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the IRON WARRIOR

THE NEWSPAPER OF THE UNIVERSITY OF WATERLOO ENGINEERING SOCIETY

volume 25 issue 12 | October 1st, 2004



Sky Captain
Reviewed!

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Witness the
meeting of Mutant
Cat and Dog!

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Google™

G-Mail, the
greatest thing since
Calculus. . .

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MIDNIGHT SUN VII – NORTH AMERICAN TOUR REFLECTIONS



Quoc Huy T. Le

4N Electrical

After 40 days on the road, driving from coast to coast and covering a distance of over 15,000 km, the Midnight Sun VII team was successful in breaking both the official and unofficial world records. On Thursday, September 16, 2004 at around noon the Midnight Sun VII was driving into the CPH Courtyard where hundreds of

supporters including the Dean of Engineering and the Mayor of the City of Waterloo came out to congratulate the team on a job well done.

The trip through 7 provinces and 15 states allowed us to meet thousands of people and show North America just how far technology in the field of solar energy has progressed. Countless individuals have been enlightened and fascinated with the potential of the one inexhaustible energy source: the Sun. With every city we passed, each media stop made and information booklet given out, getting people excited about the possibilities in a world of solar energy lifted our spirits and remind-

ed us that this was the reason we endured this transcontinental journey.

Was it all fun and games on the road? Absolutely not. For those who were kept informed about the daily activities, you'll know that we faced many difficulties and trials which tested the mettle of team members as well as the resolve of the group. Being stuck in the pouring rain with little to no charge in the solar car's battery pack in Northern Ontario put the team behind schedule by a couple days. Having to navigate through downtown Vancouver in the middle of rush hour and missing our stop time by over an hour and a half was a nightmare to put it mildly. Aside from that, the 5:30am mornings to charge the array every day took its toll on some people (drivers were allowed to sleep in until 7:00am). Of course, if you weren't out on the daily grocery shopping trip, finding a campsite or media stop location, then you were allowed to nap.

Daily routines included logistics, cooking and cleaning. Ever try to meet the dietary needs of 20 fickle eaters? It's not easy. Fortunately, having a dedicated logistics officer and dietician on board really helped. The food was delightfully nutritious. (I ate better on the trip than I do at home cooking for myself). For those who didn't cook or help wash dishes, there was the daily maintenance schedule for solar car repair and upkeep. Not a day went by where brakes were not checked or hubcaps were not cleaned. More often than not, each night the solar car would have to be hoisted into the truck (literally lifted off the ground and rolled in). This process, affectionately referred to as "stupid time", would have to be reversed the

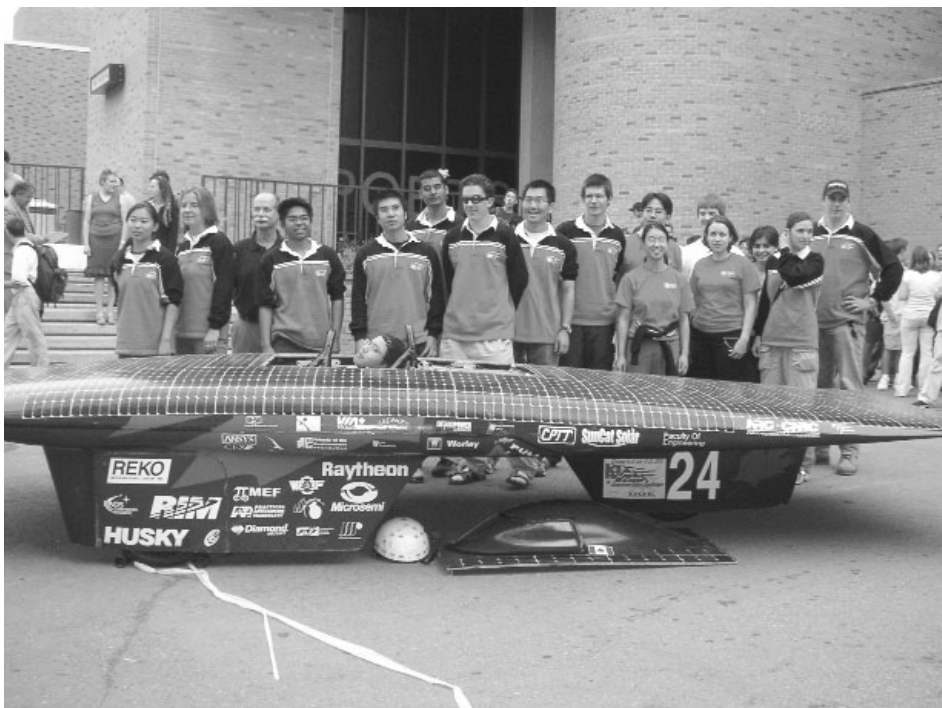


next morning.

Oddly enough, while we spent countless hours performing maintenance on the solar car to make sure she was in top condition, we almost neglected the support vehicles. (Whether this was because they were all rentals or because their combined value was less than one quarter that of the solar car, we're not sure). Due to the enormous power consumption in the caravan the batteries in both the lead and the chase vehicles were clinically dead several times. The scout van required a tire change and was, unfortunately, broken into one night. And the trailer...well...let's just say that the mechie on our team with the help of Home Depot, Wal-Mart and several all-nighters did a fantastic job making the truck slightly more aerodynamic. Also, the height of the truck is exactly 12' 5".

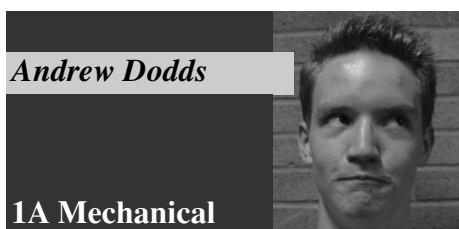
Aside from the psycho trailer park owner and the little brat who broke one of our solar cells, I must say that the occasional crazy truck drivers that swore at the solar car were quite amusing. These incidents, however, were the most extreme limits of negative reaction we received. The vast majority of people and attitudes we encountered were overwhelmingly

Continued on page 14. See Record breakers...



"Success!" - Midnight Sun VII, scant moments after crossing the finish line after their incredible, continent spanning odyssey.

THE HOT THAT WAS BOT



Andrew Dodds

1A Mechanical

Frosh week faded to a dim memory, and now assignments, labs, and projects are being flung at us from all directions. Frosh and seasoned students alike know that it's that time of the year again, the dreaded beginning of term. With a massive workload looming & ready to burst from the floodgates at any moment, the logical course of action is obvious. In order to survive, one must party.

All veteran engineers know of the BOT, MOT, and EOT events at POETS (if you don't know what those stand for, put

down this paper fast, and run! You're probably already late for some lecture on touchy-feely stuff, you artsy!) Frosh that don't know are learning, making room for these acronyms & discarding memories of 5-paragraph something formats. What we all know is that anything that brings engineers together with their treasured buddy alcohol is bound to be a good time.

Last Friday night at 9pm, they quickly amassed and began their ritual tribute to our school. No sooner had the event begun then the venue was packed, with every body joyfully butting up against the rest. A week ago frosh still feared, respected, or at least felt awkward around EDCOM, but now they mingled casually with them, even daring to poke fun at them. Mind you, a wise frosh knows that these people are their TA's, and so it is best to laugh at their jokes, answer their questions, and cheer their drinking and debauchery to the limit.

Alas, all was not well. Now that we have done away with that fifth year of high school, all but a select few frosh could enjoy a rousing round of stupendous suds. Maybe at McGill they're awash with drunken frosh, but not here. A quick tip to those who don't get it (Q-tip for short): in Ontario, the legal drinking age is 19, so the frosh were all fully ebriated. The same can't be said for everyone else sardined into the pub (my own TA's couldn't remember my name after having asked me several times that week and night. For shame, Nick).

Nonetheless, a good time was had by all. The engineering cheers rang out loud, proud, and no longer bound by the censorship of frosh week as the TOOL arrived. High above the crowd, the TOOL gazed down on its subjects, bestowing the grace of its presence upon them, parading itself throughout the masses. In a show of

respect, the establishment humbly granted the keepers of the TOOL free drinks, which they deftly downed to much chaotic screaming. A hush fell over the crowd as the frosh week video played. Scenes of the glorious EDCOM and the TOOL, of Bigs and Huges sacrificing their dignity for the glory of everyone but themselves, of frosh working diligently to earn their hardhats splashed across the screen.

Then it was over. Slowly the crowd dispersed, retrieving their WATCARDS and IDs as they skulked off to wherever it is that engineers skulk late at night. Perhaps not the most glorious, the most spacious, or the most unruly of engineering occasions, the BOT was nonetheless just the thing needed to relieve the stress of entering yet another term. As for greater glory, space, and unruliness, there's always the Scunt October 1st-2nd to keep things interesting.

"Student: 'Um, is that diagram [you just drew] upside down?' Prof: 'It's possible. I don't pay much attention.'" - Prof. J.G. Lenard, ME 220

Letter from the Editor

Andre Beltempo

3B Mechanical

Editor-in-Chief



Unless you've been sleeping under a rock for the last year or so, you've probably noticed that gas prices are going up. This highlights something that almost everybody seemingly fails to realize about the entire structure of our way of life. We are living on borrowed time. I say this because during the last century, mankind has witnessed the greatest explosion of wealth, health and population in the history of the species. We went from a lowly 1 billion in 1900 to over 6 billion today, and we're not slowing down. No, don't put the paper down in disgust as you dismiss me as another one of "those pinkist-leftist-tree-huggin' granola eatin' hippies." Believe me I'm not. I'm in engineering here, not basket weaving. No, my point is not really that there are too few total resources, but that we are basing our entire future on the fact that we have an unlimited supply of energy.

Everything we do, from the moment we are born, expends energy. We need energy to move, energy to survive, and energy to live in comfort. For the vast majority of mankind's existence, we've relied almost entirely on animals for food and locomotive energy and the wood for heat. Until the industrial revolution, the average speed of man had not changed in 20,000 years. When the steam engine and its cousin the internal combustion engine were developed, machines could now perform tasks that were previously impossible, increasing productivity, and eventually snowballing to the wonderful point we are at now, where massive factories churn out machines to make more machines which will then go into your car, say, or your oven. The scale is so massive that the cost of previously wonderful things such as internal plumbing, electric stoves, televisions and even cars are dirt cheap. In terms of the actual amount of material, time and effort required to design them, acquire materials and manufacture them, we pay a trifle. Simply think about any common item, and guess how many people were required to perform some task to put it on your table, and it is astoundingly cheap.

The problem with all this is that at each stage in any process, energy is required, and fortunately for us, energy is cheap. The entire basis for our current way of life is based on the fact that we have access to an

essentially inexhaustible, easily transportable, readily accessible, supply of energy. Overwhelmingly, this supply comes from oil.

All of our transportation needs are covered by oil, as are our consumer requirements, heating requirements, even the food we eat is harvested by tractors and shipped in trucks powered by oil. Our houses and roads are all built by construction equipment powered by oil. It has become so pervasive that there is literally no conceivable way that we could live today without oil. Yet, we are all logical, intelligent engineering students, and are all perfectly aware that the supply of oil, far from being inexhaustible, is actually drying up as we speak.

Don't believe me? Good, check it out for yourself. Do a google search for oil reserves. The CIA World Factbook has a good estimate. Then find global oil consumption. Then divide the former by the latter. High estimates may get about 50 years. That's assuming that global consumption remains static, which I'm sure we all appreciate it isn't. In fact, ten years ago China was a net exporter of oil. Today it is tied with Japan for imports, and by next year it'll be the second largest importer, next to the United States.

Before everybody gets all defensive, claiming that not all our energy comes from oil, I'll rebut. Hydro, Nuclear, wind and all that jazz require oil powered equipment and oil powered maintenance. As a thought experiment figure out how you'd do anything today without oil as an energy source at any point in the chain. It's a lot harder than you think.

Now here comes a shock: who are the worst energy consumers in the world? Sadly, not our cousins to the South. Per person, Canadians consume more joules of energy than any other significant country on the planet. We burn as much oil as the UK, despite the fact that they have twice the population of Canada, we burn more natural gas than Japan, which has 4 times our population, and we consume more power than India, with over 33 times our population. Canadians are energy pigs. It follows then, that when the price of energy escalates dramatically in the coming year, as our fossil fuels run out, that unless Canadians change their habits drastically, we will be the hardest hit.

So, realistically what can we do? We consume what we do mostly because of the supposed feeling of bounty that living in the resource rich land of peace, order and good government brings us. Europeans, for example, even the Scandinavian ones, whose climates closely approximate at least some

areas of Canada, are far more frugal when it comes to energy consumption. Why is this? It's very simple, actually. It costs more. Yes, the wonders of a free market economy have always made that most infamous cost of living much higher in Europe than North America. In Europe, there are more people living on less land, and this land has already been stripped of most of its energy resources. So the Europeans pay more, and therefore consume less. It may be argued that Europeans have a generally lower standard of living than North Americans, but this is a misconception, since the standard of living calculation is made by including luxury consumption. The ability to purchase twenty-two pairs of shoes as opposed to three is not a real measure of how much "better" your life is.

So, we've established that we consume too much, and that we do so because we live in a land of abundance that is still underpopulated. Psychologically, North Americans, and Canadians in particular cannot be faulted for our profligate use of power, oil and natural gas. We have lots of it all. Economists would argue that "market forces" will always balance everything, i.e. that as soon as oil begins to become scarce, the price will go up, consumption will ease, and everything will be hunky-dory. What economists fail to realize is the world's total and utter reliance on a cheap and essentially unlimited supply of oil to lubricate the world economy. How many times have you heard ". . .and there is talk of inflation increasing due to the recent increase in oil prices. . ." Inflation measures the price of *everything*. This includes food, transportation and heating, not just our beloved luxuries. A serious increase in the price of oil would be devastating, as it has been in the past. Except, now supply and demand are finally meeting one another, and with the increases in consumption from Asia looming on the horizon, we're looking at an oil crisis that'll make the 70's embargo look like a cake walk. Remember that that crisis set off a recession which took 10 years to recover.

I guess we can of course, rest easy, though, because when energy prices begin to climb, we Canadians will find ourselves beside the country with the biggest appetite for energy in the world, who, incidentally, possess the largest military. Fortunately for us, the U.S. would never even think of invading a country to secure or access energy resources, and there's no precedent for it. So I guess we're safe.

Whoever said money is power was wrong. Power is money. Rather, power is everything. This will only become more true as time goes on.

the IRON WARRIOR

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The Iron Warrior is a forum for thought provoking and informative articles published by the Engineering Society. Views expressed in The Iron Warrior are those of the authors and do not necessarily reflect the opinions of the Engineering Society.

The Iron Warrior encourages submissions from students, faculty and members of the university community. Submissions should reflect the concerns and intellectual standards of the university in general. The author's name and phone number should be included. All submissions, unless otherwise stated, become the property of The Iron Warrior, which reserves the right to refuse publication of material which it deems unsuitable. The Iron Warrior also reserves the right to edit grammar, spelling and text that do not meet university standards. Authors will be notified of any major changes that may be required.

