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the IRON WARRIOR

THE NEWSPAPER OF THE UNIVERSITY OF WATERLOO ENGINEERING SOCIETY

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FedHall Goes Solar: Students Design and Build Solar Array

Jeff DeLoyde
4A Environmental

Beginning November 12, 2003 Federation Hall got a make over. A photovoltaic (PV) solar array consisting of 36 panels was installed on the roof of Fed Hall facing ring road. This is the first student-designed solar array on a university campus in Canada.

UW students, staff, and faculty are encouraged to come out and check out the solar array installation, which happened over one week from November 12 to 28.

The first step was to penetrate the roof structure and attach the racking system. The solar panels were then hoisted up onto the roof and fastened to the racking. Finally, the electrical wiring was completed and the solar array will soon go live, producing clean energy for over 50 years.

This solar array is the result of the efforts of the Solar Technology Education Project (STEP), a multi-disciplinary group of students and faculty who started in January 2002 with the aim of bringing the first student-designed solar array to the UW campus as a demonstration of renewable energies and climate change solutions.

"Our goal is to get students actively

Continued on page 9 See "Thirty-Six 55-Watt Panels"

Ted and Mark, two KW Iron Works employees helping STEP volunteers install the panels. Not shown, Chris Hadlock (4A Mechanical), Tanya Dhir (Mechanical 2003) and Jeff DeLoyde(4A Environmental Civil) were also on site to help.

Twenty-Eighth Annual Engineering Awards Dinner

Kiran Dhaliwal
2B Electrical

Thursday, November 20, 2003 marked the 28th Anniversary of the annual Engineering Awards Dinner held for engineering students at the University of Waterloo who have received various scholarships and awards offered by the faculty and the university. It was an enjoyable evening of mingling and dining, that was well attended by various faculty, alumni and students. A warm speech on the proud history of Waterloo Engineering was given by the keynote speaker, Dr. Savvas Chamberlain, who is a former E&CE professor and currently the CEO of Dalsa Inc. This Awards Banquet was the first one attended by our new Dean of Engineering, Dr. Adel Sedra, who mentioned his delight at seeing so many award recipients being honoured. This year's ceremony was held in the beautiful Ballroom at Bingeman Park.

Although the list of awards and recipients was lengthy, and although everyone there deserves the congratulations, there were several awards of note:

J.R. Coutts "Students Without Borders" Award
Joel David Westberg

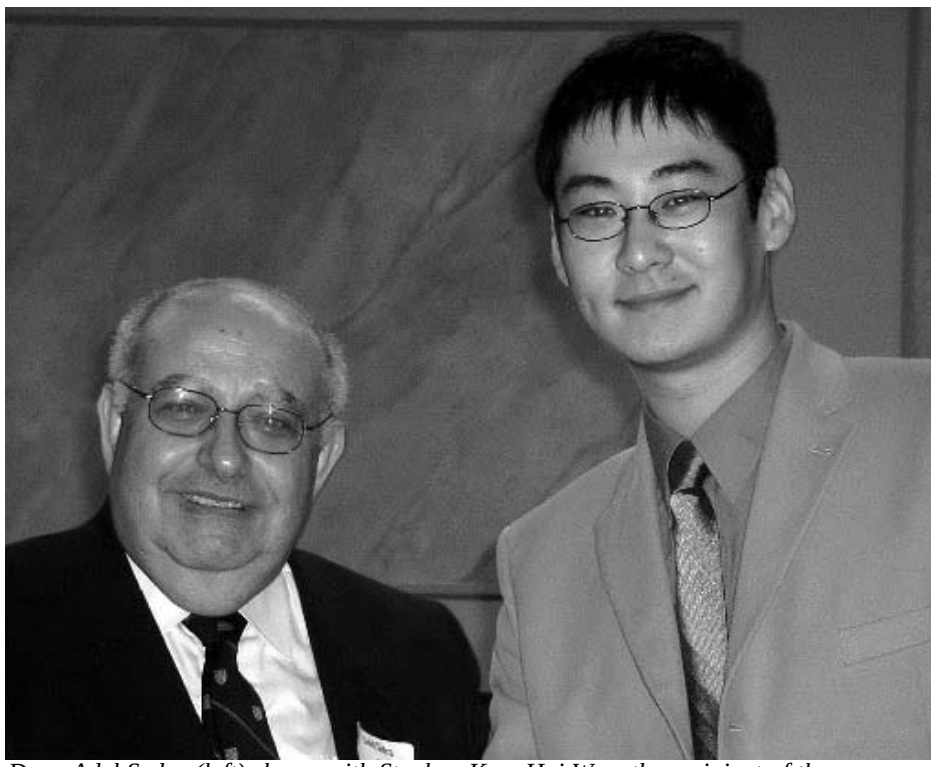
John Fischer Award for Leadership
Sarah Christina Ehrhardt

George Dufault Medal for Excellence in Communication
Laura Michelle Naismith

Consulting Engineers of Ontario (CEO) Scholarship
Jeff DeLoyde

University of Waterloo Alumni Gold Medal
Robert Harris McArthur

University of Waterloo Alumni Scholarship
Emily Jane Ramona Thorn



Dean Adel Sedra (left) shown with Stephen Kam Hoi Won, the recipient of the Professor T. Prasad Award

It is not necessary to change. Survival is not mandatory. - Dr. W. Edwards Deming

Letter from the Editor

Joseph Fung
3N Computer
Editor-in-Chief

This will be my last letter as the Iron Warrior Editor in Chief – it's been a good term and that's largely due to a superlative team of staff. I could easily spend the next 1200 words lauding their merits, but I've dedicated page 12 to that – so I invite you instead to bear with me for one last homily.

I'd like to talk today about communication media – digital communication media in particular. Essentially, I'd like to offer some critical looks at two forms of digital communication – one that has become "old-hat" for many and one that is quickly becoming "new and cool" for many others: e-mail and live journals. I'm hoping that after reading this, you'll look at your digital communication habits with a more judicious eye and possibly reconsider your customary use of these tools.

For many, e-mail has become a replacement for both Canada Post as well as Bell – we turn to our keyboards and mice as opposed to paper, pen and handset. The process of writing an e-mail is often less time consuming, more cost-effective and is generally perceived as a positive change. Although I'd consider myself among the group of people to subscribe to this belief, I am also aware of the limitations of using e-mail. E-mail is analogous to a written letter – and so I'm not addressing that comparison here, instead I'd like to focus on e-mail as a replacement to phone calls. I think everyone would agree that a lot of information can be transferred through the inflection, pausing and general tone of voice used by a person in a conversation. You can tell if they're angry, amused or even indifferent to a comment – all things that are difficult to get across in a digital medium. Although people often seem to forget this, my issue is not with the occasional slip-up and misinterpretation. Such mistakes are more often than not readily resolved. Rather, it is with the deliberate misrepresentation of one's emotional state and opinion that bothers me. How many times have you worded an e-mail that was far more civil and polite than how you would have worded a spoken response? By misrepresenting your true state of being, you're doing yourself a great disservice - the recipient of the e-mail won't really know what you're feeling, so may not be able to respond properly, most likely exacerbating the problem.

E-mail is too often used to distance oneself from the recipient – something which on the surface appears to give the writer time to collect their thoughts and word a reply properly, but is actually impeding truthful communications, leading to aggravated conflict. And this was the lesser of the two matters I want to discuss.

There is a key difference between a web log (blog) and live journal – and I'm going to first explain that difference before expanding on my earlier point so as to ensure you understand the context of my points. A blog is a log of web-related events and information – it is a method of disseminating and collecting feedback on journalistic information. According to J.D. Lasica of the Washington Post, bloggers do perform journalistic duties - "they take part in the editorial function of selecting newsworthy and interesting topics, they add analysis, insight and commentary, and occasionally they provide a first-person report about an event, a trend, a subject." A live journal on the other hand, is a publicly-viewable diary. Its intent is less to discuss current events and more to inform people about one's personal life. It's the growing use of live journals that I want to discuss.

I consider the use of a live journal – at least in the way I see them most often used – a distasteful practice. And this is because I believe they are used incorrectly, or if you don't like the use of such an absolute word, let me say I believe they are used in an untactful manner.

My first issue with live journals is how people who keep live journals develop the belief that people who have the URL have a responsibility to stay informed. This does not usually manifest as an obvious assertion, but usually through small comments like "I wrote about it on my live journal" or the more marked "Haven't you read my live journal?" What this is, is taking the responsibility of communication and placing it entirely on the shoulders of the other person – which is ok as long as you're perfectly willing to live with the consequences of that decision: people will be busy and be unable to read journals, people may not be interested in the minor details that usually make up journal entries, and people may misinterpret live journals. The problem is that people usually don't allow for these consequences. They assume that while leaving the communication in the hands of the other person, they are still justified in believing the communication should be flawless. This is simply a refusal to take accountability for one's own communication.

My second issue with live journals is how people who keep live journals forget that these journals are not private. By their very definition, live journals are open to public use. Admittedly there are services that allow for private entries, but the large majority of users don't use these features and when they do, they don't use them enough. When posts are made on live journals, people seem to forget that others can read their entries. This means that comments made about someone in particular or about a specific event can be read by the "wrong people". Imagine a comment like "I can't stand this guy at work – Ted. He's always plagiarizing my work" – such a comment would be entirely innocuous in a diary – but in a public forum, where it could be read by Ted, think of the potential for repercussions in the work place. This seems reasonably obvious and yet I regularly see live journal posts that similarly lack the tactful removal of specifics. This practice is simply inconsiderate.

