVER GAMES - Lord of the Rings, TCG and RPG
- PASTO PUBLISHING - Official Star Wars Fan Club, and Star Wars Insider, Dungeons and Dragons magazines

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"Sojourner" Descendants Equipped To Discover Evidence of Water on Mars

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Today, the atmosphere of Mars is too thin to allow liquid water to exist at the surface—but this might not always have been the case. Whether any water may have remained for any significant time on the planet's surface is still being debated. The "Spirit" and "Opportunity" will collect geological data to help resolve the question.

The two rovers are "robotic field geologists," as Dr. Edward C. Stone, former Director of JPL, describes them; they carry tools to examine, and several different kinds of spectrometers with which they will identify and measure the abundance of different compounds on the Martian soil.

Over the three months following their respective landings, the two rovers will search for carbonates in the soil, as well as other indications of past water activity.

Edward Stone says that the two rovers are "the next step in the exploration of Mars." This is just part of a long program of Mars exploration, he says. Following the work to be done by the "Spirit" and "Opportunity," Dr. Stone mentions the possibility that, in the next decade, a Mars lander will be sent to bring back samples of material from Mars to be examined in a laboratory on the Earth. The rovers will play an important role in determining what sites should be examined by such a mission in the future.

The geological findings of the "Spirit" and "Opportunity" will also be used to guide the search for life on Mars in the future. Information they provide may help us someday answer the question of how life evolved on the Earth billions of years ago.

The two Mars landers and rovers are not the only things bound for Mars this year; in late December, the Mars Express, an orbiter sent by the European Space Association (ESA), will reach Mars. On December 25, it will drop a lander, the Beagle 2, which will, along with collecting geological data, directly search for signs of life (past or present) on the planet surface.

The orbiter itself will create a 10m-resolution map of the entire surface of Mars and will be able to see objects as small as 2m on the planet's surface. Also, it is equipped with a MARSIS Subsurface Sound- ing Radar/Altimeter, which will use a technique similar to oil-prospect- ing techniques used now on Earth to search 2-3km under the Mars sur- face for water frozen (or, perhaps, for liquid water).

So, an era of Mars exploration continues today. Perhaps one day we can hope to find life on Mars and better yet-understand the origins of life on our planet. Scientifically if not philosophically, we may find a satisfying answer to the question "where do we come from?" By the way: For more information about the Mars rovers, go to http://www.jpl.nasa.gov/mars/.

TEAM EL TORO GUAPO Launches their pilot Sean Humbert off of a pier into San Francisco Bay using their homemade catapult.

El Toro Guapo Launches Pilot Sixty Feet Into Bay

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As he peaked, Humbert hovered about fifty feet above the San Fran- cisco Bay before hurling down to hit the water sixty-one feet away from the pier with a horizontal ve- locity of twenty-five miles per hour and a vertical velocity of about thirty-two miles per hour. He defi- nitely felt an adrenaline rush, he says and he didn't feel the serrations of his neck, from when it was whipped back at the moment he was thrown, until the next day.

Compared to last year, Humbert recruited a new member, Aeronautics gradu­ ate student James Padday, to help build the design of the device. He hopes to form a Calltech team to compete in the Los Angeles Flugtag competition. With the international record set at 195 feet and the U.S. record at 170 feet, Humbert defi- nitely has goals. However, this is still not his primary motivation.

"We're just happy to team the opportunity to apply our engineer­ ing, talent to this exciting sport and this we and definitely give it our best shot next year," he said.

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