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Dear LowRider: UW_LowRider@hotmail.com The one, the only, the true: LowRider. Accept no substitutes.

Dear LowRider,

How was your co-op term? If I remember correctly, you were pumping gas for the second term in a row. How fitting it is for a skill-less buffoon such as yourself to be stuck in such a menial task.

-Your Biggest Detractor

Attention Jerk:

How's about I teach you a lesson? Huh, punk? You've got me all steamed up now. Let me take this opportunity to tell you that you can [...] and then put it [...] with [...] !! I suppose THAT will never make it into print. Name the time and the place, and I'll hurt you so bad, you'll wish I hadn't hurt you so bad!

-LR

Dear LowRider,

I really enjoyed being a Big during Frosh Week, and I liked the frosh issue of the "Iron Warrior". I'm a longtime member of your fan club, but I've got to ask you a question. Who the heck was that High Rider? They totally sucked compared to you. Keep up that LowRiding!

-James

Dear Jimmy,

Thanks for the more cheerful letter. Do you mind if I call you Jimmy? It seems much more personal that way. I've been wondering the same thing myself. I leave

for 4 months and my beloved Page 3 goes all to hell. I'll have to straighten out those B-suckers come January. Anyways Jimmy, my lawyers are now involved because I'm filing a lawsuit for wrongful and extremely unfunny copyright infringement. I can't lose!

In the mean time, if you see a copy of the Frosh Issue kicking around... and if you have a marker handy...I'm sure that you'll know which parts to black out. [wink wink]

-LR

Hey LowRider,

This term I want to get more involved in the school. All of the clubs seem kind of lame though. Seeing as how you're in 4th year and all, do you have any suggestions? -Sedentary Second-year Softie

Dear Triple S,

As far as existing clubs go... I dunno. I think I heard something about a trivia club being somewhere around. Don't tell them that I sent you. There was an incident. What you ought to do is start your own club! To the best of my knowledge, the International Federation of Competitive Eating (www.ifoce.com) isn't active in these parts. Can you imagine how cool it would look to have "President, UW Chapter of the IFOCE" on your resume? Alternatatively, if you're looking to make some pocket change for the term, you could start a prize-fighting league. Call it UWFC, or something like that. Check out

the legal issues though, and make sure you have lots of waivers too. What I'm trying to get at here is that I don't have a clue. Sorry.

-LR

EDITOR'S NOTE: The Iron Warrior and the Engineering Society do not advocate

competitive eating or prize fighting as pass times or hobbies. Volunteering for Eng. Soc. stuff is better. You also won't get really fat and/or lose some teeth.

Dear LowRider,

Can you check out my resume for me? I tried to put it in HTML. I have no idea what to do as I'm only in 1A. Thanks a bunch! -Little Miss Mechatronics

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Dear Little Miss Mechatronics,

Congratulations on getting into yet another brand new program here at Waterloo! As for your question, that looks like HTML to me. But what do I know? I'm just a Chemmy. Why don't you go ask Fish? He knows lots about computer things and languages and codes, and I'm sure that he has more than enough spare time to give you a hand.

-LR

EDITOR'S NOTE: "Dear LowRider" is open to the Waterloo Engineering Society

for students who need answers to life's problems. It is meant as a forum for discussion and to inspire deep, sometimes philosophical, albeit simple, yet enduring and metaphysical run-on sentences.

Affairs with Alumni

Outsourcing and why you should be afraid, very afraid. . .

Anonymous
Presumably Graduated

Greetings UW engineering and welcome to my column. For the next 4 months or so, I hope to provide you with some informative and hopefully interesting articles about the world you live in and which, very soon, you will take a much more active role in forming.

As a rather recent grad of the program, I know that it's difficult to stay connected to what's going on in the world. But I also know that keeping abreast of the issues of the day makes us all better citizens and ultimately better engineers. So I invite you to read on as I try and share with you two things I enjoy most:

1. Writing
2. Discussing and coming to some appreciation for the world in which we live.

I hope that you might be able to afford me some of your precious time as I think it might be worth something to you. At least, that's the hope. And if you are one of the few that feels so compelled by what I discuss that you would like to comment on it, please feel free to write me at: AffairsWithAlumni@hotmail.com

But now, onto this week's topic:

Outsourcing and why it affects YOU!

The topic of "outsourcing", or "offshoring" in some circles, is starting to become the hot topic of the year, not least of which is because of the November election. Although not a particularly new concept, the

idea of relocating a company to take advantage of lower wages, slack environmental laws and repression of organized labour was really taken to a new level with the signing of NAFTA.

The NAFTA (North American Free Trade Agreement) has been credited with the relocation of hundreds of thousands of jobs from Canada and the United States to Mexico and, more recently, to China. It simply made little economic sense for companies to continue to pay such exorbitant wages

as minimum wage in Canada when there were others that were "perfectly happy" to do it for a fraction of that cost.

More recently however, the trend has been to move not only manufacturing jobs, but others, including the skilled jobs such as software development, electrical design and fabrication and other such jobs. Whereas before outsourcing was strictly a concern for the so-called "blue collar" workforce, the shift is now being made to the upper reaches of the engineering and software trades.

What's more scary, however, is that we truly have no appreciation for how much work is leaving North America since it is very hard to identify when a job is simply eliminated versus outsourced. BusinessWeek, for example, estimates the number of jobs lost to outsourcing as being in the area of 400,000 to 500,000 in the United

States.

In truth, the idea that a company is "moving" a job is a misnomer. In fact, what is slowly happening is not that jobs are "moving" but rather that the pool of applicants for a growing number of jobs has suddenly ballooned as a result of the Internet. Now, no longer should you expect to compete against the locals for that most important first full-time job (wherever you happen to live), you are competing against engineers from around the world and, what's worse, most of those

people won't ask for anything like the exorbitant salary you will (and trust me, you aren't asking for much).

So, how to avoid becoming the latest casualty of the outsourcing world? A few suggestions come to mind:

1. Gain application knowledge. Having an understanding not just of

the "how" but of the "why" strengthens your position. Ultimately, the "how" can be replaced but the "why" does take a little bit more to learn.

2. Learn not just how to do things but how to make decisions effectively. True value is generated from making decisions well. Learn and position yourself to make more and more decisions as you progress throughout your career.

3. Be aware of your surroundings and corporate direction. While it may seem obvious after the fact, it may well be possible

***“. . .you are competing
against engineers from
around the world. .
most of those people
won't ask for anything
like the exorbitant
salary you will”***

Opinion

Fantastic and facetious FROSH Leader Fun



"I'm a little tied up" - Wait! Is that not the fabled Pink tie of the accursed math department? If only the Iron Warrior could afford colour and we could confirm!"

Michael Buczkowski
2B Chemical

Heading into frosh week I was somewhat tentative about the time commitment I had made. Only a couple of my friends were fellow frosh leaders and my housemates were getting set up for a long week of debauchery. I had made up my mind that I wasn't going to throw away my 'free week' ever again and that I would just make it through this one while everyone else had fun.

Now, I had heard the rumours from past frosh leaders that frosh week was indeed fun, but I thought they were just saying that to get people to become leaders. If only I'd known how wrong I was going to be. Being a frosh leader is about 300 times more exciting than being a FROSH! The entire week seemed to be designed for us rather than for the frosh. All the activities were so much fun, I can honestly say that I've never had a more

fun week of my life (at least while sober!) I think the best part for me was seeing how into the whole week the frosh were.

I know during my year there were not a lot of people who got into the whole spirit of the week, so it was kind of lame, but I think as leaders we all got energy from the energy of the frosh and they made our week awesome. The other part of the week that is extremely fun is meeting new people in engineering whom you wouldn't normally get to meet because they aren't in your program. It is an awesome opportunity to make some new friends outside of your class and you get to try and impress your peers.

Due to the infamous EDCOM, I think I was way more motivated to try and win the week than any of the FROSH. The whole week was such a huge success and I hope that any of the frosh who had a great time or had a horrible time become leaders because you can make the week awesome. A last word to all Iodine frosh and leaders: I hope you all get a little Haagen-Dazs this term!



"Depends" - We have finally found a proper usage for the inane Mathie mascot. In this example, one of our glorious engineers is straining to prove he's worthy.



"Ye-gods" - Yes, the fabled EDCOM logo has been finally given its true size. Yes, people immediately began prostrating to the sign. Yes, all other faculties covered.

How I nearly lost my eye



Edward Tan

3N Computer

Prelude

As I was walking around campus with an eye patch this past week, many concerned individuals inquired as to what happened. Hence, I tell this tale of how I nearly lost my right eye. It was a chain of events that all started Thursday the 16th at around 10pm. I was in front of my computer on MSN trying to dig up some people who wanted to go to Louie's. Unfortunately, none of my engineering friends wanted to go clubbing. I was however, able to find some friends from math who were planning on going to Fed Hall. Now I should have known that something was wrong when the engineers were the ones who wanted to stay home and it was the mathies who wanted to go out. Now, I arrived at Fed Hall at around 11pm and I thought that it would be an hour wait in line max. I was wrong. The line rarely moved and when it did it was because the people waiting in front of me decided to leave. Once

again, I should have taken this as a hint to get out. Two hours later I finally make it into Fed Hall. I have a few drinks and then hit the dance floor to burn it off. Then at closing time, at around 2:30 to 3:00 am, I bid farewell to my friends and head off in the direction of home across campus.

The injury

As I reached the front of RCH I noticed a drunk and some of his friends passing by. Just like all other drunks, they were heckling people they saw. I was reminded of good times when my friends and I would get wasted and heckle people we saw. Now this particular individual was holding some sort of pole that he had pulled out of the ground earlier in the night. When he saw me he told me to catch. Now, he was at least 20 feet away and could barely stand straight. So I laughed and humoured him, as most people do for me when I get wasted. The next thing I knew I was on the floor and there was blood everywhere. This was a shot that most people can't make while sober in broad daylight. Apparently the pole hit me directly in the right eye. The paramedics later told me that I probably would have lost my right eye if I wasn't wearing glasses.

Grand River hospital

Within minutes of my injury an ambulance had arrived. I was very excited to be able to ride in an ambulance. Regrettably, the sirens were not on. I was being taken to the Grand River hospital, one of the two hospitals in Kitchener, the other hospital I would visit later. Their speedy arrival and efficiency made me think that this entire "under funded health care system" concept was ridiculous. Again, I was poorly mistaken. Upon arriving at the hospital I had to wait for a doctor. Now I had this intense pain in my right eye. At this point there was a cut right above my eye, and my eye itself was bruised and swollen shut. I asked the nurse for some pain killers but was told that only the doctor can administer pain killers. I didn't think the situation could get any worse, since the human body could only feel so much pain and this was pretty much it. Again, I was wrong. Although the pain didn't get any worse, it started to spread. After an hour in the waiting room the pain had spread to my entire face. After another hour it spread to my entire head. After another half and hour I became dizzy because I also had a minor concussion. This quickly led to puking, at which point they gave me my own waiting room to lie down in. After

all, it wouldn't look too good for the hospital to have a bleeding, puking person pass out in your waiting room. So what have I learned so far? Well first of all, line ups at Fed Hall suck after 11pm, while line ups at the emergency room suck all the time. While I was lying down in the hospital room I was freezing and shivering so I asked for a blanket. Apparently, in most hospitals they give you heated blankets. It was at this point that I truly understood why Kramer would stick his clothes in an oven. When the doctor finally showed up he gave me four stitches, some pain killers and told me that I could get the stitches removed five days later. I thought I had gotten off pretty easy. However, my streak of being wrong was not over.

Health Services

Contrary to what a lot of people think, health services offers a lot more than just condoms and STD tests. For one thing, you can get your stitches removed here. So on Wednesday I had my stitches removed. After the swelling had gone down and I was finally able to open my

Continued on page 14. See "Aie, Eye!"

Broadening Your Education: Options and Beyond



David Yip

2B Mechanical

So you've made it into engineering, maybe into your first choice program, maybe not. You may be 100% into your program, but you may also have a secondary (or tertiary) burning interest that you'd like to satisfy academically. Yea, you've always appreciated an elegant equation, but the subtleties that lie among the rigors of Latin also appeal to you as well.

Enter the option. The option is akin to a 'minor'. An option is a group of elective courses that you can take to broaden your education. When your option is successfully completed, it will be noted on your degree.

The Faculty of Engineering offers several options.

The two newest are biomechanics and mechatronics. The option in biomechanics is a combination of design and kinesiology courses that will provide an introduction to the human body, biomaterials, and medical technologies. If you're interested in prosthetics, medical robotics, ergonomics, or medical implants, this option may be for you. As you may be aware, kinesiology lies within the Faculty of Applied Health Sciences, which has the distinction of having a 68.5% population of females. This may factor heavily into your option decisions.

Mechatronics is a combination of the original fields of mechanical, computer, and electrical engineering. Computer controlled electromechanical systems are the specialty of mechatronics; fields such as

robotics, automation systems, and neural prosthetics. As by-wire controls such as fly-by-wire, drive-by-wire, and now brake-by-wire increasingly replace traditional mechanical systems, mechatronics is a fast-growing field. It is primarily intended for students in systems, mechanical, computer, or electrical engineering. If you wanted into mechatronics after the program started, this is for you. Plus you'll have the benefit of a primary degree in something that people actually recognize. (ie: Computer, Electrical, Mechanical, Systems. Okay maybe not Systems. The eternal question stands: What do Systems do?)

For the more adventurous, there is the option in International Studies in Engineering. To satisfy the option, certain courses must be taken, so it is important to note these and avoid wasting your complementary studies electives (CSEs) on courses that do not fulfill the requirements. Additionally, a written report is required, as well as eight months of work and/or study abroad. As engineering is a global profession, knowledge of the workings of at least one other language and culture is excellent experience and will provide fresh insight on the way things work, and more importantly, the way things can be improved at home.

As engineers, we must be very much concerned with the world around us. For those especially concerned, there is the option in Environmental Engineering. The option includes courses in environmental policy, chemistry, biology, pollution control, ecology, transportation systems, and modelling. The courses covered in the option are very much related to the mechanical, civil, systems, and chemical engineering programs.

For the business oriented, the department of Management Sciences offers its

option. To quote the undergraduate calendar, "The field of Management Sciences deals with the application of scientific methods to managerial decision making. This includes traditional areas of operations research, economics, and organizational behaviour". Six courses are required for the option, and many of the candidate courses also count as CSEs. Within the option courses can also be grouped into themes: Operations Research, Information Systems, and Management of Technology.

The option in Water Resources is "for students interested in the development, management and protection of water resources". It includes courses on surface water, groundwater, wastewater treatment, fluids modeling, remote sensing, and management. There is exposure to hydraulic structures, water resource management, as well as the social and environmental aspects of water resources. They say the next major wars will be fought over water, so... you'll be the go-to people. Maybe.