My third and final issue with live journals is how some people use them as a means of communicating inappropriate information. Earlier in this article I mentioned how people will often use e-mail to mask their true feelings and intent under a veil of humour or professionalism. This is analogous to how people sometimes use live journals to hide their true feelings under the excuse of "private ranting". I have seen people deliver emotionally charged messages through their live journal rather than communicating with the person directly – this is usually later poorly hidden under the guise of "venting in my personal journal." Public ventings like this are unfair to the target as the recipients aren't given any opportunity to respond to the matter, and the journal entries are non-constructive as they simply breed resentment on both sides. This is simply making an excuse to avoid an awkward encounter.

I'm sure as you can tell I have strong feelings about how people use and misuse these very useful digital tools. E-mail and live journals can both go a long way towards simplifying and improving one's communication patterns, but if one's not careful, they can easily lead to unpleasant circumstances. So before you turn back to your keyboard to fire off another e-mail or live journal post, ask yourself if you'd not be better served by picking up the phone.

Questions? Comments?

We welcome letters and feedback from all our readers. Please email us at:

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the IRON WARRIOR

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Letters

Lack of Tact

To the Editor:

It's a sad day when Canadians mock Remembrance Day. I am writing in reference to your last edition's "Iron Inquisition". This item, which is usually pretty funny, not only mocked, but entirely disrespected the thousands of Canadians who fought and died serving our country. The inquisition: "How do you commemorate Remembrance Day?" was met with answers such as "Write stupid articles about it", and "Try to remember to stay silent at 11." My question is this: what was the Iron Warrior trying to achieve by publishing this feature? For it is surely a poor attempt at humour. I'm disappointed that the Iron Warrior takes such things lightly, and I hope in future it will have more tact when choosing a question.

Grant Holohan
3B Mechanical

The purpose of the Iron Inquisition is not simply to add humour to the Iron Warrior, it is also included to illustrate the variety of responses one would find within the halls of engineering.

I believe that by showing a variety of answers as we did in the last issue, we've represented the views of people - which, I agree, is an unfortunate reality. The intention of the Iron Inquisition in the previous issue was not to ridicule an occasion of rememberance, but rather to depict the reactions of students in our faculty.

I would also like to draw your attention to the article on page 9 of last issue, titled "Remebrance Day in Engineering: We Mourn For Life" - an article that may more accurately represent your views on Remembrance Day.

Regards,
Joseph Fung, Editor in Chief

Notable Exceptions

There were some unfortunate notable exceptions to Ms. McCullough's list of CSE that people should consider.

#1 is STV203 - Biotechnology and Society. Very interesting and relevant topics, but most importantly you get marks for having arguments. Good for those engineers who (like myself) can have an opinion and defend it.

#2 is SMF204 - Introduction to Human Sexuality. If there's any ONE course that every singe Engineer should take, it's this one. Mostly because if there's one thing that every single engineer can use more of, and information on, it's sex.

Michael Goldsmith

Corrections

In the November 14th issue of the Iron Warrior, the following corrections should be noted: On page 9, "Remembrance Day In Engineering: We Mourn For Life": Laura Wallace is a University of Waterloo student. Additionally, the last sentence of the second last paragraph should read "Thanks should to Rahul Bhardwaj and Phoebe Su for organizing a beautiful event." On page 11, "Bioengineering In Waterloo": Naoreen Hasan should be listed as being in 2B Chemical.

Waterloo Co-Op Students Are Overpaid

Dear Editor,

Little more than a year has past since I was awarded my degree from UW's esteemed Faculty of Engineering, and I will be forever proud of my alma mater. This pride is substantiated by the fact that UW, by reputation, is ranked as the crème de la crème year in and year out I fear, however, that UW's hold on that reputation becomes increasingly tenuous as we speak.

I was scouting a career fair recently and happened upon a booth occupied by one of my former co-op employers. Striking up a conversation with the company representative, I inquired about the fortunes of former co-workers what's-his-face and Joe-somebody. When the subject turned to the hiring of UW co-op students, however, the tone turned suddenly sour. It seems that this company no longer patronises Waterloo when seeking student employees. The reason? It's not worth the attitude that comes with a UW student. They would much rather hire somebody from a so-called less reputable institution who is perhaps less qualified, but who is also perhaps a bit more desperate, a bit more enthusiastic, and who possesses a much better attitude.

I concurred (perhaps as a matter of tact). For one, it was and still is my belief that UW co-op students are overpaid. I noticed this trend in my latter years as a co-op student, and would even go so far as to say that the students are becoming greedy -- witness the countless number of

"If you alienate everyone with that chip on your shoulder, your skills aren't worth a cent..."

times your peers will let salary dictate their co-op selection process. When I made my first foray into the co-op game, I was paid $11 hourly, which I considered excellent money. I have no doubt in my mind, however, that even the frosh reading this paper are having a hearty chuckle over this "paltry" sum. Yet in many cases, you are really just four months removed from high school during that first co-op placement. With such minimal qualifications, how could one ever have the gall to turn down $15/hour and a very worthwhile experience in search of more money? I understand fully the burdens of tuition in recent times, but contrary to what you might think, alleviating financial hardship is not, and should never be the legacy of the co-op program.

Being perennially regarded as one of the country's top institutions, I suppose it does not come as a surprise that the students have developed a certain swagger. With it comes the delusion that they have earned a certain status simply by virtue of being a UW engineering student. It may well still hold true that UW students are the best qualified, but that doesn't count for everything. If you alienate everyone with that chip on your shoulder, your skills aren't worth a cent, and at least one of my former employers has taken note of this. A little bit of humility never hurt anyone. It is with unfortunate irony that the students are becoming spoiled by the University of Waterloo's (once) proud reputation. Having a big head is nothing to be proud of.

Sincerely,

Raymond Ho
Class of 2002

Proposed Changes Unfair and Destructive

Dear Dean Kerton,

I read the article in today's Daily Bulletin about the discussion at Senate on requiring a minimum average of 75%, perhaps to be raised to 80% for all incoming students at UW. While I think that it is reasonable to require a high level of academic achievement from our applicants, an across-the-board average does this in an unfair and destructive manner. Simply, it is far easier to earn a very high mark in high school maths and sciences than it is in languages, social sciences or humanities. In subjects like mathematics and science where there are perfect answers, earning a perfect score is much easier than in subjects where there is always room for improvement.

As a result, students applying to our programs with high school courses largely from the maths and sciences will have higher (possibly much higher) averages than students of equal talent applying with languages, social sciences and humanities. This is clearly unfair to students entering programs in our faculty of Arts, among others.

Beyond questions of fairness, the proposed policy would also be destructive because it will prevent talented students from entering those of our programs with requirements in languages, social sciences and humanities, harming those programs in the process.

I hope that whatever averages policy the Senate decides to adopt takes account of the courses with which students are applying, and does not unfairly penalize students in certain areas, thereby destroying the quality and quantity of students entering those programs.

Yours in concern,
Yaacov Iland, B.Math '01

High Marks Do Not Mean High Quality

Dear UW Senate Consult,

With respect to the question raised by Jesse Helmer, I do not believe that raising the minimum entrance average would have the desired effect - that is, a higher quality student body.

Entrance decisions in the Faculty of Engineering take into account more things than GPA when considering admissions meaning that there is no strict cut-off. There is appropriate recognition of extra-curricular activities, interests, and the institution attended, based on the past performance of students from that institution in the faculty, that make the cut-off quite varied. A student at 84% with broad interests and experiences, for example, may be eminently more capable of undertaking the stresses of the program and succeeding in a well-rounded way than a student who exclusively aimed for academic excellence and received an 87% in high school. I would anticipate the same could be said when comparing students receiving 74% and 77% respectively. The three percent spread in this example is, of course, quite arbitrary as the range can be quite significant in terms of admissions decisions in Engineering.

Yaacov makes an important point as well with respect to the nature of the courses that make-up an applicants average. For a student applying with English and then maths and sciences into, say, a political science or history degree to have a better chance than a student applying with English and a series of humanities courses of making it pass the 75% barrier and into the program should be an unwanted result.

Further to the other questions posed by

"Getting high marks is not the end of the story, it's just the beginning. What you do beyond your marks is what defines you..."

Chakma, according to Ryan Chen-Wing on uwstudent.org, the question of how to tell which student is of "high quality" needs to be determined before one considers whether high-quality students are indeed enrolled in various programs. To measure students solely by high school GPA is selling many students short as experience not reflected in GPA is perhaps of equal importance.

In an interview with outgoing Dean of Engineering, Sujeet Chaudhuri, we asked him about the extra-curricular involvement of engineering students. He responded by saying: "I have always felt that studying and extra-curricular activities go hand-in-hand. They actually feed off each other. As you know I've tried to enhance that culture and encourage students to do all sorts of extra-curricular activities. This is very, very important to me. Getting high marks is not the end of the story, it's just the beginning. What you do beyond your marks is what defines you as different from others." I firmly believe that this is the correct philosophy to take when evaluating the quality of the students we have here, and it would also be a serious mistake to not view applicants in the same light.

On the surface, redesigning curriculum in "unattractive" programs sounds like an obvious and necessary thing to do, but how one determines what constitutes an unattractive program without "high quality students" needs to be defined before assigning a mandate to reinvent them. And if you are reducing enrollment in programs with "low student demand," does that not mean you end up with such a low enrollment total that you may as well cancel the

Continued on page 7. See "Early Admissions Worth Study"

In Engineering

Modest Hero Among Us : An Interview with Don Fraser

Kiran Dhaliwal
2B Electrical

If you've ever taken a 1A course in the WEEF lab, you've probably seen an eccentric but one of a kind "Senior Demonstrator," Don Fraser. Not only does Don manage the WEEF TAs and assist in lecturing first year engineering students along with June Lowe, but he also provides his counsel, energy and time to many less fortunate children around the world. Don is currently sponsoring seven children through World Vision, and had sponsored over 30 children since he started doing so nearly 20 years ago. He has also spent time working with Mother Theresa's Sisters in countries such as India, Haiti and Jamaica. In fact he has gone to Haiti eight times alone during his Christmas holidays to help the needy in this country that happens to be the poorest in Central America. Few UW Engineering students know about this philanthropic side of Don Fraser, which is why I decided to present it to Iron Warrior readers during this season of goodwill and friendly tidings.

> ***"Co-op represents the world which you want to control. It is a manifestation of present civilization's rules and values..."***

KD: What made you decide to get so involved with helping others in less privileged countries?

DF: I was always quite religious and one day I decided that I wanted to meet a religious person who really followed what they preached. I came across a book by Malcolm Muggeridge that talked about Mother Teresa and her work and it inspired me to go meet her and see the work she was doing. A few weeks later, I was on a flight to India and ended up in Calcutta working in a "home of the dying" soon after. People often go on a pilgrimage in their life to seek meaning and answers to their questions. I guess going to Calcutta for the first time was mine.

KD: Could you talk a bit about your time in Calcutta?

DF: Well, I love India, but I must admit that when I initially arrived in Calcutta I was shocked by what I was seeing for the first time. As a Westerner who has all my needs satisfied I had never really seen anything but wealthy European cities. I ended up staying in Calcutta for about four weeks and in that time I spent every morning at the "home of the dying" that Mother Teresa ran for very ill people who had nowhere else to turn to. I would do tasks such as shave the men, feed patients, give them medicine and do whatever else the Sisters asked me to do. I remember that at noon everyday the Sisters would also give food to the poor people who would be waiting outside, but since they wouldn't have any dishes they used large palm leaves to collect the food. It was a humbling sight. At the time I was working alongside an Indian man who was a civil engineer, and an East German man who was actually an atheist. The great thing about Mother Teresa and the Sisters was that anyone of any background or faith could volunteer without restriction.

I was staying at a nearby YMCA during the four weeks and helped out the staff there a little as well. In the afternoons I worked with orphans at the orphanage run by Mother Teresa and her Sisters. The majority of orphans there were girls because the nuns were always taking in babies that were intended to be aborted or had been abandoned by a culture that values boys over girls. The nuns were fulfilling their role in looking after the orphans, but they didn't have time to actually play with the children since there were so few guardians at such a large orphanage. So volunteers like me would spend hours just playing games and talking with the orphans who so badly needed the attention. In fact many of them would cling to me and screech when I had to leave at the end of the day since it was so rare a treat for them to have that much attention. One time I brought in eight of these large coloured balls for the kids to play with and it was complete bedlam in the orphanage! Balls were flying everywhere and the nuns and the children were equally getting a kick out of playing with them. It was a lot of fun and that's one of my fondest memories of my time in Calcutta.

KD: Could you describe Mother Teresa a little in your own words and how it felt to meet her?

DF: Mother Teresa and her Sisters take in the poorest, sickest people who are put on the street and nobody else takes in. The Sisters don't easily accept money but they gladly welcome anyone who wishes to volunteer with them. I met Mother Teresa herself for 5 minutes during my first visit to Calcutta. When I was talking to her I could feel the presence of God with her. You couldn't prove it, but you just knew that she was somehow connected with God in the way she spoke and in what she said. I met her again in Toronto when she was preaching at a church shortly after the Air India disaster. This was 6 months from my first meeting with her but she surprisingly remembered me from that brief initial meeting. I was thrilled but it was almost frightening that someone so wonderful who meets so many people, had remembered me.

Don Fraser, shown here with one of his first-year students, is always willing to help.

KD: Could you describe your involvement with World Vision?

Continued on page 5. See "Sponsoring Children Through World Vision"

The POETS Shield: An Interview with Douglas Sakamoto

Jay Liu
3B Computer

You may have noticed the large wooden shield by POETS, but have never been clear of its history and why it is there. For that, I interviewed Doug Sakamoto, who is currently in Calgary. He was part of the 1990 Systems Design class that was responsible for making the shield. Here are his responses:

JL: Please introduce yourself.

DS: I am Doug Sakamoto, Systems Design class of 1990. I was the POETS manager in the fall of 1989.

JL: Who were involved in the POETS shield project?

DS: There were at least a dozen people who worked on the sign in different ways. I did the original transcription onto the wood, and laid out how the profiles should go. Peter Kuttenkeuler (SyDe '90) was the carpenter in the group. He picked out the wood, laminated it all together, and routed out the bulk of the material. He brought in chisels, and showed us how not to cut our fingers off! Then it was put in the study room, and everyone was welcome to work on it. When it was done, everyone signed it on the back.

JL: Why was this shield constructed?

DS: It's hard to remember who came up with the original idea. Like all great ideas, this involved the consumption of a lot of beer. As the POETS Managers that fall, we were looking for ways to improve POETS. Over the past few years a new bar had gone in, more stools, and chairs, and the big screen. A shield identifying this place as POETS seemed to be needed.

JL: Please describe how the shield went from design to completion

DS: The design was a group effort. Ideas were generated, and I would sketch them up, and we would decide if we liked them or not.

The idea was probably conceived in the fall of 1989, but did not actually begin to be realized until the winter of 1990 - our 4B term. Design was not that long, and was done on a MAC. The boar's heads were chosen to be symbolic of Brick Brewery. It was hard in those days to find a template, since clip art didn't really exist back then. The Engineering logo was brought in to the bottom, and Elena Canzona (SyDe '90) created the stylized italics. Everything was put on to a 6x6 grid, then photocopied onto transparency. A grid was then drawn on the 6x6 foot blank, and an overhead projector was used to transfer the design. It took a couple of months to be completed (we did have to keep going to class), but was not varnished until after we graduated. Some of the folks who worked on it, may never even have seen it hanging above the door.

Doug Sakamoto (left), Graham Carty (right), and Jamie McPherson (kneeling) in front of the unmounted sheild. All are SyDe '90 grads.

JL: How long did it take to make it?

DS: Most of the term.

JL: What type of wood is used?

DS: The shield is made of clear pine. Pete spent a lot of time mulling over boards at the lumber yard to find just the right ones. The head needed to be straight, and clear of knots. He then laminated them together into a 6x6 foot blank, and braced it on the back. I remember being puzzled by the oval shaped holes he drilled for the braces, which he explained were to allow for shrinkage end expansion. If the integrity of the sign is still good, it's thanks to Pete.

JL: What do you think this shield should mean to current UW engineering students?

DS: It should remind them that the space below the shield is theirs. It's theirs to use, to enjoy, and to improve upon.

JL: Is there anything you would like to add?

DS: This is not related to the shield, but rather to POETS. When I went through, I was told POETS stood for "Piss On Everything, Tomorrow's Saturday". I read a detective novel this summer by Ian Rankin, set in Scotland. When the detectives cut loose on Friday, the expression they used was "Piss Off Early, Tomorrow's Saturday". That said, if there is anything that POETS should teach the current UW engineering students, it is that there is much more to engineering and life than just studies. Sometimes, you have to cut out early, because tomorrow's Saturday.

Sponsoring Children Through World Vision

...continued from Page 4.

DF: I started getting involved with sponsoring children through World Vision in the early to mid-eighties, around the time I went on my first mission to Calcutta. I always have seven children I sponsor at a time and never stop sponsoring one until my money is no longer needed by them. What I like about World Vision is that they focus on an entire village at a time and use the sponsorship money to feed, teach and clothe the child until the point when they can support themselves or be supported by the community. This organization also helps get the rest of the village get on its feet by helping build homes, planting seeds and providing sources of clean water. I'd love to visit the children I sponsor if I could.

KD: What was one of the most touching experiences of your volunteer work in these under-privileged countries?

DF: One day when I was giving food to the patients in the "home for the dying" in Calcutta, I came across a man who would not eat despite all my efforts to coax him. He was a very frail, skeletal-looking man who needed nourishment badly, so I couldn't understand why he was refusing to eat the food I brought him. A nurse came by and told me that the man didn't want to eat unless I had some food too. I was very moved by his words because it really showed that the poor share everything while we in North America horde everything. Mother Teresa put it best when she said "I pity the rich since they're never freed from their materialism."

KD: Finally, Don, what do you plan to do in the future?

DF: If all goes well financially I plan to retire in 4 years. My plan is to cycle around the world and help others as I go. I've never heard of anyone else going on such a journey so I think it would be a great experience. I'd like to start in Australia and stay there for about two years after which I'll hit a new country. Who knows what I'll be up to during my journey? I might help build things, dig wells, teach etc. I plan to combine travelling with volunteering for as long as I can.