There are also options in Software and Computer Engineering. These appear to be designed for students in ECE. There are also options in Physics, Statistics and Mathematics. These last three are for students who just can't get enough of those respective subjects and wish to add that level of depth to their degree. Yes, that's engineering with EXTRA math, EXTRA stats, or EXTRA physics. Your prayers have been answered, fellow students. Please place your gifts by the IW office, I will pick them up shortly.

In addition to the options offered in Engineering, with some work and extra time, options are also offered elsewhere in the University. There's the option in Cognitive Science, the option in Peace and Conflict Studies and the option in Society, Technology, and Values, to name

a few.

For the renaissance types, it is also possible to obtain a double major with Arts, and perhaps other faculties as well. This requires a lot of planning, and some negotiation with the Faculty of Arts. Many engineering credits are transferable towards an Arts degree, so another four years are not required. Minors are also possible. This is not treason. In fact, you will be unstoppable. You will be well versed in the humanities, and wrangle your way into the upper echelons of power with your Machiavellian manoeuvring and worldly knowledge. Then you will leverage your engineering decisiveness to bring sweeping positive changes in the world. No longer will the rest of the world dismiss you as some number crunching dork. You will be on the light side and the dark side, like Lando Calrissian.* As to which side you assign to engineering, the choice is yours. If you're an artsy engineer but not smart enough for Systems (like me), give this some consideration.

As you can see, there's something for everyone. Having an option, minor, or double major on your degree will present you as a well-rounded individual to a potential employer, which will make you undoubtedly stand out from the legions of standard-issue BAsC graduates they will be faced with. Or you may seem like a scatterbrain who can't figure out what to do with life, and scare employers away.

If you're interested in another major, minor, or option, it is important to start planning early which courses to take, and to get in touch with the Option Coordinator, or the respective faculty.

For details, visit:
http://www.adm.uwaterloo.ca/infocal/ENG/options_intro.html

* Watch Undergrads Episode 1.

Joe Blow Space Man

"You've been in space!?" "Why, yes, you've never been?!" - Simpsons

Jason Verheyden
3B Mechanical

Ever wonder what happened to all those dreamy promises of the future when you were growing up? I distinctly remember reading a NASA produced space exploration propaganda piece when I was about 7. The year was probably about 1989. Turning to one part of the children's book on space exploration it suggested that by the year 2000 there would be regular routine trips into space, not just for blow-dried NASA suck ups and MIT brats, but space travel like airline travel.

So what happened? Well, I bet that wasn't the first little toddler's book NASA churned out in the millions to get youth interested in science and engineering. And I guess that nice little propaganda piece worked on me pretty good. You have to think though; it is pretty strange that the human race went from flying a wooden hunk of trash a foot off the ground designed by a bunch of bicycle salesman to playing golf on the moon in about 60 years. You take that as a measure of success and we should be playing croquet on Pluto by now.

Well guess what? Apparently you

weren't the only one wondering. There is a whole group of nutsos that apparently never grew out of that phase. They belong to something called the alt-space community. Most of them have a deep distrust of NASA and pretty much bash it at every opportunity. They also have another pre-occupation: proving that regular people can go into space, and that it doesn't take a big government program to get them there. It's a bad numbers game in reality. The fact is that spaceflight costs currently \$8,000 per pound (\$16,000 per pound for the Space Shuttle). That puts a price tag of putting my behind on a rocket and having someone else light the other end going at about \$1.3 million not including food, air, and basically any hope of returning home. Most alt-spacers have risked their lives and fortunes on bringing that number down below \$1,000 pound where real affordable spaceflight becomes possible.

They haven't been very successful so far. Most have started up companies, rallied investors, and then went bankrupt years later. I can think of Beal Aerospace as a prime example of an alt-space crusader. Andrew Beal got his start in real estate making millions and eventually created his own Bank. So one day he decides he's going to make his mark by making spaceflight cheap and affordable. A few years,

and tens of millions of his personal fortune spent, later, Beal aerospace is bankrupt and I bet Andrew Beal is probably smarter.

After spending the 90's convincing millionaires to go into chapter 11, the alt-space community got smart. They looked back to the beginnings of aviation for help on how to kick start a new race for space. They looked to the old aviation prizes that pushed the limits of aviation at the beginning of the century. From that spawned the X-Prize: a \$10 million dollar prize to the group that can get 3 people into space twice in a couple of weeks. The idea is to jump start a new space race for suborbital tourism.

The idea is that people that are currently willing to pay \$50,000 to \$100,000 for an adventure trip to the North Pole or to dangerous locations would be willing to spend the same on an adventure trip in space. The craft would not need to go into orbit, which is officially defined as any altitude above 150 km where the craft is at a speed of no less than 7,600 metres per second. All it would need to do is get into space, which is officially defined as any altitude above 100km (although some definitions are lower), experience a few minutes of weightlessness and get back home. Just enough to satisfy those eager big city executives that love to get out of the office



"Tranquility Base here. . ." - Edwin R. "Buzz" Aldrin, standing on the surface of the Moon on July 20, 1969. This could be you, one day.

Continued on page 14. See "Joe Blow Spaceman. . ."

ENGINEERING SOCIETY EXECUTIVE REPORTS

El-Presidente

Laura Mooney



President

Hello, and welcome back to campus! Here's a quick rundown of what's been going on recently:

- During the first week of class, the exec and class rep advisors visited all of the first year classes to elect class representatives and hand out the handbook

- The EngSoc 101 meeting held in POETS went extremely well. This was the first time a "pre-meeting" meeting has been held, and as a result the first EngSoc meeting went relatively smoothly and quickly with the majority of people aware of how an EngSoc meeting works

- Frosh week surveys were given out to

all the first year classes. Responses have been very interesting and will be compiled over the next couple of weeks

This weekend, I also had the pleasure of attending the Canadian Federation of Engineering Students (CFES) President's Meeting in Gimli, Manitoba. The meeting was both informative and productive, and I'll be making a brief presentation about it at the next EngSoc meeting. If you are interested in getting involved in CFES, look for applications to go to Congress 2005 available later this term. It's being hosted by U of T, so we'll be able to send a large number of students who are interested.

Back at home, don't forget to stop by POETS for a game of foos, a bright study area upstairs, or a relaxing moment in front of the giant TV. We're looking for new photos for the walls and other ideas to "spruce up the place", so feel free to contact either the managers, myself or Nick Lawler if you want to contribute to the project!

What is CSANW?

Nick Lawler

Vice President,
External

Welcome back, and welcome for the first time to all the frosh of 2004. I hope that your experience here at Waterloo Engineering is as exciting and fun as mine has been thus far. There are lots of great events coming up on the external relations front. October 5th at 11:30 to 12:30 in CPH 3385 the first Bridging the Gap lecture kicks off another term. The title of the talk is "The 2003 Blackout, why?" the speaker is from the IMO (formally Ontario Hydro) and will discuss the big blackout, why it happened, and why it won't happen again.

A few conferences are on the horizon,

the CSANW (Canadian Space Agency National Workshop) is happening the first weekend in November and brings together students from across Canada to discuss the future of the Canadian Space Program. It takes place in Montreal at the CSA headquarters. Interested parties should e-mail me, and I will provide you with further information.

Laura and I will be travelling to Lakehead (in Thunder Bay) from October 1st to 3rd for the Ontario Engineering Society Presidents Meeting. This will see all the VP-X's and Presidents from all the EngSoc's in Ontario come together to discuss and network, and we should both come back with lots of great ideas for Waterloo's EngSoc.

Well soon midterms and projects will all descend upon us in great force, so until that time I wish all of you a happy and relaxing start of term.

Money makes me go: "Yum"

Rajat Suri

Vice President,
Finance

I begin this exec report with a sobering thought. Life sucks. Ok, sobering thought done. I hope you're all sobered up so I can begin this conversation about money.

Yes food is important. Yes air is important. Yes EngSoc is important. And YES I am the most important of all. Why? There are three reasons.

- 1) I am VP Finance
- 2) I am extremely cool

3) I am VP Finance
QED

There you have it, three well thought out, completely rational, objective reasons. Anyways, now that that has been settled, let us move on. Budget Proposals due Oct 1st 4:30 for all directors. Please don't forget. If you do, I will be hurt and may throw a mini tantrum. This is not a pretty sight so I suggest you all get your things in soon.

Also I am presenting my lovely budget in meeting two so if you want ten exhilarating minutes of intellectual stimulation, I suggest you come! The Reading of the Budget is a Term by Term tradition, albeit one of the lesser known ones, but it is very much a part of EngSoc legend. So come one, come all, to an EngSoc Meeting near YOU!

Online Course Critiques?!
Surely, you jest!

Jonathan Fishbein

Vice President,
Education

Well, after writing my work report last week, I may have promised myself that I would never touch another word processor again. That seems to be a moot point now, so here we go with WHAM-BAM VP Education exec report number 2!

We had two EngSoc education events this week. One was Resume Critiques. I'd like to thank our Resume Critique director, Melinda Hurd, as well as everyone who came out to have their resume checked over. The other event was the EngSoc Work Report blitz. I'd like to thank our Work Report Director, Kala Carrol, who opened the Orifice early at 7am the Monday Work Reports were due so everyone could come in and bind their reports.

In PDEng news, which for you first years are those "Professional Development for Engineering" courses you'll be taking on your co-op terms, the first course in the series of five, PDEng 15, was approved at the Engineering Faculty Undergraduate Studies meeting last Friday. This means that this course is now in the production stage, so it will be ready for you 4-stream '09s come January.

In other random education news, I'm working on EngSoc's proposal for an

Online course critique system. I plan to have this proposal done for the next EngSoc council meeting so it can be approved at council and then sent up to the dean for faculty approval. If anyone has any questions about online course critiques or wants to help me out in writing the proposal come find me or e-mail me.

The Ontario Undergraduate Student Alliance, the Ontario student lobby group of which the UW is a member, will be on campus this coming Monday (Oct. 4). They will be setting up some displays to try and get their message out of what they do and how it affects students. The displays will probably be in the SLC. If anyone needs more information, contact FEDS VP-Education Jeff Henry at vped@feds.ca.

Also, the scholarship board, which is located just across the hall from the orifice, has been updated in the past week. Check it out for information on what scholarships are available to engineers and how to apply.

Well that's it for me. Remember, you can always give me a shout at asoc_vped@engmail.uwaterloo.ca if you need to get in contact with me about anything.

EngWeek is fun!

Kate Kelly

Vice President,
Internal

So I guess everyone has survived the first two weeks! At least I hope you have, because there is tons of fun stuff happening in the next two weeks! By the time this is published, EngWeek will be almost over; I hope everyone participated in all the fun events like Duct Tape to a Wall and EngHead. If you're looking

for some fun today maybe you should participate in the Engineering Choir. J Scunt is running tonite and tomorrow hopefully you signed up your team and are having lots and lots of fun! The 6th of October is the second EngSoc meeting, be sure to come out and participate! Finally, the week of October 11-16th is Oktoberfest watch out for posters about Student night and discount tickets!! If you have any questions about events or want to help out feel free to e-mail me at asoc_vpint@engmail.uwaterloo.ca and check out the website (engsoc.uwaterloo.ca) for more info on upcoming events!

WEEF been here before. . .

Ryan Walker
WEEF Representative

It's almost that time again. WEEF proposals will begin on October 11th and end November 12th. So take a look around your labs. If you see any opportunity to improve them, put together a proposal and it's likely WEEF will fund it. This term we will also be electing a new WEEF director. So, if you

are interested in taking over for me for the next two school terms send an email to weef@engmail.uwaterloo.ca. Not too much is happening right now, next issue will have much more from me. I'll have a list of class participation in WEEF and an update on our principle and how much we will be spending this term. I am also looking for people to help update the WEEF website. If you can help me out let me know.

Cheers,
Ryan Walker



ENGINEERING
SOCIETY



Did you know you can earn valuable P**5 points for volunteering time at the C&D? Email Mary Bland at mbland@engmail.uwaterloo.ca to schedule your shift.

Schedules & Recipes

Want a Job? CECS Important Dates

October 1:

Career Services Workshops:
 Interview Skills: Selling Your Skills – Don't stop at the fundamentals; you must also prove your skills in the interview. Here is your opportunity to practice and improve. NOTE: Please attend only if you can stay the full two hours. Register online at www.careerservices.uwaterloo.ca 2:30 – 4:30 pm, TC 2218.

October 4:

- Co-op job postings (Main) available at 6 am Note: "Main" refers to students in AHS, Arts, Environmental Studies, Engineering, Math and Science
 - Co-op (Main & Accounting) & Grad employer interviews begin
 Career Services Workshops:
 Career Decision Making: After this session you will be in a better position to assess yourself and your "fit" in the world of work. Register online at www.careerservices.uwaterloo.ca 3:30 – 5:00 pm, TC 1208.

October 5:

- Co-op job postings (Main) close at 11:59
 - Co-op (Main & Accounting) & Grad employer interviews continue
 Career Services Workshops:
 Interview Skills: The Basics – Understand the fundamentals of successful interviewing. NOTE: Much of this information is similar to the CO-OP 101 Interview Skills session. Co-op students should attend only if they need a refresher. Register online at www.careerservices.uwaterloo.ca 3:30-4:30 pm, TC 2218

Interview Skills: Preparing for Questions- Discuss and learn from taped excerpts of actual interviews. Register online at www.careerservices.uwaterloo.ca 4:30 – 5:30 pm, TC 2218

October 6:

- Co-op (Main & Accounting) & Grad employer interviews continue
 -Faculty of Education Talks 10:30 am – 5:30 pm, TC 2218A & TC2218B

Career Services Workshops:

Interview Skills: Selling Your Skills – Don't stop at the fundamentals; you must also prove your skills in the interview. Here is your opportunity to practice and improve. NOTE: Please attend only if you can stay the full two hours. Register online at www.careerservices.uwaterloo.ca 3:30 – 5:30 pm, TC 1208

October 7:

- Co-op (Main & Accounting) & Grad employer interviews continue
 Faculty of Education Talks 10:30 am – 3:30 pm, TC 2218A & TC2218B

Career Services Workshops:

Business Etiquette: Proper etiquette is crucial to a successful job search and to your career. This workshop will cover dining etiquette as well as appropriate behaviour at interviews, employer receptions/sessions and other networking activities. Register online at www.careerservices.uwaterloo.ca 4:30 – 5:30 pm, TC 1208

October 8:

- Co-op (Main & Accounting) & Grad employer interviews continue
 - 1st cycle employer interviews end (Accounting)
October 12:
 - Co-op (Main) & Grad employer interviews continue
 - Job rankings (Accounting) open at 6 am
 - Co-op job postings (Architecture and Teaching only) available at 6 am
 Teach: Information session about teacher training and other study abroad programs. Register online at www.careerservices.uwaterloo.ca 11 am – 1 pm, TC 1208

October 13:

- Co-op (Main) & Grad employer interviews continue
 - Professional & Post Degree Day 11 am – 2 pm, Great Hall SLC

October 14:

- Co-op (Main) & Grad employer interviews continue
 Career Services Workshops:
 Job Search Strategies: Learn the "how to" of job/work search, networking, and employer research. Creative and traditional methods are explored. NOTE: Much of this information is similar to the CO-OP 101 Job Search session. Co-op students should attend only if they need a refresher. Register online at www.careerservices.uwaterloo.ca 3:30 – 5:00 pm, TC 1208

October 15:

- Co-op (Main) & Grad employer interviews continue

October 18:

- Co-op (Main) & Grad employer interviews continue.