If you want to learn more about Don's missions or about the work that Mother Teresa's Sisters or World Vision do, you can find Don in the WEEF lab during most days of the week or in his office at E2 1318C. Be sure to give the modest hero the kudos he deserves.

Gradcomm 2004 Calendar: Women in Engineering

Eric Duiker
Gradcomm 2004 Fundraising

Who would have though that a smart-ass comment by yours truly at one of the EngSoc meetings would have turned into this? Well, its happening – The Women in Engineering 2004 Calendar, and its drawing a lot of attention.

As it stands now, all of the U of W Motorsports Teams have committed to allowing the use of their team vehicles as a backdrop for the monthly photos. These teams include FSAE, UWAFT, WARG, Mini Baja, Midnight Sun and Clean Snowmobile. To finish it off, the TOOL will be appearing in a photo for the month dedicated to graduate students, and the remainder of the calendar will be displaying some hard working ladies in fine fashion at their coop jobs and in front of various Engineering landmarks.

"All pictures will be tastefully arranged, and you will not be required to wear or do anything that you're not comfortable with."

Since I started recruiting for models early last week, I have received emails of support from the Office of Recruitment and Admissions for UW Engineering and from board members of Women in Engineering. Despite the initial intention to merely be a fundraiser for Gradcomm 2004, the calendar will also be used as a recruitment tool for encouraging female high school students to consider post secondary studies in Engineering.

So this is where all the women in Engineering come in – WE NEED MORE MODELS. All pictures will be tastefully arranged, and you will not be required to wear or do anything that you're not comfortable with. All pictures will be taken with groups of girls, so feel free to recruit some of your friends and sign up together. You'll not only be doing your part for Gradcomm 2004, but you'll also be helping to ensure that Engineering at UW is as inviting to the younger generation of females as its ever been. Email me at esduiker@engmail.uwaterloo.ca if you're interested in appearing in the calendar or if you have any questions.

Making Sense of Professional Engineering

Jeff Henry
President, ESSCO

For one reason or another, most students reading this publication chose engineering as their post-secondary degree of choice. Whether that was due to a particular program having a good reputation and a high entering average, a proficiency in math and science, or an actual passion for engineering, many engineering students will continue down this path they chose to become professional engineers. However, a sizeable number of future engineers know not the first thing about how to become licensed, how to get legitimate experience, or what organizations are involved.

According to the PEO – that would be Professional Engineers Ontario – their primary concern since the year 2000 is that students simply cannot tell the difference between the PEO and OSPE – the Ontario Society of Professional Engineers. That concern is, of course, in addition to their traditional concern of making sure engineering students are educated about how to become licensed and ethical professional engineers.

Consider the following to be a brief synopsis of the nature of the two organizations and why they should be important to you as an engineering student.

In the Beginning

Founded way back before anyone sat in front of a computer all day, the PEO was created by act of provincial legislature, the Professional Engineers Act. Their mandate was and is the protection of the public by ensuring those who practice professional engineering are accountable and knowledgeable.

The practice of professional engineering is defined in Section 1 of the act and comprises three tests. Professional engineering is: any act of designing, composing, evaluating, advising, reporting, directing or supervising; wherein the safeguarding of life, health, property or the public welfare is concerned, and; that requires the application of engineering principles, but does not include practising as a natural scientist. Meeting each of those three tests implies an exclusive right to practice for professional engineers and in order to practice one must be licensed by the PEO. Those who call themselves professional engineers, use the designation "P. Eng," or present themselves in a manner that they can be perceived as professional engineers are guilty of contravening the act and can be prosecuted.

Getting Students Involved

Embarking on such projects as outreach to encourage young people to walk the path to become professional engineers, PEO sought to give students the informa-

Continued on page 13. See "Pushing for a Student Membership Program"

EngSoc

Engineering Society Executive Reports

The Presidents' Awards

Josh Levitz

President

This is it ladies and gentlemen. Somehow the school term passed by us and exams are upon us already. Its been a great term and I wish everybody the best of luck on exams.

I want to start by saying thank you to everyone who helped out this term, as we couldn't have done it without you. Everything ran smoothly thanks to the hard work you put in so give yourselves a pat on the back.

There's a couple things I need to let you all know in this final article of the term. First of all, for those who haven't heard, photocopier fees will be raised to 10 cents per copy beginning this A-Soc term. There are two main reasons for this. The first and more important is that simply, we need money. We realized that if we increased the engsoc fees by 2 or 3 percent, we would not cover the deficit we are currently running. By bumping up the photocopier fees to 10 cents, (graphics services will only allow increases in 5 cent increments), we will cover the deficit and make some extra money which will be spent on you, the students. We are currently losing approximately $3000 a term on photocopiers after paper and the fee we have to pay graphics services. Hopefully the extra money from the increase can go to services which will benefit the society as a whole. The fact of the matter is if we don't do this now, it will have to be done at some point soon, as its only a matter of time before graphics increases prices again, and we just cannot sustain the loss. So having said that, the second reason, which is more of a beneficial consequence of raising photocopier costs, is less line-ups.

Depending on what happens, we are looking into getting a third photocopier but we will assess the need for it after we see what happens. I know this is a burden for people but be assured that we would not do this unless absolutely necessary. Please let me know of any questions or concerns you have.

On a completely different note, I would like to congratulate the winners of the President's awards this term, which recognize individuals which have shown outstanding dedication and contribution to the engineering society.

"There were so many more I wanted to give this award to but as always it's a difficult decision and I have to narrow it down. Congratulations to everyone that won..."

Nine winners were chosen this year and they are: Terry Moore (novelties, POETS programmer), Jenn Bell (Novelties), Rahul Bhardwaj (Remembrance Day, Frosh Mentoring), Phoebe Su (Remembrance Day, Competition and student groups), Evan Murphy (Santa Clause Parade), Evan Thor (Santa Clause Parade), Sarah Siega (SUBS, semi-formal, special events, task team), Matt Woolsey (Drama director), and Lisa Rehak (Drama assistant director). There were so many more I wanted to give this award to but as always it's a difficult decision and I have to narrow it down. Congratulations to everyone who won, and just to all our directors who worked so hard this term.

And that's all folks. I wish everyone the best of luck in the new year on their co-op jobs. To the fourth years graduating, we'll miss you on stream with us, and I wish you the best in your future endeavours; be sure to stay in touch. And on that note, I'll finish my article, and start learning school courses. Take care.

Josh Levitz
bsoc_prez@engmail

One Of The Busiest Weeks

Matt Strickland

Vice President, Internal

I'd like to open this final exec report by debunking two nasty rumours I've heard flying around the halls of the engineering buildings. Word has it—and I have no idea how these untrue statements could have spawned into existence—that one Jeff Alfonsi beat me in both the EngHead competition and the Rock-Paper-Scissor Tournament. To set the record straight, Jeff, my head IS definitely more voluminous that your little peanut and my RPS game is light-years ahead of yours. Well, with that off my chest, let's see what sort of things EngSoc's been up to lately.

Last week was one of the busiest streaks of the term. It began with the Engineering Society's Wheelchair Basketball Tournament on Sunday. The sporting event saw three teams experiencing basketball from a different perspective and raising over $100 for the Ontario Wheelchair Basketball Association. In the end, La Resistance (2B Elec) came out as the top dogs. Arts Week kicked off on Monday and ran all the way through to Friday, providing lunch hour entertainment such as finger painting, window painting, lip synching, duct tape sculptures, and an ongoing art contest. Much talent was displayed in the halls of CPH. The week closed with one of the flagship events of the term, the Rock-Paper-Scissor Tournament, which was well attended. Thanks to directors Jen Carroll and Mel Roskell for putting the week's worth of events together.

TalEng, which took place at Louie's last Wednesday night, was also a huge success and helped to showcase the enormous amount of non-math-related ability in UW Engineering. The engineering talent show was over four hours of bands, poets, stand-up comics, and random monkeyshine. Finally, all of the rehearsals and practices came to a close for the cast of WASPS (which does indeed stand for White Anglo Saxon ProtestantS—so what?) who performed four times this past week. The play went over extremely well and saw several sold-out shows. Congratulations to the directors, actors, stage crew, and volunteers who managed to pull off such great performances.

So what's left in the semester? Tonight's End of Term pub makes it perhaps the single most important night of the term. Not only is it the best way to celebrate the conclusion of a good term (give or take those things next week…exams?), but EOT will also see the unveiling of the P**5 results and the TOOL's last appearance of 2003. That's right, the TOOL will not be seen again until 2004! In closing, I'd like to thank all the directors for doing such an incredible job this term. Without these awesome people taking responsibility for various aspects of EngSoc and trying to improve on what others have done, our Engineering Society would be pathetic. Also, huge thanks to everyone who participated in or supported engineering events this term—we hope to see you out even more in Summer '04. Alright, good luck! Hope the second half of December makes up for the first!

ENGINEERING SOCIETY

*This term, over 2400 P**5 points were awarded for volunteering at the C&D. Email mbland@engmail.uwaterloo.ca to schedule your shift.*

Much Debate Regarding Proposed Upgrades to Co-Op

Emma Bardon

Vice President, Education

It's certainly been a busy term for academic-type issues. HTML resume sessions are in the process of being booked as I write this, and will have been finished by the time you read this. If you didn't make it out to one, but would like to know what to do, instructions are online at www.engsoc.uwaterloo.ca. Sessions will be run again at the beginning of May, between the beginning of classes and the first posting.

There has been much debate in the last couple of weeks regarding some proposed upgrades to co-op. Last issue, there were a couple of articles regarding a new series of courses to be taken on work terms, designed by the faculty of Engineering to develop professional skills not addressed by the current program. Senate Undergraduate Council passed a motion to accept an initiative to upgrade co-op in a variety of ways, which could include upgrading Co-op 101, upgrading standards to work term reports, technical presentations on work term reports or adding course components. While the council did pass this, many concerns were raised by both student and faculty representatives. This in turn has led the Provost to hold off on passing the initiatives until further work is developed and approved by the normal channels (departments and faculties, before reaching Senate Undergraduate Council). It should be noted though, that several faculties (including Engineering) had already been working on initiatives to increase the value of co-op, which may pass independently of the general proposal.

On the Senate front, several things of interest were discussed at the most recent meeting. The new provincial government has committed to freezing tuition fees for a period of two years. Concerns have arisen over this promise following a meeting between university administrators and the new Minister of Training, Colleges and Universities, Mary Anne Chambers. The major concern is that the "full funding" that was promised will be based on the 2% increase of regulated programs, not the 15% that tuition fees would increase otherwise for deregulated programs. That drop in funding would make a major dent, and the university feels that that loss of funding would severely impact the quality of education received at this school, which many non-students feel to be more important than financial accessibility. The other issue causing significant debate was a discussion regarding entrance averages of students at UW. For a description of the discussion, check out the November 19th Daily Bulletin. If you have any thoughts on the issue, let me know and I'll bring them up at the next meeting, as the issue will be reviewed and discussed further then.

There are a couple of projects I'll be working on over the upcoming work term. Along the lines of quality, there are many students here who do not believe that they are receiving the "high level of quality" that we are paying for. In order to investigate this further, I am developing a survey to investigate how students really feel about their education here. Along the lines of accessibility, I will be working with FEDS and OUSA (a provincial student lobby group) on a study concerning the change in financial background of students in general at universities in Ontario compared to UW. As this is an update of a study done several years ago, it will also compare the change in demographics as tuition has increased. I'll also be looking further into getting course critiques online.

So, with all that said and done, best of luck to everyone on finals, enjoy the break between terms, and I'll see you in May!

EngSoc

A Preview of Upcoming Conferences

Jeff Alfonsi

Vice President, External

Conferences, conferences, conferences, everywhere someone is hosting a conference! This edition of VPX's Corner is dedicated to advertising some of the enthralling conferences that the new year has in store.

CUTC, Canadian Undergrad Technology Conference, is the largest student run conference in Canada, and it was started at UW! It will be hosted in Toronto this year, and will feature such keynotes as Frank Clegg, President of Microsoft Canada, and Glenn Edens, VP of Sun Research. The dean is paying $30 of the $114 delegate fee for every UW engineering student who registers, and your home department may supply additional funds above this, so check with them. The conference runs from January 22 – 24, and complete details are at www.cutc.ca.

FYIC, First Year Integrated Conference, is an annual ESSCO (Engineering Student Societies' Council of Ontario) conference for first year engineering students across Ontario. It introduces first year engineers to the structure of Ontario Engineering Student Societies and gives them a glimpse of the unity that Undergraduate and Professional Engineers share. The conference runs from January 23 to 25. Engsoc will be sponsoring a bunch of first year delegates, so with the exception of the 1A comps who have all applied already, the December 1st deadline is fast approaching. See the Engsoc homepage for details and online applications.

CIRQUE+ 2004, Conference on Industry and Resources Queen's University Engineering, is a conference that focuses on opportunities in industry and resources for university engineers. A plethora of motivating and inspiring speakers from a variety of different backgrounds will be discussing their experiences and insights about where their degree has led them. For instance, engineers who specialize in consulting, politics, research and design, entrepreneurial work, banking, medicine, law and teaching will be gloating about their exciting lives. The conference will be held on Saturday January 24th (24th is a popular conference day….some wish to make it national conference day) and Sunday January 25th, 2004 in Kingston Ontario. For more information, our website is available at: www.engsoc.queensu.ca/cirque/.

QFIT, Queen's Forum on Information Technology, is an innovative conference exclusive to Queen's University. (I think they are attempting to be like Waterloo's CUTC). QFIT aims to educate people about information technology, its different industries and how it affects the future of business. The conference strives to encompass a broad range of sectors and topics in order to appeal to the wide variety of students who attend from Queen's as well as from numerous other universities across Ontario. This conference takes place on Thursday, January 30 and Friday, January 31, 2003 in Kingston. Check out http://comsoc.queensu.ca/qfit/2003 for details.

EWB, Engineers without Boarders, annual conference is being hosted at the University of Toronto from February 4th to 8th. The theme for this year's conference is the UN's goals for development in the new millennium and on how EWB can contribute to making some of these goals a reality. By focusing on, and raising awareness about, these widely accepted goals for human development we hope to create a deep awareness of the goals themselves. The website explains the conference much more explicitly and includes an online registration form (http://conference2004.ewb.ca).

PEDCW*, Physics and Engineering Day at Canada's Wonderland, is hosted by ESSCO in early May. Usually students from all Ontario universities are selected to help high school students with phun, phat, physics problems. This means that you could get free admission to the park. Keep your eye open for applications at http://www.essco.ca.

*Note not the official acronym; I just used it to be a conformist and maintain consistency in the article…kinda like the ridiculous and meticulous guidelines for an EC&C work report.

Increase In Copier Fees

Grant Holohan

Vice President, Finance

Hello there. This is my last spiel of the term. I can't believe exams already start next week… but that's another story. First, a note to directors: if you need to be reimbursed, please have your expense statements completed by December 1st. Otherwise, I won't be writing cheques until after exams finish.

In other news, the price of photocopying in the orifice will be increasing beginning in January. The price per copy will go up to 10 cents. EngSoc has been losing money while providing photocopies at 5 cents for the past year. Unfortunately, increasing the fee to anything less than 10 cents was not an option due to technical limitations.

An upside to this increase is that EngSoc can now afford to provide a third photocopier to try to cut down on line-ups. This option is currently being investigated and if this is possible, the third copier will likely be installed during A-Soc's winter term.

That's it for me.
See you in the new year.

La Resistance Rolls to Victory for the Second Time

Ryan Emmett
Athletics Director

Last Sunday, the Engineers had their term Wheelchair Basketball Competition which raises money for the Ontario Wheelchair Sports Association and gets students out for a great time. This always turns out to be an exciting event, and how could it not, it's basketball in wheelchairs! After a game of this, you'll never want to walk anywhere again! They can turn a normal basketball game into a court full of bumper carts, flailing fists, and cherry pickers galore!

Class participation was low overall with only 3 teams, we're hoping for a stronger turn-out next term. But the 2B Electrical class La Resistance made up for it with 2 teams, and some great first years of Eby Hall(even a couple were engineers!) got a team together as well.

The event included a competitive match of La Resistance vs Eby Hall, and an entertaining match of mixed teams for fun. In the end, the champions were La Resistance in a close match of 22-20. Highlights of the games included an 8 wheelchair destruction derby in the key, a record of 5 rebounds shot before scoring, and a thunderous 11 wheelchair race across the basketball court at breakneck speed with a close finish.

In the end, the event went great and thanks to generous contributions from these participants we raised a good $100 to go towards the Ontario Wheelchair Sports Association.

I thank everyone for making it out and feel sorry that other classes missed out on all the fun. Class teams better get practicing now for next term because La Resistance is the reigning B-Soc champ two terms in a row!

Matt Strickland leading LaResistance to victory for the second time.

Early Admissions Worth Study

...continued from Page 3.

program? I know there was low demand in the environmental engineering civil and/or chemical programs, so now there's only an environmental engineering one - that makes sense as a high number of students in the originals were redirects, but unless such a reduction or elimination also makes sense, and doesn't close the door on course options for students, then it seems unnecessary.

Early admissions are probably worth some study as we should assess what change we would see if we were to implement such a practice. If we obtain students we want and should obtain by offering admissions early like the other universities then it may be worth looking into. If a student is missing a course that is a prerequisite for a program - a subject with no obvious history on performance prior to the graduating year - there can be no real guarantee of performance in that area and so the current practice makes sense. We do, of course, lack history on initial acceptance rates and retention of those who accept through the process preceding fall enrollment so it would be difficult for those dolling out acceptances to get the right numbers the first few years - given the difficulty this year and the curriculum change still making its effect heard in secondary education, introducing more uncertainty may not be the best course of action.

The other comment that I have heard is that if you up the admissions average minimum you merely get fewer students - even if that is not universally the case, I believe we should expect some decrease in enrollment in some areas. Notwithstanding a tuition freeze, part of the ability of the university to cope at 2% in tuition increases for regulated programs and 15% in deregulated programs is the increasing number of students. A stagnant or decreased enrollment total would exacerbate the tuition increase problem. In the face of a tuition freeze that will likely not fully fund deregulated programs (that is, it would fund 2% but where would the other 13% come from that they couldn't raise), even more exacerbation of the revenue problem is likely.