October 19:

- Co-op (Main) & Grad employer interviews continue
 Career Services Workshops:
 Successfully Negotiating Job Offers: Increase the odds of getting what you want when negotiating salary and other details related to the job offer. NOTE: This workshop is geared towards graduating students. Register online at www.careerservices.uwaterloo.ca 3:30 – 4:30 pm, TC 1208.

October 20:

- Co-op (Main) & Grad employer interviews

continue

October 21:

- Co-op (Main) & Grad employer interviews continue
 - 1st cycle employer interviews end (Main)

October 22:

- Job rankings (Main) open at 6 am
 - Job rankings (Main) close Sunday Oct. 24 at 11:59 pm

October 25:

- Co-op job postings (Main & Accounting) available at 6 am

October 26:

- Job match results (Main) available at 11 am
 - Meeting for Main students not matched, 4:30 pm (various locations)
 - Co-op job postings (Main & Accounting) close at 11:59 pm

Career Services Workshops:

Letter Writing: Learn how to use letters to your advantage in the job search. Register online at www.careerservices.uwaterloo.ca 10:30-11:30 am, TC 1208.

Résumé Writing: Discover techniques for writing an effective résumé. Register online at www.careerservices.uwaterloo.ca 11:30 am -12:30 pm, TC 1208.

October 27:

- Acceptance of Employment Meetings with co-ordinators (Main)
 - Co-op job postings (Main & Accounting) available at 6 am

Career Services Workshops:

Interview Skills: The Basics – Understand the fundamentals of successful interviewing. NOTE: Much of this information is similar to the CO-OP 101 Interview Skills session. Co-op students should attend only if they need a refresher. Register online at www.careerservices.uwaterloo.ca 10:30-11:30 am, TC 1208

Interview Skills: Preparing for Questions- Discuss and learn from taped excerpts of actual interviews. Register online at www.careerservices.uwaterloo.ca 11:30 am -12:30 pm, TC 1208

October 28:

- Acceptance of Employment Meetings with co-ordinators (Main)
 - Co-op job postings (Main & Accounting) close at 11:59 pm

Career Services Workshops:

Interview Skills: Selling Your Skills – Don't stop at the fundamentals; you must also prove your skills in the interview. Here is your opportunity to practice and improve. NOTE: Please attend only if you can stay the full two hours. Register online at www.careerservices.uwaterloo.ca 10:30 am – 12:30 pm, TC 1208

October 29:

- Work reports (marked by co-op co-ordinators) available for pick up at TC info desk.

IRON CHEF Food for the soul (and the stomach)

Katherine Chiang
3B EnviroChem

Tip of the Issue: Get a good knife and learn how to use it.

Have you ever been invited to a potluck and couldn't think of anything good to bring? Have you had KD for the last three weeks and are looking for something different? Iron Chef is here to help. This week, we have two really simple, really easy to make, potluck favorites.

Apple Peach Crisp

This is one of the favourites of most potlucks I've been to. It's a simple warm dessert that doesn't really take much time to prepare.

Ingredients:

4-5 cups sliced tart apples (4-5 medium sized apples)
 (or 3 apples with a large can of peaches)

2/3 to 3/4 cup packed brown sugar
 1/2 cup all-purpose flour
 1/2 cup rolled oats
 3/4 teaspoon ground cinnamon
 3/4 teaspoon ground nutmeg
 1/3 cup margarine or butter, softened

Heat oven to 375 degrees F. Arrange apples in greased square pan (8x8x2 inches). Mix remaining ingredients, cut butter into mixture until uniform; sprinkle over apples. Bake until topping is golden brown and apples are tender - about 30 minutes.

The Crisp is best served warm out of the oven, so if dinner is several hours away, prepare the ingredients ahead of time, but bake only 1~2 hours before it is served. Leave the crisp in a 75 F oven uncovered, or lightly covered with aluminum foil. Serve with a scoop of vanilla ice cream.

Momma's Chunky Spaghetti Sauce

This is a recipe that my mom taught me the first year I moved to Waterloo. I find this recipe very versatile - friends coming for dinner, going to a potluck, or just stocking ready-to-eat food for the next week.

Ingredients:

2 tablespoon of oil
 2 medium onions or 1 large spanish onion, finely chopped

1 lb of ground meat of your choice -

Continued on page 14. See "Stomach"

Upcoming Events from EngSoc

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	
3	4	5	6	7	8	9	If you'd like to advertise your event in the Iron Warrior, please send your information to iwarrior@engmail
		Bridging The Gap	EngSoc Meeting #2		IW Submission Deadline		
10	11	12	13	14	15	16	
	University Holiday	WEEF Proposals Start		Oktoberfest			

Columns

DVD's for Cheap: Buy Used and Save!

Sheldon Petrie
3B Mechanical

For those of those who don't know me and for those who do; my name is Sheldon Petrie and I really like movies on DVD. I started collecting in late 1999 with a little known movie called *The Matrix* and have progressed to a collection of over 150 titles from Sergio Leone's masterpiece "Once Upon a Time in the West", to many modern day blockbusters like "The Lord of the Rings" Trilogy, and David Fincher's "SE7EN" and "Fight Club."

Like most collectors I do not limit myself to big Hollywood blockbusters like "Star Wars" and "X-Men", but also explore smaller, so-called "independent" films like Doug Liman's "Go" (better known as the director of the Bourne Identity), Richard Kelly's "Donnie Darko", Christopher Nolan's incredible directorial debut "Memento", and Darren Aronofsky's "Requiem for a Dream". These movies contain character driven stories that make up for the lack of explosions and large action sequences with incredible writing, powerful characters and innovative storytelling.

But first, a little lesson: Once movies finish their theatrical run, the journey to DVD varies but will usually occur within three to six months from the end of the theatrical run. New releases always come out on Tuesday and are priced accordingly. Prices typically vary but Future Shop, Best Buy and online site amazon.ca have the best prices. Shopping around to find a good deal is a must. New releases are usually a one or two-disk special/collectors/ultimate/platinum/limited edition. Indeed the great fascination

with DVD's has given me and many others a true insight into the filmmaking process and among many other things, a true appreciation for the art that is known as cinema.

Aside from this, having been on a strict budget for over three years has taught me a few things about how and where to spend any remaining money after my expenses have been paid. The evolution of this collector has gone from hitting Future Shop every Tuesday, scoping out the new releases and laying down hard-earned dollars at \$25 bucks (or more) a pop for each DVD, to going to places like Rogers Video and The Best Goes On for deals on used DVDs with the occasional purchase of new disks when they are on sale.

To understand the ins and outs of buying from these places, one must first know how each place operates and goes about doing business.

The Beat Goes On:

A one-stop shop for cds, DVDs and now X-Box and PS2 games, the Beat Goes On, or BGO for short is the place to go for anything and everything relating to buying, selling and even trade, though I have yet to see that in action. DVD selection is adequate—from A to Z, TV boxed sets and more—well worth a look any day of the week.

Prices are based upon a set standard from a central database so if any two (or more) stores have the same DVD in stock they will be the same price. New(er) titles are priced anywhere between three to at most 10 dollars from the next cheapest retail (i.e. 'new') price. Old titles such as ones which are literally collecting dust from being in stock for so long, movies which are traded in large quantities (Planet of the Apes or A.I. for example) and movies which are not very popular tend to be cheaper and in some cases placed into a

bargain bin of sorts, where DVD's are as low as \$5.99. I only know of one store, on Highland Road in Kitchener, with this bargain bin, however.

Whether you are browsing for something to pique your interest, or looking for a specific title and it is not in the store you are at, you can ask a clerk to check their system and see if it is in stock anywhere else—if it is, a 'hold' can be placed if you can get to the store, or they will ship it free to the store you want. They do not ship to home addresses, however.

Now, you may be asking yourself—"with a company that can check in-stock status of any store from any store instantly, why don't they have an online system too?" Well, as a matter of fact, they do. At www.beatgoeson.com they have a full search and index database of their entire library of CD's and DVD's at each store. Another very cool feature of the site is the ability to form a wish list of titles you want to buy—when a listed DVD is in stock at any location, an email is sent to you letting you know. If you look for a DVD and it is in stock, you may choose to buy it on the spot. After entering your name, address, phone # and a branch you want, the shipped DVD will arrive in one to two weeks. There is a slight caveat to this online system and that is this: while shipping is free, a one dollar surcharge is added to the price of each item you buy—if a title is \$14.99 in store it is \$15.99 online.

The second good place to get used DVD's are pretty much large-chain rental stores—Rogers Video, Blockbuster and Videoscene. I will cover Rogers Video only because they have the best prices and an interesting release/price schedule.

To begin with, Rogers video is first and foremost a video rental store so they have everything that one may be looking for

when it comes to new releases—plenty of new releases and dozens of copies each. Any respectable video store such as Rogers will also have a large archive of old(er) releases available. Since new releases are the most popular, they must stock plenty of copies to satisfy demand. Ultimately these new releases must be relegated to the archive. No more than one copy of a movie is kept in the archive—on the occasion where both a Widescreen (WS) and Fullscreen (FS) version are released, both copies are kept for a short time until the FS copy is sold and the WS version is kept permanently.

Movies go from new release to used in about one month—at the time of writing, released on April 13, 2004, "Kill Bill Vol. 1" was seen for sale used the week of May 10. Regardless of the movie all used/previously viewed/previously enjoyed DVD's go on sale for no less than \$16.99 initially. Most start out at \$19.99. Given time and a lack of sales prices will drop in the following order: \$19.99 >> \$16.99 >> \$14.99 >> \$12.99 >> \$9.99 >> 7.99 >> 5.99. Usually once a movie reaches 9.99 it is placed into the bargain bin—two DVD's for 15 bucks. Depending on the titles one can get incredible deals. For example, I picked up "Confidence" and "Confessions of a Dangerous Mind" from the bargain bin earlier this year. They are currently available at BGO from 14.99 to 17.99, each.

To find the best deals on used DVD's takes some experience and a lot of luck. While it is true that you don't have to buy them used, in large quantities, new DVD's are just too darned expensive if you like to purchase them regularly. Ultimately for a person who relishes the art that is Cinema, DVD's are the only way to go and the ability to get them for cheap is very sweet indeed.

Gmail Me: Why Web-Based Email Is Exciting Again



Matt Zulak

IA Systems

So in 1980, this guy from MIT—Tim Berners-Lee—had an idea for something called hypertext: a system of navigating information and data by following "links" from one document to the next. Over time, Berners-Lee's idea slowly propagated and the World Wide Web spontaneously came into existence. In its glory days, the web allowed savvy scientists and students to exchange information across the Internet at mindnumbingly fast speeds; however as time went on, things began to suck. Stupid companies and inane teenagers began to pollute Berners-Lee's once pristine network, obfuscating useful content and making productivity on the web a very frustrating—and often futile—experience.

Then, in the web's darkest hour, Google appeared. Armed with a wildly powerful search engine, Google allowed people to easily locate useful information amidst the torrents of porn and anime fan fiction that flooded the Internet in the late '90s. In short, Google's search engine saved the Internet, taming the mess of uncharted content available on the web. Now Google is at it again, this time offering the world's greatest email service: Gmail.

To put it simply, Gmail is the best thing

to happen to web-based email since the creation of web-based email. Created with Google's signature philosophies of minimalism and usefulness, Gmail holds the coveted title of being the world's best web application. Previously, web email has been held as an inferior alternative to a real mail client; however, Gmail has proven that a web based application can include many of the features which make "real" mail clients so attractive such as keyboard shortcuts, colour coding, tabbed viewing and a hell-a-powerful search. Essentially, Gmail is a combination of the best ideas in application design, both on and off the web, rolled into a single, insanely great email service; take that, Hotmail!

"Sounds fabulous!" you're thinking, "So, how can I get my very own uber-web-mail account?" Sadly, getting an account on Gmail—at least in its current state—is the most difficult part of the service. Despite the obvious maturity of its code and interface, Gmail is still in closed beta; the only way to create a new account is to be invited by a pre-existing user. Thankfully, Google is very generous with its invitations, recently granting seven free invites to each Gmail user; with the rapidly growing user base and the large number of available invitations, accounts are easy to come by with minimal social networking. However, if you're in Math and you don't have any friends, all is not lost, a number of online services exist to distribute Gmail invitations for free; popular invitation services include the well-established *Gmail Swap* (<http://www.gmailswap.com/>)

and the nifty, automated *Gmail Invite Spooler* (<http://isnoop.net/gmailomatic.php>). Failing these free alternatives, there are literally thousands of invites available for occasionally reasonable prices on *eBay* (<http://www.ebay.ca/>).

So now that you've taken the plunge and become an official Gmailer (or a Moogler, if that turns your crank), you'll be delighted to know that there's *much* more to Gmail than just email. Thanks to the creativity and ingenuity of a number of hackers and programmers across the Internet, developers have devised all kinds of alternate uses for the service. Listed below are just some of the many cool uses for your Gmail account:

* **Blackberry on the cheap:** Everyone loves RIM, but not everyone can afford a blackberry (or score a work-term); thankfully, you can fake it with *Wireless Gmail* (<http://www.gmail-wireless.com/>). Wireless Gmail allows any WAP-enabled browser (read: cell phones) to send and receive email from a Gmail inbox. Horray for mobility.

* **Backup your N: drive:** If you've ever worried that *ecfile1* will spontaneously combust, destroying all your precious data in the process, *myBackup* might be worth the download. This small shell script (you'll need to run it on *engage*) will automatically generate a tar archive (.tgz) from a specified list of files and email it to your gmail account for free, effortless backups. Besides,



what else are you going to use a gigabyte of inbox storage for?

- * **Make a better N: drive:** If *myBackup* is too tame for the hackers in the audience, *GmailFS* (<http://richard.jones.name/google-hacks/gmail-filesystem/gmail-filesystem.html>) might be up their alley. Using a clever kludge of open-source libraries, *gmailFS* allows a gmail account to be mounted as a linux filesystem, providing a gig of freely accessible network storage.
- * **Nurture your inner packrat:** Humans are packrats by nature and email is no exception. If you find your inbox overflowing but can't bear to delete your correspondence from 1995, check out *Gmail Loader* (<http://www.marklyon.org/gmail/default.htm>). *GML* allows a user to automatically import all existing email from an mbox-style inbox into a Gmail account; it's also great for archiving your Engmail account, keeping your N: drive from exceeding the paltry disk quotas.

Continued on page 13. See Gmail.