Anyways, those are probably enough thoughts for one evening.

Thanks,

Jeff Henry,
2004 Computer Engineering

Features

POINT VS. COUNTERPOINT

Should we be given academic credit for co-op?

John Olaveson

2A Civil

The Co-operative Education program of the University of Waterloo is the envy of many other Ontario schools. Many of those others are trying to emulate our program to stay competitive with Waterloo and with each other. The Co-operative Education program has definite academic merit; why else would so many schools be trying to copy it?

Students, employers, and even the government feel that the Co-op program is beneficial to students in an academic capacity. Why else would students make this school their first choice? Why else would employers select upper-year students who very possibly will return after graduation as full-time employees? Why else would the government provide the University of Waterloo with funding for Co-op if it did not provide any academic merit?

"Co-op represents the world which you want to control. It is a manifestation of present civilization's rules and values..."

I posed questions concerning this matter to three people in vastly different positions within the Co-op system; two students on work terms collectively replied and the other person is an employee of Co-operative Education and Career Services (you know, the people who bring in all the employers and match us all to a job). All responded with similar ideas to my questions but both groups had unique observations.

The students I questioned are Christina Harvey and Ken Cheney, both of whom are currently on a work term in St. Thomas. The pair feel that the Co-operative Education program gives students many ways to learn that are not available in a classroom setting. Co-op lets students explore the job possibilities along their chosen career path, to "find out what you will be doing in the future, if you like that career or not." Co-op provides practical experience for the field of study the student has engaged in; it's not just a bunch of math on a blackboard like in the classroom.

The pair continued to discuss several more of the academic benefits that they find in the Co-op system. Students on Co-op have a chance to develop "professional people skills," skills that are not used in the classroom or in social situations but in a workplace setting. In this way the student continues to learn even though classes are over for the next four months.

Christina and Ken felt strongly that the development of the lifestyle of a working person positively influenced a student's academic career. Once work finishes for the day, the student is free to pursue personal interests, which can include community involvement or the continuation of personal projects. This time also serves to relieve the stresses placed on students during the school term. There are no project deadlines, no midterms or exams to study for. Without this recharge time, students would have no relief from the constant demands of a school term.

The final benefit the two working students found was the financial benefits of the Co-op program. This may not directly seem like an academic benefit, but students can be affected by financial concerns. These concerns can translate into lost marks on assignments and exams. By alleviating the financial concerns of students, those students are more fully able to concentrate on the work and succeed as a student.

I met with Olaf Naese, responsible for Communications and Marketing in the CECS department, and presented questions to him concerning the academic merits of the Co-op program.

Olaf believes that the Co-operative Education system allows students to supplement their classroom learning in a practical setting. There exists in the Co-op experience enough such learning to justify issuing a credit to all students who, in the eyes of the employer, adequately complete a work term. This learning can be gained through Co-op jobs, as opposed to jobs the student finds for him/herself, because Co-op guarantees that each job relates to the student's field of study.

Work terms count for academic credit because of what the University calls "transfer of knowledge." A student entering a work term will bring to any new job all of the accumulated learning he/she has from classroom exposure and from past Co-op jobs. This knowledge may allow a student to introduce new methods of execution to old processes or introduce revolutionary (to the employer and perhaps beyond) new processes. In exchange, the student will learn and return to school with a range of new knowledge that can be integrated with future classroom studies and work terms.

Olaf continued to discuss the view the government takes on Co-op students in Ontario. "The government itself views Co-op students as 'different' from non-Co-op students in that there are no benefits in the labour laws for Co-op students. Your employer could tell you that they're not paying you additional money for overtime. They don't have to pay you holiday pay. There's no vacation pay legislated for students who are Co-op students on a work term. There is no mandate about how many hours you're allowed to or not allowed to work for an employer…. The reason why that is is because the government views a Co-op work term as an extension of your education. It is in fact part of your degree. So it is an educational component, so therefore if you're learning on a work term, why wouldn't you get academic credit for it? Just because a professor's not teaching you that information, in fact you are learning it in a different way."

The government proves that comple-

Continued on page 9. See "Co-op to Enhance Quality".

Naoreen Hasan

2B Chemical

Let me start by defining what co-operative education is, according to the University of Waterloo website: "According to the Canadian Association for Co-operative Education, co-operative education is defined as a program that formally integrates a student's academic studies with work experience in co-operative employer organizations."

Depending on the type of program in which you are in enrolled, you will most likely have access to co-operative services. Some students have a choice whether to participate in co-op or not. For engineering students, computer science students and some others, co-op is mandatory.

CECS helps students find a job worth a credit of 0.5 and they may or may not have to write a work term report. This begs the question, "Why should we be given academic credit for what is essentially an employment service?" Think about it…students at most other universities do not get credit for finding relevant jobs on their own so why should we? Work is work and school is school; they are two completely different things.

So how do we earn the credit? If you find a job and attain a marginal or better evaluation you pass the term. If a work term report is required it will be evaluated. These evaluations are assigned marks in engineering of either outstanding (95%), excellent (89%), very good (75%), satisfactory (65%), or unacceptable (38%). The flaw is that these reports don't even have to be relevant to your job; essentially, the subject is completely up to you meaning they can be about anything. Students who are not employed may still have to write one that, by definition, cannot be work related. Do you think this is really fair?

The standards for the co-op student's performance evaluation are non-existent. Employers are sometimes very biased while others are too nonchalant when it comes to evaluations. For some employers a "good" could mean that the student performed phenomenally well while to the student it is basically attaining a C because "excellent" is an A and "very good" is a B. I have even heard from some students that they end up filling out their own evaluations and all the employer does is provide a signature. Most of the time students do have input on the final decision. However, is there any discussion about our final marks in classes? No! We accept whatever we achieve unless the professor makes a gross mistake, so why should we have the right to argue our performance evaluations? We still get our half credit right?

Additionally, co-op jobs sometimes don't end up as you thought they would. Sometimes you will find yourself doing something completely contrary to the job's description. One student described an interview they had as being quite excellent but the job turned out to be nothing but inserting bar codes into technical drawings. The position was created to replace a high school student. Was this appropriate for an intermediate-level engineering student? Students in stream four have their first work term in January when they have had only four months of school. How much can a person know at that point? Students on their first work terms are lucky if they can even find a job because most employers are looking for experience. I have heard of several students who spend their work term doing menial office tasks such as photocopying and filing. Should we be given credit for this kind of work?

This term there was actually a posting with a job description that contained "make coffee for the plant engineer". Was it really appropriate? Why do we still end up getting a credit for those terms?

Not everyone is lucky enough to find a good job – it is not the same in school where every student gets his or her course load. Everyone in a class writes the same exam, the mark is fair, and, with at least marginal performance, we receive a credit. So why is it that someone who photocopies all work term can get the same credit as someone who designs photocopiers? Where are the standards?

For engineers, there are standards set for work terms in the eyes of the provincial licensing body, Professional Engineers Ontario (PEO). To be licensed as a professional engineer a person needs a university degree in an accredited academic program, four years of relevant work experience, and a sufficient engineering law and ethics exam score. Now, the PEO allows up to one year of coop experience to be counted provided: the experience happens after at least half of your degree is complete, it is related to your area of study and post-graduate practice, and it is acceptable and verifiable engineering experience.

This brings up an inconsistency: if only the last half of coop can be considered relevant experience, then how are both the first and last halves worth equal credit? Moreover, is making coffee for the plant engineer before 2B and after 2B really two different experiences?

Of course PEO would reject both. For work term experience to count, you must be exposed to the application of theory and should have at least reasonable exposure to practical experience, management of engineering, communications skills, and the social implications of engineering. Also, all of that must be in your relevant engineering, non-coffee making field.

There are equally stringent standards for both academic terms and work terms in the eyes of the licensure body, but unlike academic standards, work term standards are rarely met. From irrelevant coffee making to haphazard work term report marking to broadly varying evaluations, coop work experiences are not worthy of academic credit.

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.*

the TIN SOLDIER

THE REAL OF THE UNIVERSITY OF WATERLOO ENGINEERING SOCIETY

28 November 2003

Medical School Rating

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EngSoc Suggestion Box

Page 2

Crazy TalEng MCs

Page 1

Tin Soldier Photo Contest Submission Wins EISIE Award

Tin Soldier News Bureau

A surprise submission to the Tin Soldier Photo Contest was snatched up by judges for the 2003 Alfred Eisenstaedt Awards for Magazine Photography and awarded first prize in the "creating your own news" category.

When asked how they heard of the submission, the judges replied that "One of our campus scouts spotted the photographer taking the shot, and his technique and obvious attention to detail made him a shoe-in."

The photograph entitled "Knock Knock" made splashes in the photojournalism community. The prizes, established to honour excellence in magazine photography and the spirit and memory of Alfred Eisenstaed, stretch across thirteen different categories.

This is the first time a "pranking" photo has even been considered, let alone placed. "It's as if," said one eager prank-photo afficionado, "they're paving the way for a new category of submissions: a category dedicated to reporting on pranking."

Although this suggestion was met with much eagerness on the side of all participants, one judge dismissed the notion. "It's not as if it would be any real competition - Waterloo Engineering students would win any time. Why would we add such a predictable category?"