Book Review: The Human Factor by Kim Vicente

The Inherent Design Flaws in Everyday Objects and Systems

Adam Philip
3B Mechanical

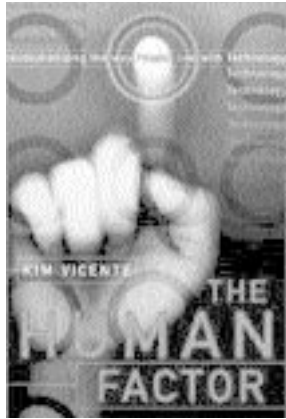
The Human Factor is a book about how we should be designing things. Written by Kim Vicente, a mechanical engineering professor from the University of Toronto, this book catalogues and examines the inherent design flaws in everyday objects and systems. Starting at the basic device level with things such as un-programmable VCRs, Vicente moves quickly to more and more complex systems finally winding up at the government level. Along the way he touches on subjects such as the design of medical equipment and safety in nuclear power plants.

Vicente's central argument is that in the design of devices and systems engineers tend to take what he terms a 'mechanistic' approach to the design of machines. He claims that this mechanistic view is brought about by the engineer's familiarity with technology. This view in turn results in mechanically/electrically-sound designs, which removes the obvious psychological cause and effect chain that connects action

to result, creating unusable pieces of technology. The solution that Vicente offers to this problem is what he terms the 'Human-Tech' approach. This consists of taking into account the psychological factors in a design as well as the purely technical aspects. In one of his many examples, Vicente describes how a simple design change such as the shape of a lever in early aircraft reduced accidents by a factor of hundreds. While this is not necessarily new information to anyone who has sat through a 100 series engineering lecture, it is interesting to read Vicente's take on how these same design principles can be

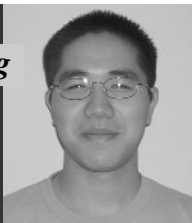
applied to 'people' systems. The examples Vicente gives include the FAA's accident reporting centre and medical investigation boards, both of whom have reaped enormous benefit from anonymous reporting of problems.

The Human Factor is altogether an interesting read, and while some ideas appear to stretch the concept of 'Human-Tech' too far, it is on the whole worthwhile. In many ways this book is what the dreaded 'List A' Impact courses should be; a clear and fairly concise description of the impact of the decisions made during the design process.



Fable-licious. Yes, I said Fable-licious

Tsu Chiang Chuang



4N Computer

Disclaimer: I am not a hardcore gamer or an ultra geek with |V/4| 1337 \$k!11z ("mad elite skills" for you non-1337 speaking people out there, 1 0W/|z j00 4ll!). I am just a normal guy who enjoys a good game once in a while. With that said, please don't send me hate mails or life threats if you don't agree with my opinions. Cheers!

I have been sleeping less and less these past few days all because of a little evil thing called Fable. I

need sleep, dammit! Fable is the new RPG (Role Playing Game) by Peter Molyneux. Peter Molyneux is the well-known game designer of Black and White, Dungeon Keeper, and Populous.

In the past, I have played most of the big name Japanese RPGs, like Chrono Trigger, Chrono Cross, the Final Fantasy series, and so on. I also played some of the non-Japanese ones like the King Quest and Space Quest series, and my all-time favorite Monkey Island series. So, it came as no surprise that I jumped at the chance to try out yet a new RPG.

Fable starts off slow. But the main attraction of this game lies with the amazing choices that lie ahead of you. Depending on whatever action you take, from the expressions you use, and the people you kill, you become either good or evil. Also, there are additional modi-

fiers that change along the way, depending on the clothes you wear, the tattoos that you have, and the haircut that you sport. The modifiers affect how people react to you, including enemies. You can have tattoos that increase your scariness factor, making enemies and friends alike run away from you in fear.

In addition to killing monsters or getting killed by monsters, Fable allows you to get marry, to own a house, to have sex, to get divorce, to get fat, to get drunk, and so on. Fable seems to have incorporated some parts of "The Sims", which makes the game even more interesting.

However, after going on a rampage and killing the villagers of the town and getting tons and tons of money, I wonder about the ethics of the game. It seems that like Black

and White being good doesn't give you anything, but being evil gives all the rewards you want. I guess one could argue that it is just a game, and one shouldn't look too much into it. Good thing it is rated M for mature.

Look and Feel

I was surprised by the art in Fable. Most RPGs tend to follow three general routes. They either go with what I like to call the "Anime" style of things, with big eyes and Chibi characters, or the "Goofy Cartoon" kind, with Disney-like characters and scenery. Some just go with the "Bad Ass Comic" kind, like the Diablo series from Blizzard. Fable brings a distinctive new look to the RPG gaming scene. The characters look like a mixture of the "Bad ass" style with some "Anime" mixed into it, but not quite.

In addition, the background scenery

is rather impressive. The fight scenes in the marshes or forest are quite breathtaking, if you are not busy pummeling some troll for its lunch money.

Speaking of the battle scenes, Fable offers beautiful animation scenes for the different attacks or spells that you can cast.

The game controls are acceptable, given the awkwardness of the Xbox controller. It takes a while to get used to, but once you go over the generic training tutorials, casting spells and crushing your enemy's bones with your bare hands become second nature.

Storyline

The story is quite generic. Anyone who has played any RPG in his life will probably know the ending or twists, so I won't bore you with the details. But the way the game designers weaved the different side quests with the main story line is quite skillful. Sometimes, without realizing it, you will already be completing a side quest.

Also, the quests that you can undertake also vary depending on your character's attributes. So if you are a virtual demi-god of goodness your quest goals will vary from someone who is the the bad evil rogue.

Things that suck

Sadly, Fable is only offered on the

SCO - Just another acronym?

Michael Jarrett
Comp Eng Grad

I find myself compulsively refreshing my browser window these days, hoping that in the past thirty seconds, my favourite legal blog, Groklaw, (<http://www.groklaw.net>) has received new news from the courts. Yes, I am a SCO junkie. But what, you may wonder, is a SCO, and why would I care about it?

It all boils down to a lawsuit filed by a small Silicon Valley software company called the Santa Cruz Operation (SCO) against computer giant IBM. SCO, who bought some rights to the venerable UNIX operating system from Novell many years ago, asserts that IBM has taken UNIX code and placed it into Linux. This, wrapped up in some contract issues and thousands of pages of legalese, has now reached over \$5 billion in requested damages. But it doesn't end there. SCO then sent letters to Fortune 500 companies, informing them that there were intellectual property issues in Linux, and that to avoid a lawsuit, they would have to buy licenses (of course, no refunds should the lawsuit fail).

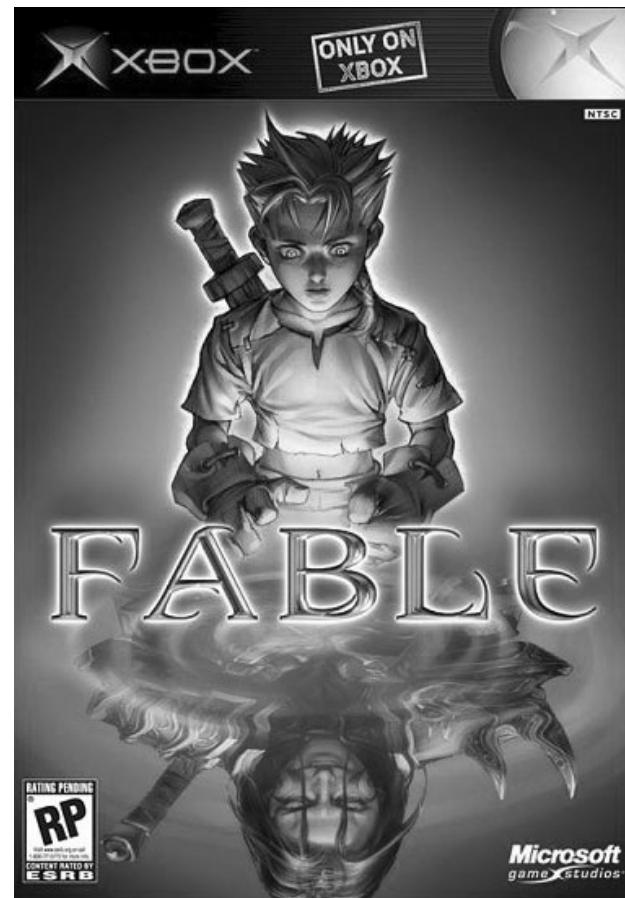
This has blossomed into a legal mess which could well determine the future of Linux and open source in North America. Red Hat responded by suing SCO, looking for declaratory judgement that there was in fact no intellectual property contained in Linux. SCO sued AutoZone and DaimlerChrysler, both former customers,

for switching to Linux. Just to make things interesting, SCO and Novell sued each other when Novell asserted that it had in fact not sold the copyrights to UNIX, and that SCO therefore had no right to sue at all. Finally, IBM has responded with counter-claims, including one that accuses SCO of violating the open-source General Public License (GPL) under which Linux is distributed; a legal test that GPL-supporters have yearned for for many years now.

So now I sit, anxiously waiting for news from a judge in Utah, for the final decision on a "motion for partial summary judgement on IBM's tenth counterclaim for declaratory judgement of copyright non-infringement". If successful, it would represent the clean bill of health for Linux, and allow for the clean-up of all the damages. If not, everyone gets to continue the tedious wait as the wheels of justice slowly spin towards a trial.



"SCO logo" - We're probably infringing on like six copyrights merely by publishing this logo. Lawyers are standing by.



Xbox, so if you want to play it, you will need to shell out the extra two hundred quids for the console. Another thing is that the loading time between the scenes sometimes takes a while, which slows down the game play quite a bit.

Overall, if you wish to experience endless sleepless nights bashing away at monsters, Fable is definitely a game for you. If you are not interested in the sleepless nights but will still like to play a good RPG, go get it too.

Columns

Team Canada 2004

World Cup Champions Report Card

Brent Carrara
3B Software

For those of you who were living under a rock for the last few weeks from August 30th until September 14th, the World Cup of Hockey was being played. Formerly known as the Canada Cup, the World Cup was played in 7 different cities all over the world as an international hockey tournament that showcased some of the NHL and world's most talented players. In case you are wondering how our Canadian team did, well I'm happy to report that they won the Flower Vase that was presented to Canada as the champions. Our Canucks went a perfect 6-0 during the tournament, beating the incumbent American champion team, Slovakia and the Russians in round robin play, leaving them 1st in their pool. They won their quarter-final game in convincing fashion over the Slovaks, 5-0. Our Canadian boys then went on to beat the Czechs, with back-up goaltender Roberto Luongo in the net, 4-3 in overtime. In the final Canada beat the Finns 3-2 to win the World Cup. Here's a report card on how our team fared:

Goaltenders (A+): How could you possibly give the Canadian goaltenders anything other than an A+? Marty Brodeur is a perfect 8-0-1 in international competition with the Maple Leaf on his chest. He's the best goaltender in the NHL right

now, and arguably the best goaltender of all time. Marty's play in the tournament had us saying "Patrick who?" Martin Brodeur has not only removed Patrick Roy from our international memory, he may soon remove Patrick from the record books. Before Marty retires, he will in all likelihood break Patrick's win record as well as Sawchuck's shutout record. Although Roberto had an OK game in the semi's against the Czechs, how can you not give him an A+ after he was thrust into the limelight of a semi-final game putting Canadians on the edge of their seat when Marty went down with an injury?

Defense (B): Wow a B, isn't that a little harsh for a team that went 6-0? No. Our defense was anything but superb in this tournament. First of all we lost our 2 top defensemen before the tournament was even under way when we lost both Rob Blake and Chris Pronger. This forced Gretzky to ask youngsters Scott Hannan and Jay Beameester to fill their shoes. That's a pretty tall order considering Blake and Pronger are both Norris trophy winners (best defensemen in the NHL) and Hannan is 25 and Beameester is 21. In all honesty, however, Beameester was used quite a bit and he was impressive during the ice time he received from Pat Quinn. However, our defenseman, the reigning Norris trophy winner, Scott Neidermeyer, was not. He was supposed to be the best defenseman we had, yet I was scared every time he touched the puck. When Jovo (Ed Jovonovski) went down with an injury in game 1, an uneasiness fell over the capacity crowd at Bell Center, or maybe it was all those \$8.50 beers we consumed, either way we lost one of our best when we lost Jovo. In saying all that, defensemen like Wade Redden, Eric Brewer, and Adam Foote, who was selected to the tournament all-star team, stepped up.

Forwards (A+): Our forwards were incredible, simply put. Along with Marty,

they carried our team to victory, hands down. You knew that Mario was going to lead us with great play and he didn't disappoint. Canada's first goal of the finals was reminiscent of Canada's first goal of the Salt Lake City Olympics in 2002. The one common trend in the two goals was that Mario was magnificent. In Salt Lake he let a cross ice pass go through his legs only to allow the puck to go right onto the stick of Paul Kariya. On the 14th of September in Toronto he was up to his old tricks, taking a feed that only Mario could receive, and setting up Joe Sakic in the slot for a one timer, 1-0 Canada. Along with Mario, Vincent Lecavalier, the tournament's MVP, was simply impressive, leading the team with 7 points. Now we come to the unlikely heroes in the finals: the grinders. A line made up of Joe Thornton, Shane

Doan and Kirk Maltby. Joe Thornton, a 101 point getter 2 seasons ago, usually known for his offensive prowess and not his lacklustre defense on the checking line? Yes, and it was beautiful to watch. The line combined for 2 goals in the final game,

along with the game winner not 1 minute into the final frame.

Coaching Staff and Executives (A-): The executives, made up of Wayne Gretzky, Kevin Lowe and Steve Tambellini did a great job putting together one of the most impressive units in team Canada history. Everything that is hockey that Gretzky comes into contact with turns to gold. As you all undoubtedly know, he was the greatest player to ever don a jersey in the NHL. He is the all-time points leader, over 1000 points ahead of second place Mark Messier. He has concocted two of the most memorable team Canada's in history and although his Phoenix Coyotes aren't Stanley Cup contenders, watch out for them as they have made some big off-season acquisitions. Gretzky was undoubtedly sent by (insert your god here) for the sole purpose of dominating



"Deja Vu" - Brodeur stood solidly in nets during the World Cup for a stellar repeat of his performance in the 2002 Gold Medal run

everything that is hockey. In saying that however, they do lose points for one big reason: leaving Vincent Lecavalier off the original roster. Without an injury to team leader Steve Yzerman, Vinny would have never suited up for the team and would have never dazzled us all and won the tournament MVP. What to say about the coaching staff? Well what can you say, how can you screw up when your team is stacked with the kind of talent that this team was? However, props need to be given to them for putting together 2 great lines, the #1 line of Mario, Jarome Iginla and Joe Sakic, as well as the marvelous checking line of Joe Thornton, Shane Doan and Kirk Maltby.

Final Grade (A): This brings us to the final grade of A. Missing the A+ only slightly because of the play of our defensemen. I thoroughly enjoyed the tournament as I'm sure most of you did too, although I wish that Canada could have exacted some revenge on the Swedes, left over from Salt Lake. However, their porous goaltending prevented the meeting of the two talented teams. I hope you all enjoyed the great display of talent that was put on for the two weeks, as this in all likelihood this will be the last hockey we see for the better part of a year. Cheers!



The Wisdom or Folly of Fall Parking at UW

Michael Buczkowski
2B Chemical

This summer as I was working in Waterloo I thought to myself: "Won't it be so great to have a car this coming fall? It will be the first term I've had a vehicle and I'll be able to leave so late for school." So, all excited, I made my way over to the Parking services office during frosh week and I paid my \$105.80 for my parking pass and even though I noticed the new system of 4 lots being available, little did I realize the hell I was in for. Now if I was back in 1A when every class was at 8:30 in the morning I wouldn't have had a problem, but, apparently being rewarded for making it to 2B, I now don't have to show up until later in the morning and boy does that suck. Parking Lot C on the corner of Seagram and University is now the choice lot for parking for both Arts and Engineering Students as well as many visitors to the University of Waterloo. This I was able to deal with because at least for the first few days of the first week of school I had preferred access and didn't

have to wait in line behind people who hadn't pre-purchased a parking pass and could still get a spot while they waited in line. Well was I wrong. In the University's infinite wisdom they decided to put in a second pay and park machine instead of having a preferred line for people with passes. Well isn't that wonderful? So I've spent the money to buy a parking pass, and now I have to wait in line behind all of the people who didn't and are stealing the spaces in the lot, which

in turn makes me late for class. Seems like a pretty good system to me, the University gets money, money, money and we the students get screwed out of parking in a lot close to engineering. So lets look at the other options, let's head over to lot N. Oh wait, N is full of AHS students! How about lot X? Wait, it is on the other side of Columbia street, which is perfect for a quick 15 minute jaunt across campus to DWE for my 9:30 class. It's interesting, if I had walked to school instead of driving, I could have spent the same amount of time walking. I'm disappointed in the University for forcing the people who have pre-paid for parking to park with those who didn't. Pre-paying should ensure a

person a spot in a lot

of their choosing, they shouldn't have to fight over a spot. Especially when I looked across the street and saw over half

of Lot A, which used to be a student lot, empty. Who in the almighty administration buildings had the genius idea to think that this system would be better for anyone?



"Don't get used to it. . ." - The student parking lots won't look like this until Christmas day. Of course, it'll have snow at that point. . .

POINT VS. COUNTERPOINT

Should pitbulls be banned in the Province of Ontario?

Matt Zulak

1A Systems



To be blunt, the pit bull has absolutely no good reason to exist. The breed was neither the product of painstaking generations of evolution nor of careful domestication; it was originally bred to compete for entertainment in dogfights and blood sports in 19th century England. Basically, the pit bull's sole purpose in life is to hurt other living things. Through unknown circumstances, the pit bull became a common companion in North America during the dawn of colonization, continuing to breed and multiply—as dogs do—until eventually gaining the prevalence it enjoys today.

As one would expect of a dog bred for blood, the pit bull features a bevy of undesirable and outright dangerous traits. The dog's jaws are ludicrously strong, capable of exerting an estimated 1500psi (equivalent to several hydraulics systems) under ideal conditions. The dog's jaws are so strong that many animal handlers must use "roll bars" to forcefully pry open the pit bull's jaws after it has sunk its teeth into its victim. Moreover, due to its gory history, the pit bull also has a propensity for violence; during the 1980s, pit bulls were frequently bred to be aggressive as a symbol of machismo and street cred—just like crotch-hugging, acid washed jeans and big hair (I don't think I'll ever understand the '80s). The dog's inbred bloodlust has helped it to earn a deserved reputation for viciousness and savagery often without provocation. According to data gathered by the American Centre for Disease Control, pit bulls are responsible for more than one third of all deaths caused by dog-bites. Regardless of what breeders and pet owners may say of the pit bull's "loving" personality, no other canine breed is as statistically deadly as the pit bull.

Generally speaking, Canada is a fairly safe place to live. In addition to being a nation of easy-going, friendly people, the Canadian Government has a number of laws and programmes in place to discour-

age people from inflicting harm upon one another. Yet somehow, governments have turned a blind eye to the dangers posed by dogs; unlike humans, dogs are more difficult to control and cannot simply be trusted to be responsible and avoid conflict with others. In my opinion, it is nothing short of gross negligence for a government to continue to allow dangerous animals to roam the streets without some form of control or restraint.

In the wake of a number of serious injuries, Ontario is finally beginning to evaluate options for controlling dangerous dogs. The extent of the provincial government's proposed legislation is not yet known: officially, the province has promised only to implement a series of "restrictions" on the ownership of dangerous dogs, but many believe that an outright ban of the breed is the only definitive solution. Many cities in Canada have already placed severe restrictions or outright bans on the dangerous dog breeds including Vancouver, Edmonton, Winnipeg and even Kitchener/Waterloo. Ontario has an opportunity to take a stand and be the first to establish regulations for a safer, more responsible ownership of

pets as an entire Province, and to set an example for the rest of Canada regarding the owning and breeding of dangerous animals.

Nothing ruins your day quite like getting mauled by a vicious attack dog. Living in Canada, one would

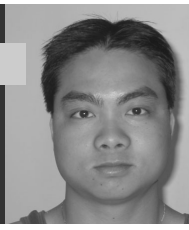
think that chances of such dog-maulings would be relatively slim; however, over the past months, Ontario has witnessed a rash of dog-inflicted casualties. I, for one, agree wholeheartedly with the bold actions being entertained by the provincial government. Pit bulls and other dangerous dog breeds pose a risk to the people of Ontario and should be banned outright from the Province, ensuring the safety and security of those who walk the streets.

Editor's Note: Point vs. Counterpoint is intended as a forum for objective and thought provoking debate on various issues. The views and opinions expressed here do not necessarily reflect those of the author(s), the Iron Warrior, or the Engineering Society.

"Nothing ruins your day quite like getting mauled by a vicious attack dog. . ."

Quoc Huy T. Le

4N Electrical



Your run of the mill generic pitbulls (or American Pitbull Terriers) can trace their roots back to early 19th century England. Their energy and courage made them a natural choice for corralling bulls and the blood sport of bull baiting. Later the blood-sport of dog fighting was cultivated and, once again, the pitbull's strength and relentlessness were put to the test as dogs were pitted against each other in a fight to the death.

Because of its violent history there is little doubt as to why modern pitbulls must live with the stigma of being an uncontrollably violent and ill-tempered beast. These stereotypes are only strengthened when a pitbull makes a high-profile attack and a human is mauled to death. Unfortunately, the crimes of their ancestors have caught up with them and their right to co-exist within society has been abolished.

First, several problems arise with revoking peoples' right to own a pitbull. Most obviously: if it is illegal to own a pitbull, what is to be done with the thousands of pitbulls that reside in Ontario? Should we deport them? Should we waste taxpayers money keeping them locked up in kennels? Should we put them all to sleep? None of these solutions seems appropriate or justified. Most pitbulls are innocent of any crime and do not deserve to be taken from their homes and owners.

Second, most dogs nowadays are mixed breed. Where does the government draw the line as to which dog is considered "pitbull enough" to be incarcerated? Pure pitbulls only? Half? One-quarter? Do they consider any dog with pitbull ancestry a danger to society? The fine line between the guilty and the not-guilty is harder to define than one might think.

While it is true that the vast majority of pitbulls are well trained and quite tame,

sometimes these dogs are meant to be vicious, as is the case with guard dogs. In many areas the use of several guard dogs (which are not only pitbulls, but can be German shepherds, border collies or even golden retrievers) is the most economical and effective method of property security. Is it not ironic that the reason for which they are being banned is the same as the reason for which they were placed there by their respective owners? Clearly, this type of legitimate use must be taken into consideration.

It's quite unfair that pitbulls alone are being punished for crimes for which the entire canine species must share responsibility. If raised improperly, any dog may become violent, and non-pitbulls attacks can be just as frequent, ferocious and fatal. The onus, then, is on the owner of the dog.

Contrary to what many people think about them, pitbulls are extremely smart and highly trainable. Just like with any other dog, if discipline and schooling is imposed, pitbulls are easily controllable.

"...some dogs have violent tendencies and some don't. The same can be said about any animal species including human beings. . ."

This, in conjunction with other reasonable practices such as keeping the dog securely on a leash and monitoring activities around children, minimizes the danger from a pitbull or from any other breed of dog.

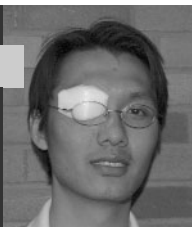
Moreover, it makes much more sense to pass laws pertaining to the training of dogs, if none such laws already exist. If necessary, licensing requirements can be passed (similar to gun licensing or martial arts certification). Any one of these steps is more logical than the solution proposed by the government.

The banning of pitbulls in Ontario is simply ridiculous and is an over-reaction to isolated incidences involving pitbulls. While it is true that a few pitbulls can be violent it is also true that the vast majority of them are as tame as the next breed. This diversity in animal behaviour is a simple fact of life: some dogs have violent tendencies and some don't. The same can be said about any animal species (including human beings). It is wrong to punish not only the dogs but their owners as well. This form of dog racism (or "breedism", if you will), is a failing attempt to eliminate dog attacks by singling out one breed.

Frosh week more fun for Leaders

Edward Tan

3N Computer



It seemed to me that Engineering frosh week this year was generally more fun for the leaders than it was for the frosh. Now, if any member of admin happens to read this article and thinks the solution is to make frosh week less fun for the leaders, think again. That's like me saying, "my standing in my class is too low, I need to bring down the rest of my class". After numerous attempts, I realized this was not the answer.

Similarly we need to make frosh week more entertaining for the frosh. In my opinion, one of the reasons frosh week has become so boring is because of all the strict rules and regulations that the leaders have to follow. Now I understand that some of the rules were established for the safety of the frosh. However, many of the new regulations are making us practically babying the frosh. I mean just compare our frosh week to U of T's. Now a lot of people would say you can't compare Waterloo to U of T, but I ask: why not? Despite how a lot of people at Waterloo feel, U of T is also a very respectable (and rich) University that produces many talented Engineers. This means they can't be completely wrong in the way that they run their frosh week. Now I'm not

saying that we need to go as far as painting our frosh purple, but just take a look at the regulations we need follow for our events.

First off, why must Edcom smile during 'meet Edcom'? I'm not working at McDonalds. Smiles are not free. I mean seriously now, what kind of regulation is that?

Then there was the mud pit. During the mud pit we had a leader jump in to act as a human plank. We were told though that this was not allowed even though the leader was willing. The reason for this was because the leader's action could encourage a few frosh to follow. This in turn may create peer pressure for other frosh to jump in who do not want to and thus making them uncomfortable. I wonder what would happen to these

frosh at a KY event?

There was the no yelling at the frosh, no singling out frosh, even though it was apparent some of them would have enjoyed that. Plus there were also a whole slew of other rules that I didn't even bother to read.

The reason frosh week is better for the leaders, is because there are less rules for how leaders are treated. We had leaders being hit with water balloons, covered with mud, and even had green goo poured on them. This is what makes frosh week fun. I mean I had frosh singing and dancing to 'I'm a little teapot' in the SLC. I scared some frosh so shitless they still call me 'sir' when they see me in the hallways. But I bet you couldn't find a single one of these frosh who would say they didn't enjoy frosh week.

Columns

Movie Review: Sky Captain & the World of Tomorrow

Cat-fights and 1930s hair

Charling Li
2B Mechanical

When I first saw the trailer for Sky Captain & the World of Tomorrow, I knew right away I had to see it. I can't put my finger on what it was that really drew me to it. Maybe it was the funky/nostalgic lighting (the movie was apparently shot for black & white and digitally re-colored). Or maybe it was Gwyneth Paltrow's sleek and sophisticated 1930s waves (I wanted hair like that!). Ok, so I was taken in mostly because Sky Captain looked cool and unlike anything I'd ever seen before. Shot entirely in front of a blue screen with a grid along the floor to guide the actors, all of the movie's backgrounds were computer generated. Since I can't claim to know much about computer generated graphics, this review will focus mostly on the storyline and the characters.

From watching the 30-second TV trailers, you probably already know the story anyway. There's not much to it. Our hero, Joe Sullivan (played by Jude Law) aka Sky Captain (for a while I thought his name was really Sky Captain. How convenient that he actually was a pilot!), is your typical kick-ass flying ace. He's got the "death-defying" pilot skills, the "unmatched courage and heart", and all that jazz you can expect from a cheesy action hero. We first meet Captain Joe flying in to save Gotham City from a bunch of giant robots whose crime I couldn't really discern amidst all the chaos and the majestic flight music. Other than trampling on buildings and attempting to stomp on our intrepid reporter Polly Perkins (Gwenyth Paltrow), they were pretty harmless. I spent the remainder of the film actually wishing they had been

successful in squishing Polly. Then maybe I wouldn't have had to listen to her whine, nag, and brood about how Sky Captain cheated on her 3 years ago. Whatever, woman, move on. Polly is also your typical plucky, adventurous, 'do anything for a good story' reporter. Oh, she also has an obsession with her camera, which she tends to drop a lot during action scenes. *(Photo editor's note: Sources inform me her camera is an Argus C2)* This causes her to repeatedly stop running away from whatever she's running away from to retrieve it, just in time to escape death.

Anyway, Polly and Sky Captain are on the trail to investigate the disappearance of the world's top scientists. Along the way, they discover a plot for world destruction brought to you by your typical genius-but-mad scientist Dr. Totenkopf (whose name means "death's head" in German). Of course they have to stop him and save the world, with a little outside help from Franky Cook (Angelina Jolie), the captain of a mobile airstrip and leader of an all-female amphibious jet squadron. Most of the dialogue up to this point of the movie is pretty dull, varying between Sky Captain and Polly arguing about what really happened 3 years ago when they broke up, to where to find this evil Dr. Totenkopf. However, Captain Franky livens things up with a zinger upon meeting Polly: "It's soooo nice to finally meet the competition". Oooh, so this is the 'other woman'. Fascinating. Will there be a fight for Sky Captain's heart later on? Well, let's just say the dialogue quickly slipped back into tedium, as Franky only has a small part in the movie. We get to go back to following the adventures of "damsel-in-distress looking soulfully at her brave hero's profile as he gazes out at the horizon". Yay. For those of you who actually care about the movie's outcome, rest easy. Our dynamic duo saves the

world and recovers the lost scientists, all in good time.

So in summary, Sky Captain is bland and dull, Polly is annoying and useless. Ok, so she was decked out in classy 1930s duds designed by Stella McCartney, and she did have those blond locks that stayed perfectly plastered onto her head despite all the running, jumping from dynamite blasts and 360° turns in Sky Captain's plane. If the movie didn't have such a big budget, Gwyneth Paltrow could've easily been replaced by a mannequin; they have plastic hair and look good in clothes. Captain Franky Cook was cool and tough, although they should've explained the story behind her eye-patch. (Maybe from a previous fight over Sky Captain? Just a thought.) There wasn't really any character development to speak of, seeing as this

is a sci-fi action movie and all.