"Knock Knock" will be on display New York's Met until next Thursday when it will be shipped for display in the Louvre.

It is suspected that the culprits are University of Waterloo beavers - a close relative to the squirells that plague the campus.

TalEng Masters of Ceremonies Go Crazy

Tin Soldier
News Bureau

During the recent Engineering Talent Show (TalEng) guests were treated to a spectacular array of acts ranging from fiddle/guitar duets to improvisational comedy.

What stole the show though, was when MC's Paul Paquet and Geoff Quinsey lost their minds half-way through the second set. They began to prance and parade around the stage appearing for all intensive purposes to be completely innebriated and/or insane.

At one point in the proceedings, one MC began to immitate a superhero complete with costume and musical accompaniment (he was, however missing a vocal arrangement and was forced to sing his theme song himself.)

Although the MCs managed to continue introducing acts, their growing belief in their own superpowers soon made this difficult.

"When Paul started trying to fly by getting Geoff to throw him off a table, I think things were getting out of hand." said one first-year engineering student in attendance. "I mean, I know I'm supposed to look up to the upper-year students, but this was shameful. Even I know that it's impossible to develop super powers without a traumatic experience. He wasn't even bitten by a spider."

The highlight of the evening though, was when the then "Super MCs" donned leotards to match their capes. The leotards, tightly gripping their legs, drew quite the reaction from the female members of the audience.

This upswing in reaction was short-lived however, as the MCs soon started declaring they had x-ray vision as they flew about the room. Several people in attendance left at this point in the programme.

The organizers for next year's event are beginning the MC selection process and have added a few more rules and stipulations to applicants.

1. Applicants can not wear a super-hero costumes to any events

2. Applicants can not hide super-hero paraphenelia anywhere on their person during any events

3. Humans can not fly, applicants must have a strong understanding of this.

4. Applicants may not even entertain the thought of wearing costumes for any events.

5. Applicants can not be actual super-heros.

All the news that will fit on a page. - IW EIC

Travesty

Engineering Society Suggestion Item Of The Week

Tin Soldier
News Bureau

Christmas is arriving, and like at the end of every term, there was a sense of excitement about the Engineering Society offices as they eagerly awaited the opening of the EngSoc suggestion box.

Grins of anticipation soon melted to grimaces of disappointment as the contents were revealed. One folded Tim Horton's timbit box, the package to some photos, the wrapper to a toner cartridge, a long strip of packing tape and a set of paperclips cleverly fashioned into a chain were all that greeted the executive.

For this executive, the blow came especially hard. "We were elected on a platform of serving our constituents," said one anonymous Vice President External, "and how do you serve a crushed TimBit box?"

The Suggestion Box was the grad gift of the '98 class of Nanotechnology and has been actively used as a trash receptical by many students. When asked, one passerby said "Yeah, I use it for my garbage - especially for little things that won't fit right into larger cans. Like gum."

The EngSoc executive alluded to future plans to resolve this problem. "We'll need to fix this. All that garbage is preventing the submission of valid concerns. Hundreds of people want to use this box and a few people are ruining it for everyone. We're debating opening a special branch of POETS Security especially for 'Suggestion Box Detail'."

There was no estimated timeline for this initiative, except for an ominous "Soon. Very soon."

If you have any questions or comments about the proposed special security detail, please drop them off in the EngSoc suggestion box.

Not only were there no suggestions for the executive, but no Timbits either

C.E.I.T. Leaves You Feeling Kind of Empty

Tin Soldier
News Bureau

Over the past year, many have observed an erection gradually forming on campus. The erection, though long past its due date, is finally complete.

Yet, surprisingly, it remains largely unused. This is as much to the chagrin of the Earth Sciences faculty members as it is to the Electrical and Computer Engineering faculty members, for it was meant to service both groups and to unite them physically. "We're both stupefied," said one honest faculty member, "we thought students would just flood to use the building. I guess we should have scheduled something in it."

After careful investigation and prodding, no reason has been found to explain this strange phenomenon. And so, it remains a mystery.

Medical School Rated in Globe's Top 10

Tin Soldier
News Bureau

UW's medical school has finally received the recognition it so desperately desires. The Globe and Mail, one of Canada's most reputable newspapers, has given UW's medical school top marks. When asked for comment the dean of UW's medical school said, "After years of hard work, we have finally made it. It is only through the dedications of our faculty and student's that we could receive such an honour."

The UW community has also had its share of jubilation in its medical school's acclaim, which has been dodged with problems since its founding. For years the university's finance department has consistently "forgot" to include the medical school's operating costs on the university budget. Even medical students have had a troublesome time just finding their lecture hall. Adam Cheng, a first-year medical student, was quoted as saying, "I haven't been to class in months! For the life of me I have no idea where the medical building even is on campus, and I've looked every day since I got here! It's like this damn medical school doesn't even exist!" Some have speculated the medical school is located somewhere in UW's northern campus, but no one can say for sure.

I can only sympathise with the plights of our students and assure them that with this new accolade, we will bring UW's medical school to the forefront of education excellence," said the dean. York's medical school was also mentioned in the list and the York community was delighted to have any of their faculties mentioned.

Ritual Slaying of Frosh to Be Resumed

Tin Soldier
News Bureau

As the end of term draws near, upper-year students, faculty members and frosh have been furiously been considering candidates for this holiday season's ritual slaying of a frosh. Since 1957 a first-year student has been chosen to serve as the sacrifice, to satisfy the God of the MacLean's Ranking.

Last year, for the first time in the history of the university, no sacrifice occurred. In the previous year, the voting members were gridlocked, each favouring a different candidate.

The Little Green Men representatives insisted that a student notorious for rollerblading through the hallways should be chosen, while the Arts faculty insisted it should be random engineering student. Engineering, in turn, insisted on an Arts student, but not an attractive one. As a result of the lack-of-slaying, UW fell to #2 on MacLean's list.

It is unclear whether or not this year will there will be the usual one sacrifice, or if there will be two to make up for the lack-of-slaying last year. Some are even suggesting that three students be sacrificed, the third one as a bonus of sorts. As our university's future hangs in the balance, the deliberations of the next few weeks should prove to be very interesting to track.

Tan's Guide to Eating Out (Chinese Style)


Edward Tan
2A Computer

It is always important to learn about other cultures. Not only does it create less awkward situations when interacting with other people, but it also shows a sign of respect that you would spend the time to learn about their culture. Eventually, you will find yourself ordering food at an ethnic restaurant. For those non-Chinese who are interested, I've created this guide to eating at Chinese restaurants.

1. Finding an authentic Chinese restaurant:

The general rule of thumb goes, the cleaner the restaurant, the less chance that it is an authentic Chinese restaurant. Upon entering the restaurant, if you get an unsettling feeling that you do not belong there, then you've found the right place. You can rank the restaurant based on the number of flies and cockroaches that you see. Flies are worth one point each and cockroaches are worth five points each. Any restaurant that scores higher than 20 is good.

2. Ordering food in English:

If you can't speak any Chinese at all, then your options for ordering food are limited to English. If the waiter doesn't understand you, speaking slower doesn't help at all. You need to speak louder. Shouting is a common practice in all Chinese restaurants.

3. Ordering food in Chinese:

If you are reasonably fluent in Chinese then you can try to order in Chinese. Naturally the waiter will be very impatient with you and make remarks about you in Chinese. In case you're wondering, that Chinese family sitting at the next table is making fun of you.

4. Ordering food in Chinglish:

For those of you who don't know, Chinglish is a language, which is Chinese combined with English. Despite the common misconception by many people, there are in fact two completely different variations of Chinglish. One is spoken by FOBs and the other by CBCs. The key lies in which words are spoken in which language and these tend to be exact opposites. Without getting into too much detail, it's just important to remember that you need to order in the Chinglish that FOBs speak. (For definitions of the above acronyms or more information on Chinglish, consult a Chinese or Chinese-looking person).

5. How to use chopsticks:

In the past many of my non-yellow friends (who want to be Chinese) have requested that I create for them a detailed tutorial on how to use chopsticks. So I dedicate this section to teaching you on how to use chopsticks. Before I start I would like to say that while you are practicing this skill in a restaurant if you happen to drop your food on the floor, don't worry, it's not the first time it's been there. And yes, that family sitting at the table next to you is again making fun of you. Okay, time to start learning how to use chopsticks. As I was creating this tutorial I asked myself, how many Chinese people have requested a detailed tutorial on how to use a fork and knife? Therefore, I decided to scrap the idea.

6. Eating the food:

Despite what many people think, the food that you are eating is not dog (you need to pay extra for that). While you are eating, make sure you get the tablecloth as filthy as possible. If you have chicken bones or lobster shells, just throw them onto the tabletop. It is a sign of disrespect if your table is too clean, just look at the other tables.

7. Using the washroom:

You should piss out the front door instead of using the washroom at any Chinese restaurant. That place is worse off than the washrooms at a gas station. The only place that's even dirtier than the washroom is the kitchen.

For help on writing this article, I would like to thank my half Chinese friend, Hansel, who routinely pisses out the front door of Chinese restaurants.

COUNTERPOINT VS. COUNTERPOINT

What's better: a hot jock or a hot geek?

Cindy Bao
2B Electrical

It didn't take me exactly long to realize that I will never meet Orlando Bloom in my life. My anuptaphobic tendency has forced me to give up the fantasy and look among more realistic candidates.