Overall, the movie was at least entertaining, in a "I wonder how much more clichéd can they get?" kind of way. Maybe the whole point of the movie was to break a world record for the number of clichés they can cram into 107 minutes, I don't know. If you're into computer generated graphics, classic sci-fi movies, or comic books, you will likely find many elements of the movie to love.

As for me, I liked Sky Captain and the World of Tomorrow enough to watch it again when it comes out on DVD and gets played at POETS for free, when I really want to skip class and happen to be in a comfortable chair and don't want to get up.

Rating: 3/5

Verdict: Mediocre but entertaining



"Avast, ye mateys!" Angelina Jolie as a daring airship captain, looking really good with the eye patch, although we're sure both her depth perception and inability to see things to her right will probably force her to leave the driving to someone else.



Sandford Fleming Foundation
E2 3322, ext 4008, sff@engmail
www.eng.uwaterloo.ca/~sff

Technical Speaker Competition

The Faculty-Level Competition will take place on **Friday October 15** at 10 a.m. in DWE 2534. The winner of the Faculty Competition will receive \$300 while all other participants receive \$50. Please contact your undergraduate office if you are interested in participating in the Competition.

Refreshments will be served
Everyone is welcome

Debates

Please contact your department undergraduate office if you are interested in participating in the Sandford Fleming Debates. The winners of the faculty finals receive \$100 each and the runners-up receive \$50 each.

DATE November 1, 2, 3
TIME 11:30 – 1:00
PLACE E2 - 3324

Finals: Friday, November 5
Noon
Outside POETS (CPH)

Refreshments will be served at the finals
Everyone is welcome

Nikola Tesla, father of the electrical revolution

Vecheslav Silegadze
3N Electrical

Among his credits are the invention of the ubiquitous AC motor, the radio, the remote control, and the fluorescent lamp. Some of the most fundamental technologies today can be traced back directly to the work of Nikola Tesla. He was born in 1858, in the Balkan Peninsula of Lika. He was the son of a priest and a mother who had a great influence on him, inspiring him to pursue his career as an inventor. He was a fairly mediocre student during his early years and disliked many of the assignments given to him by his teachers. His performance improved somewhat when he entered high school, particularly in mathematics and sciences. He entered the Austrian Polytechnic School in Graz majoring in mechanical and electrical engineering. Tesla would later describe in his autobiography that while the majority of students at the school took the opportunity to take it easy, he displayed a prodigious work ethic. His working hours would frequently begin at 3am and end at 11pm. As a result he would later be forced to take time off from school because his professors feared that he would literally kill himself with overwork. Electrical engineering was a young science at the time that Tesla attended university. In many cases he would prove to show a better understanding than the professors who were teaching. In Tesla's autobiographical sketch "The Strange Life of Nikola Tesla" he described the pivotal moment when the idea of his revolutionary motor occurred to him:

"While Professor Poeschl was running the machine the brushes gave trouble, sparking badly, and I observed that it might be possible to operate a motor without these appliances. But he declared that it could not be done and remarked, 'Mr. Tesla may accomplish great things, but he certainly will never do this. It is an impossible idea.'"

Some years later Mr. Tesla would present this impossible idea - a brushless AC motor - to the American Institute of Electrical Engineers. In so doing he would bring forth a revolution that reaches us today in the form of every major power generation and transmission facility in the

world. Before Tesla's motor, the preferred method of electrical distribution was Thomas Edison's vastly inferior DC system which could only be practically used to transmit power for a few miles from the point of generation. Despite Edison's best efforts to promote his system, and in turn vilify Tesla's, the AC system won out on merit and was widely adopted following its demonstration at the Chicago world fair in 1893. Tesla acquired an incredibly lucrative contract with Westinghouse to design and build AC generators, including a spectacular installation at Niagara Falls. He would receive \$2.50 for every horsepower of energy his systems generated.

This financial success was unfortunately relatively short lived. Even though the AC power distribution system was wildly successful Westinghouse was in danger of being bought by General Electric. So, at the request of George Westinghouse, Tesla agreed to tear

up his lucrative contract as a gesture of good will to the only man who believed in him when he was at his lowest.

Tesla was able to find work throughout his life, mainly as an engineering consultant, but his designs were often rejected as too speculative and impractical. In his later years he became largely a forgotten figure, and spoke often on the causes of war and of his spectacular "death ray" capable of giving nations an impenetrable shield against attack (known today as a particle beam weapon, which was heavily researched by the Soviets during the cold war and later by the US DARPA agency.) Tesla hoped that his weapon would render war obsolete because every nation would be able to erect this impenetrable shield and defend itself against any kind of attack. Tesla was famous for his wildly futuristic ideas, which were often nearly a century ahead of their time. He devoted

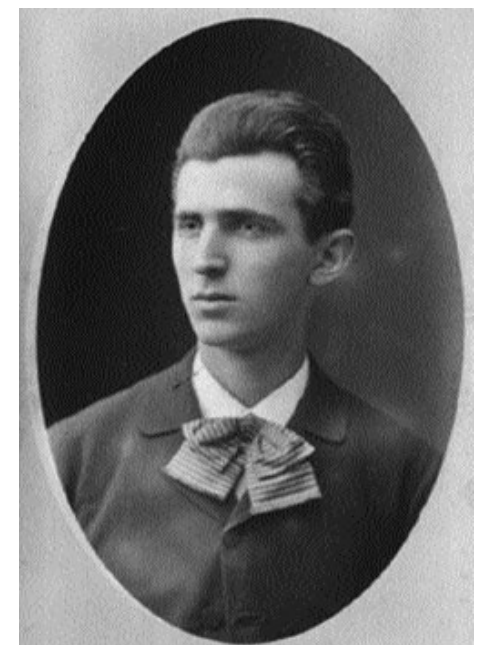
much of his effort to these fantastic visions during his later years, including the conception of a "world system" of communications that would be used to transmit radio, music, stock prices, and even pictures all over the world. In one of his more remarkable anticipations of modern technology Tesla filed a number of patents in the 1890's that included the description of an electronic logic gate (which is the basis of the modern computer.) This came as quite a surprise to computer hardware

manufacturers who attempted to file similar patents soon after the end of WWII, some 60 years later. Tesla devised the idea for a logic gate while researching what he then dubbed "teleautonomy", or what is known today as robotics. He is indeed credited with the invention of the very first robot, in the form of a remote radio controlled boat that dazzled spectators during a demonstration in New York in 1898.

Much of Tesla's work has been lost since his death in 1943, particularly that which was done later in his life when he lacked financial backing to test his ideas. One can only wonder at what technologies might exist today had Tesla been able to complete his wireless energy transmission experiments, or had he found the money for his experimental flying machine which anticipated today's Vertical Short Takeoff and Landing aircraft. A number of Tesla's now ancient inventions have reappeared recently in light of advances in material sciences which have finally made them practical. Among these is Tesla's bladeless turbine, which offers an impressive horsepower to weight ratio, but which was impractical in the early 1900's due to overheating problems (overcome today with ceramics that can operate at high temperatures without deforming.) Due to the mystery surrounding Nikola Tesla his name

has taken on an almost mythical status. His spectacular claims of having invented a means to transmit power over hundreds of miles with virtually no loss, and his rather sketchy writings on these systems' implementation have made him popular among pseudo-scientific "free energy" groups who claim to have rediscovered Tesla's works, and along with them the means to generate unlimited power, i.e., the classic perpetual motion machine. These groups only serve to tarnish the name of a truly prolific inventor. Tesla is certainly one of mankind's greatest benefactors. One can only look at him as a man far ahead of his time, in both breadth of vision and genius. He may have died poor and nearly forgotten, but his work lives on.

"The progressive development of man is vitally dependent on invention. It is the most important product of his creative brain. Its ultimate purpose is the complete mastery of mind over the material world, the harnessing of the forces of nature to human needs. This is the difficult task of the inventor who is often misunderstood and unrewarded. But he finds ample compensation in the pleasing exercises of his powers and in the knowledge of being one of that exceptionally privileged class without whom the race would have long ago perished in the bitter struggle against pitiless elements. Speaking for myself, I have already had more than my full measure of this exquisite enjoyment; so much, that for many years my life was little short of continuous rapture." - Nikola Tesla



Local colleges and universities host Canada's largest student Career Fair

CECS Press Release
IW Press Bureau

WATERLOO, Ont. - More than 3,000 students and alumni are expected to converge on RIM Park in Waterloo, Wednesday September 29 for Career Fair.

Sponsored by Partnerships for Employment, Conestoga College, University of Guelph, University of Waterloo and Wilfrid Laurier University, this annual event is the largest post-secondary Career Fair in Canada. The fair runs from 10:00 a.m. to 3:30 p.m. and is open to students and alumni from the four post-secondary institutions.

Students and alumni will have the opportunity to meet with over 170 employers and gather important information on careers.

"Our employer registrations have increased by 12% over last year's fair clearly attesting to the quality of our students and alumni and the academic programs at the local post-secondary institutions," says Carol Ann Olheiser, Graduating Student and Alumni Employment Advisor at the University of Waterloo.

The fair features organizations from virtually every sector - financial, police services, health care, community and social services, retail services, food and hospitality, telecommunications, transportation, government to information technology.

Employers such as Ministry of Transportation, General Mills, Nortel Networks, Family & Children's Services of the Waterloo Region, GE Canada, Cowan Insurance Group, Telus Mobility, Amazon.com, Environment Resources

Management, TD Bank Financial Group and Toronto Police Services are just a few of the organizations taking part.

Admission is free with a student/alumni card from any one of the four participating institutions. In addition, shuttle buses will be available from all four post-secondary institutions during the fair's hours of operation.

For more information and a complete list of participating organizations, please visit the Career Fair web site at www.partners4employment.ca

Contact:
Carol Ann Olheiser, Graduating & Alumni Employment Advisor
Co-operative Education & Career Services
University of Waterloo
(519) 888-4567, ext. 2482

Gmail

...continued from Page 8.

The list above barely scratches the surface of the cool things you can do with Gmail. For a more comprehensive list, be sure to check out the *Aimlesswords Gmail Archives* (<http://www.aimlesswords.com/archives/gmail/>). If you have any other Gmail-type questions, you can always consult the official *Gmail FAQ* (<http://gmail.google.com/gmail/help/about.html>).

It's no exaggeration to say that Gmail is the best application on the Internet: it's ease-of-use, robust feature set, and active community make it one of the most intuitive and versatile applications in the existence of computing. Having now conquered both the search engine and email, who knows what revolutionary service Google will produce next? Would a better version of JobMine be too much to ask for?

Columns

Stomach: Feeding yourself

...continued from Page 7.

beef, pork, lean turkey, or veal
 2 green peppers, roughly chopped
 a handful of mushrooms, sliced
 optional - finely chopped carrots
 and/or sliced italian sausages
 1 675 mL bottle of Prego tomato
 sauce or equivalent
 couple bay leaves
 pinch of dry basil and oregano
 pinch of salt and pepper to taste
 sugar

In a 4 quart pot, heat the oil on medium high heat. Add the onion and saute until soft (and a little translucent). Add the ground meat, carrots and sausage slices and cook until the meat is browned and carrots soften. Then add peppers, mushrooms and cook until they are a bit soft. Add the tomato sauce and herbs, and bring to a boil. If the sauce looks a bit thick, add water to adjust the thickness of the sauce. Reduce heat to low

and let it simmer for about 20~30 mins, add salt and pepper to taste. Most tomato or pasta sauce are made a little too sour for my likings, so I usually add some sugar to the sauce when it's simmering to adjust the sweetness. Serve over rice or pasta.

For this recipe, a variety of vegetables can be added or substituted, such as green beans, zucchini, celery, garlic, the list goes on. The sauce can also be made vegetarian, with vegetables only. This sauce freezes really well, so come exam time, all you need to do is defrost it and reheat.

Iron Chef is always welcome to suggestions. If you have cooking tips to share, if there is something you'd like to see, or if you have a question, email them in to: iwarrior@gmail.com.

Aie, Eye!

...continued from Page 4

right eye I noticed I had blurred, double vision. I asked the doc there and he said it could be possible eye damage and made an appointment for me over at the optometry building.

Optometry

Now most engineers aren't too familiar with the optometry building since it's on the opposite end of campus. In fact it's located just north of Columbia st. The first thing I noticed was that this building smelled a lot cleaner than the engineering buildings, especially when compared to the first floor of RCH. The first and second floors are clinics for eye examinations with a lot of fourth years working there. I even noticed a small store selling prescription glasses. The third and fourth floors are classrooms. It was in one of these clinics where I spent a few hours getting many tests with different equipment and gadgets. At the end

of this ordeal it was determined that I had muscle and nerve damage, as well as some hemorrhaging. It was also suspected that I had a bone fracture, which would require a CAT scan. Hence, I was booked an appointment at St. Mary's general hospital.

St Mary's general hospital

So this is where I got my CAT scan. A CAT scan is essentially a large donut shaped x-ray machine. Now I thought that they would give me some sort of vest to protect the rest of my body, but this wasn't the case. In fact they didn't even give me anything to protect my groin. I mean I had to use my hands to cover my crotch, damn it. It's like, shit man, forget about the eye, watch the nads, man. I mean we need to get our priorities straight here. The good news was that there was no bone fracture. As for the nerve damage, I'll have to wait to see if that heals on its own.

Recordbreakers

...continued from Page 1.

positive. The amount of kindness and generosity we received was unbelievable. The Dean of Engineering from the University of California in Chico paid for our hotel suite and paid for our dinner one night. The Abby of New Clairvaux let us camp and roam around in the middle of their orchard. More than one family kindly let us use their backyard and facilities. It really helped us cope with being away from home for so long.

As for me, personally, I believe few experiences in my life will be as memorable as the 18 days I spent with the team. Even though sleeping next train tracks on jagged stones almost every evening was unpleasant, in retrospect I wouldn't have changed a thing. I spent most of my time driving one vehicle or another and it was often exhausting. But I always took a few minutes each evening to look around and fully appreciate where I was at the time. It let me feel as though it was all worth it. Now that the team is back, safe and sound and with a world record to our name, there is no doubt that it was all worth it.

Information on the Midnight Sun Solar Car can be found at:

<http://midnightsun.uwaterloo.ca/>

Joe Blow Spaceman: Spaceflight without NASA

...continued from Page 5.

and take some risks every once and a while.

Think it's a pie in the sky hope? Think it's just a bunch of nutsos out in the Mojave California desert? Think again.

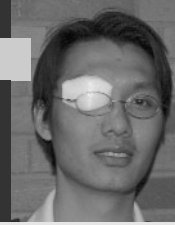
While I'm writing this, it has already been announced that two X-prize teams will be making attempts to win the prize in the next couple of weeks. The front-runner position is held by Scaled Composites, the company owned by the famed aerospace designer Burt Rutan, who built the first airplane that went around the world on one tank of gas. Paul Allen, co-founder of Microsoft, is bankrolling this little venture. If you were following the news over the summer, you'd already know that the team's last launch by test pilot Mike Melvill earned him his space wings. This is no joke anymore folks.

In typical Rutan fashion the Scaled Composites entry is less than ordinary. The spaceship is carried up to 50,000 feet using a conventional turbojet aircraft called the "White Knight". From there the spaceship is released to gliding flight and proceeds to fire its hybrid Nitrous Oxide (Laughing Gas) hydroxy-terminated polybutadiene (rubber) engine. This new hybrid engine design was created by a company called

Women in Engineering:
Truly a dying breed?
Edward Tan brings you this
special investigative report

Edward Tan

3N Computer



As I was looking over the statistics for the percentage of women in first year engineering, I noticed an unsettling trend. Although the percentage of women in engineering at Waterloo has been increasing, it seemed to have plateaued at about 23 to 24 percent for five years. Then in the last two years it made a sudden drop down to 13 percent. I was intrigued by these statistics and started discussing them with my friends. Surprisingly, the attitudes toward this topic were very similar between both men and women.

"There is equal opportunity in Engineering for both men and women these days" said Jeff Kerr.

Most people agree that the sexist attitudes that existed twenty years ago are no longer present these days. Both men and women are encouraged to pursue whatever career they are interested in. Engineering is no longer viewed as a discipline for men only. In fact, when confronted with the issue, many support women in Engineering. A common example would be advising high school students on what program to enroll in. However, not too many people have gone out of their way to promote women in Engineering. Many people do not feel that the percentage of women in Engineering is a big problem anymore, despite the recent

decrease. It is believed that women are no longer prevented from doing what they want to do.

So why is the percentage of women in Engineering so low?

"Women are too smart, they know better than to go into engineering" mused Matt Strickland.

I was very impressed by this quote. I was amazed at how one statement can potentially offend so many people from so many different sides. But seriously now. A common response that I received was that there just aren't as many women who are interested in Engineering as other programs. Although I too no longer believe women are prevented from pursuing their interests, I do believe there is a tendency for society to encourage women into certain fields.

"Society pressures women into taking more stereotypical jobs" Glen Kurti was quoted as saying.

However, it is a common feeling that women who are already in Engineering receive preferred treatment over men. It is perceived that help and assistance is made more readily available for women. Some even noted that the low percentage of girls in a class has led them into becoming "spoiled". No wonder there are people who have developed a status quo attitude.

"Why would I change something that works for me?" Nancy Xu.

There are women in Engineering who just do not see the low percentage as a problem at all. And thus I finish off this article with one final quote.

"More boys for me, yummm" - Melissa Cesana.

SpaceDev. The engine uses basically a laughing gas as an oxidizer and rubber as a fuel. Both of these are easily stored which reduces costs significantly. Also Nitrous Oxide has a peculiar quality of self-purifying at room temperature, which basically means that the gas doesn't need any pumps or complicated mechanisms to deliver it to the combustion chamber. The rocket fires until burnout and the craft floats to the apex of its trajectory, which is above the 100 kilometer mark where space begins. At this point the crafts' wings fold into a shuttle-cock configuration which basically means that the craft is oriented for maximum drag on re-entry. It is designed so that the ship will align itself automatically due to the shuttle-cock wing configuration, effectively turning re-entry into a controlled stall. It would be like being a tin can falling from space for 60 seconds until the crafts' wings fold back into position and then it glides back for a runway landing.

But Scaled is not alone. A few short days after Scaled is scheduled to take its swing at the bat, a Canadian team is gunning for a try. They call themselves the Davinci project and they have been bankrolled by the infamous GoldenPalace.com online casino. This team gets the most concern from me.

Brian Feeney, it's team leader, just doesn't exactly shine confidence wherever he goes. A lot of talk circulates that they are unprepared and could put themselves in serious danger. Their launch design is actually pretty similar to Rutan's, a rocket is lifted up to 50,000 feet, this time by balloon, and is launched using a similar hybrid engine using Nitrous Oxide and an unknown fuel that the team does not disclose. The team is gunning to be the little engine that could against the Goliath that is Scaled. I have to admit to a little bias on my part: It would be great to see a Canadian team that had no hope of winning, win! Plus, can anyone say "Co-Op Job?"

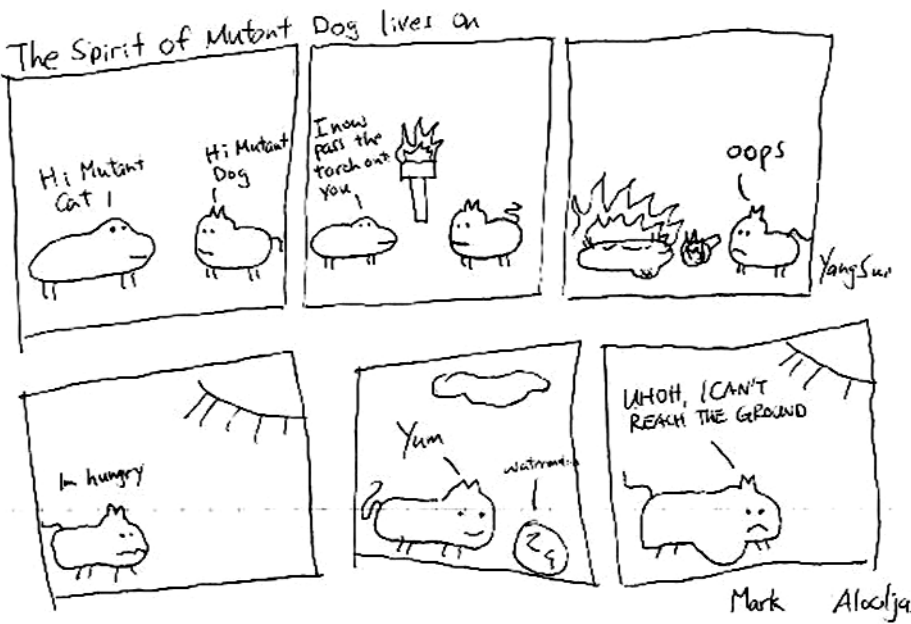
That hybrid engine from Scaled is becoming quite popular with NASA. SpaceDev has just signed a deal with NASA to research the concept in co-operation with usage on NASA vehicles. In fact SpaceDev is now trying to create its own sub-orbital space vehicle. I guess those alt-spacers are starting to get mainstream now. They are going to have to start learning not to bash NASA so openly - now that they have become part of the system.

Either way, if on September 29th to October 2nd, you hear that they did it, it's one huge step for Joe Blow Space Man, even if it does cost him \$50,000 a flight.

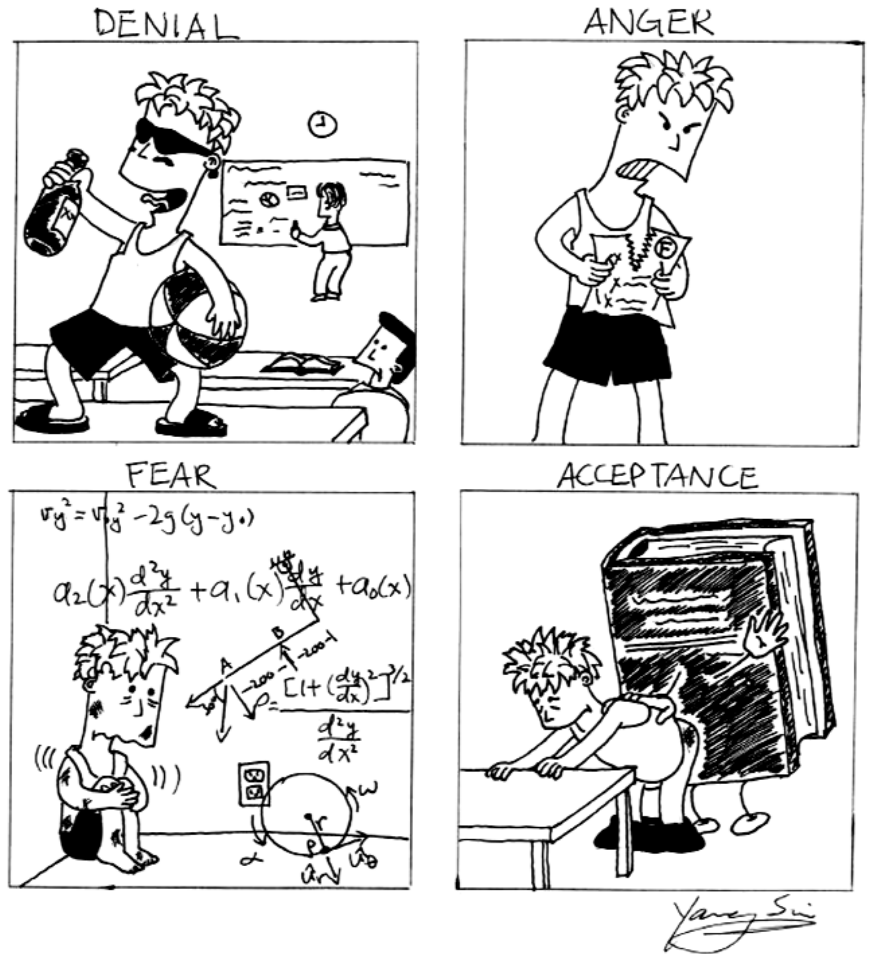
ARTS CORNER

Introducing: Arts Corner!
Because Engineers can draw too.
Or, if not, we'll make a darn good
attempt at it. . .

Mutant Cat
 by Yang Sui & Mark Alocilja: 2B Mech.



School Bytes
 by Yang Sui: 2B Mech.



HAIKU
Engineering
Style

Michele Heng
 3N Systems Design

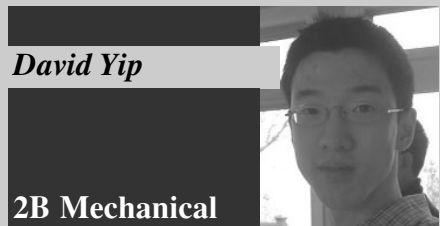
- (1) all constraints
 less than non-negative constants
 feasible solution
- (2) sinusoidal in
 system scales shifts signal
 sinusoidal out
- (3) unstable song makes
 inner longing for destruction
 harmonic resonance
- (4) design process
 learn lesson of the past
 reiterate
- (5) heat transfer
 futile escape to outside -
 adiabatic

Introducing: The Picture of the Issue!
Do you have a camera?



Want to show off your artistic side?

Have some poetry you'd like to share? Got any comics you doodled during calculus class? Submissions are always welcome at iwarrior@engmail.uwaterloo.ca, or in the Iron Warrior mailbox in the Orifice.



This term the Iron Warrior will publish a picture of the issue. This is not a formal photo contest, just email us a picture you think is worth publishing. It could be people, places, things, funny, sad, pleasing or disturbing. (Not too disturbing).

This issue I am putting in one of my own, but I would like to see lots of sub-

missions for the next. I know most of you have digital cameras - dig them out, carry them around, and start shooting!

Submissions can be sent to iwarrior@engmail.uwaterloo.ca Include your name and class if you would like to have them published.

Columns

Photographer profile: Henri Cartier-Bresson

Finding beauty in everyday life



David Yip

2B Mechanical

Ah power. That is what the title of Photo Editor confers upon me. The power to... not a whole lot. I take pictures for the paper. In light of these heavy responsibilities I have decided to write about photographers as well as being one. This is the first of five profiles I'll write, one for each issue.

Today's lesson is about Henri Cartier-Bresson. Mr. Cartier-Bresson is widely credited as the father of street photography. Street photography is what it sounds like,

taking a camera onto streets and taking pictures. Usually the pictures taken are scenes of everyday life. It is a way of seeing the world and recording it on film.

Cartier-Bresson was born in 1908. Born in France, he was given a Kodak Box Brownie camera as boy for holiday snapshots. The Box Brownie opened the door to casual snapshots of occasions to the public and also piqued the talent of many famous photographers to come. Cartier-Bresson also went to painting school in Paris, where he developed a careful eye for composition. This formal training is regarded as one of the keystones to his work.

His philosophy on photography was that of a fly on the wall. He would keep his camera hidden, and whip it out suddenly to catch a moment. On one occasion he used a human shield; that is he would get the

assistant to stand between himself and a subject, and then shoot over the assistant's shoulder, or even push him out of the way abruptly and get the shot. This somewhat inflexible determination to "get the shot" sometimes got him into trouble. This lightning-fast camera work required lots of practice. Additionally, he was able to see as his lenses saw, and was able to position himself perfectly to get the shot he wanted.

Cartier-Bresson's most famous concept is that of the "decisive moment". His definition of the decisive moment was: "The simultaneous recognition, in a fraction of a second, of the significance of an event as well as the precise organization of forms which gives that event its proper expression... In photography, the smallest thing can be a great subject." This concept has been seized by Kodak and repackaged as their marketing slogan, the Kodak moment. That is a brief instant where the story of a whole scene can be told, or when elements arrange themselves in a pleasing way.

While Cartier-Bresson's primary field was in street photography, he also took portraits of the famous people of his time. Many of these are candid in style, and provide a fascinating alternate view of the icons of our times – from

Marilyn Monroe to Che Guevera, from Coco Chanel to the Dalai Lama.

He was also a founding member of Magnum, probably the first photographer's co-operative. Magnum photographers have covered most historical events of the century. It is famous for keeping copyright in the hands of the photographers, rather than giving them up to the client.

He passed away in August this year, leaving his indelible mark on the photographer's art, profession, and the world.



"Hot enough for ya?" - This shot showcases Cartier-Bresson's remarkable eye for juxtaposition of dark and light



"Viva la revolucion" - A candid shot of revolutionary Che Guevera

the Iron Inquisition

Richard Hui, 2A Chemical

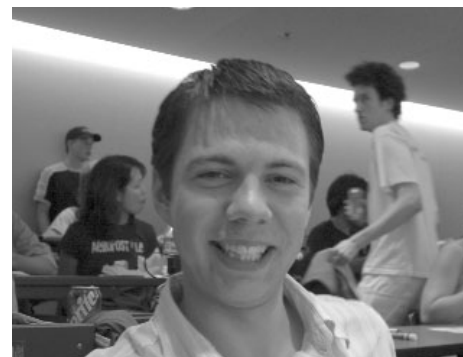
To frosh: What do you think of the dating pool in Engineerng?



"I don't think there's enough time." Ankit Sharma - 1A Chem



"Dating pool? a lot of competition." Stanley Chiu - 1A Comp



"It's all pretty good!" Vassili Skarine - 1A Comp



"We have the pick of them all." Theresa Daly - 1A Mech



"If you can't go for quality, then go for quantity." Brenda Lee - 1A Mechatronics



"Not bad, some guys pretty good looking" Mayunthan Nithiyatham Ms. Whitey - 1A Systems



"I was looking for Weapons of Mass Destruction, I swear." - G.W. Bush



"There's very little Boxwomen. . ." Boxman - 4N Applied Box Studies