Contradicting to the popular belief of a girl's preference for a jock, I personally find a geek of equal attractiveness much more appealing. This group of thought-to-be tech/math whiz who supposingly wear taped-together-glasses and pocket protectors is extremely underappreciated, despite their possession of qualities that makes a great potential mate.

First of all, geeks are generally more available, including the hot ones. It's not for the fact that they lack the attractiveness, but that girls at large have yet to discover the wonderful characters of geekdom. It is a shame, really, as you will learn throughout the rest of the article. However, in the short term, I find it to my advantage as I am not required to compete against the general female population. Whereas dating a jock of equally hotness will involve energy input too intense for me. After decided that Trista Rehn should be the last woman I witnessed to partake in cat-fight, I simply do not want to just be a telephone number in a jock's palm pilot or a name on his MSN contact list. (Oh, wait… Jocks don't use PDA and MSN.) By the same token, once you find a geek, other women are less likely to steal him from you.

It is more probable to form a long-term relationship with geeks. Their ability to stay up all night programming or playing videogames is a common knowledge. Do not think these as activities that will jeopardize your love life. Quite the opposite, they trained the geeks to have patience and good attention span. Patience is vital in nourishing a relationship, and the one quality that falls short among our male counterparts in general. Had you ever been complaining that the jocks you used to date showed no patience, look no further, a geek is your solution. As well, if a geek is able to focus on a piece of codes forever, why wouldn't you feel secure instead of having concerns about whether he'd pay attention to you?

The low-maintenance of geeks can make a relationship much less exhausting on your part. There are all those trendy diets out there aimed to lose weight or to build muscles, it is impossible to keep track, not to mention following the instruction to teeth. Your geek, less obsessed with their physique than jocks, demands none of the row food or high protein, low carb meals. He'd settle for Kraft Dinner. In fact, he'd moved to tears if you heat the pizza in the microwave for him, as he often eats them right out of the fridge while playing games. Also, feel free to replace his wardrobe according to your taste. He won't protest. A man who's willing to wear t-shirts with Microsoft printed on them obviously doesn't care what he wears.

The most apparent reason, in the rare case that you haven't realized, is that geeks are smart. While both hot geeks and jokes will have their appearance faded with age, geeks will still have the brain you can connect with intellectually. Intelligence implies a greater earning potential as well. Professional athletes can be excellent breadwinners, but their professional lives are short-lived. Should I even bother to remind you that the richest man in the world is an ultimate geek?

There is no need to question why you should date a geek who treats you respectfully and is not so full of himself. He can fix your computer and do your homework for you. He'd be the most faithful reader of your Matrix fan fictions and accompany you waiting in line for the latest Star Wars movie ticket with a light saber in his hand, despite he knows perfectly well the movie will suck. Give a geek a chance and enjoy a relationship filled with a different type of fun.

John Olaveson
2A Civil

Y'know, I've thought long and hard on this topic, and in the end, my decision is definitely that the hot geek is better than the hot jock. First off, those "promiscuous" Laurier girls won't always being trying to steal my man. I hate it when I find an attractive man, go out with him, and drag myself home alone after those Laurier chatterboxes steal away the hunk who was supposed to be with me. But I'm not bitter, no, not at all.

There are plenty of hot geeks around. All I have to do is stop by POETS to find a few. Damn, engineers are sexy! Why would anyone want anyone else? First off, engineers are pretty much guaranteed to make a good bundle of money when they establish themselves a career. Who doesn't want a husband with a lot of money? The things I could do with money.

Those engineers will also be working really late into the night. It goes with the territory, right? That might not immediately look appealing, but it gives me plenty of time to have affairs with hot jocks. Engineers are certainly good for financial security, but not for the bedroom stuff. I assume that all those hours in front of console gaming systems as children, and then computer monitors as students, do something to men, which makes them less potent in bed. Fortunately, their lifestyles create plenty of opportunity to find sexual gratification elsewhere without being caught. Would an engineer-husband even do anything if he caught me cheating on him? I find that those geeks are too vain and desperate and lonely to ever think of divorce.

Jocks are too controlling to have as a steady partner. They always think they have to be in control, be on top, and be the one who decides what happens in the relationship. I get no input with them. I'm a new-age woman. I need to have my say. I need to get my way. What better way is there to get my way then to marry an engineer and have countless romances with those buff, sexy jocks I see all over the non-engineering sections of campus?

Editor's Note: *Counterpoint 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.*

Student Learns Crime Only Pays Occasionally

Tin Soldier
News Bureau

An E&CE student this past week learned that his dishonest ways wouldn't pay out for ever. "I've been cheating in one way or another for years. I never thought it would catch up to me." said Wang.

Wang, a Computer Engineering Student, was recently brought up on accusations of plagiarism with regards to his work term report. According to administration, the report titled "A Brief History of Time and Space" is very well written, but is a little confusing. Furthermore, apparently the disgression almost went unnoticed. "I just happened to see the 'photo of the author' he submitted with the report, and couldn't help but think *'I don't remember seeing him confined to a motorized wheelchair.'*"

Wang faces possible expulsion.

CECS: Cooperative Empire of Corporate Slavery

Milky Lactation
2A Pastureology

We all deal with it; we all know it, many of us hate it. Yes, I'm talking about CECS, known to some as Co-operative Education and Career Services, it is known to those who experience it as the Cooperative Empire of Corporate Slavery.

What does CECS offer us besides forced labour? We're all required to go on work terms to graduate, right? Sure, that's part of our degree requirements and all, but how fair is it? Co-op services solicits all the jobs we get to choose from (granted, some people get jobs outside of the "system" but I'm sure CECS allows this just to keep up appearances). After conducting some undercover research in which I dressed up as a common carton of milk and infiltrated an executive meeting of CECS, I learned what this whole deal is about.

Co-op is a cushy deal for potential employers. See, these companies could spend their valuable time and money hunting down potential employees, but why do that when CECS will find the students for the company and force one into accepting a job? Once we toss our resume into a bin (purely voluntary to our point of view; but is it really voluntary?) we place our fate in the hands of CECS. We can always "sign off" a job, but what happens to us students then? We get paired up with another slave-master in another, potentially more appealing job. In the continuous phase things get worse. We don't even get to rank the jobs anymore. The first company who wants us gets us. And we're stuck, no matter how bad the job turns out to be.

"... what choice do we have but to go with it?"

The jobs may not seem like slavery at first, but look deeper. Every boss in every business is basically a slave-master. Sure, things look better in the workforce than they did back when the Greeks worked slaves to death, but once we get a job, what choice do we have but to go with it? We could quit but that would equal FAILURE! To quit would mean we just have to do the whole thing again. Even if we students do try, we still might fail a work term. The grouchy boss, the one who's never satisfied with his underling's work, just might be your boss next term. And if you complain, that's a quick way to place an F and avoid marking those blasted work term reports.

While I'm on the topic of work reports, that's another signature of the slavery we all endure. We get to prepare four of the bloody things. And what good are they to us? Sure, we're "learning" how to write a report. Lots of people can write a report if given the template. Thousands of students each term (I'm including all poor slaves in the University, not merely the engineers) hand in a report. Who benefits? The employers and/or Co-op. Those two have direct control over what happens to the recommendations we make, the conclusions we arrive at, the ideas we spawn. Our names might be attached to the pages, but the benefit of all that work ends up in company hands. Again, if we complain, or refuse to be a part of the system, we fail.

Okay, so we get taken advantage of, possibly abused intellectually, so why do we take it? Why not settle for failure? It would be a lot cheaper than continuing in this farce, both financially and emotionally. Who at this point can afford to fail? All that time, all that money! To throw it away would be about as bad as continuing on. At least we get some money out of the deal, however hard-earned it is. That reminds me, I need to call my employer last week…

Travesty

The Mangy Animals of Waterloo

John Olaveson
2A Civil

I'm sure everyone on campus has seen those scurrying rodents and birds that plague campus. Oh yes, those little pests that get in the way whenever we take a step on campus. Something needs to be done about them!

I was once carrying crates of pop for Frosh Week activities from DC to wherever I was directed by those oh so wonderful FOC people. I had two 24-packs in my arms when three squirrels ran out from, as far as I can tell, null-space and climbed up my legs as if I was a tree. Well, the pain I felt as those claws tore into my skin caused me to drop the pop cases onto the ground where they promptly exploded, covering me in coke and Mountain Dew. Well, I wasn't happy at all. Dripping pop and blood, I slinked back to my Frosh group, where even the Frosh laughed at me. All because of those lousy squirrels.

The squirrels are only part of the problem. There are also seagulls, pigeons and some mutant-like rats. Maybe they are leftovers from Bio-engineering experiments. I say these creatures have had enough time to run amok. It's time to end this threat.

No, I'm not calling for warfare. That's the American way. What I propose is that we organize a reserve for these outcast creatures, a place where they can go and be themselves without human interference. A nature reserve, we could call it.

Step one of the plan would require the acquisition of some land to dump the mangy animals on. Someplace nice; with a comparable habitat to what the creatures have here. I propose Western's campus, for several reasons. Western really has nothing to offer. I know; it's in my hometown and I went to several events there. London has nothing much to offer, besides three hospitals, and hospital environments are so controlled that the critters wouldn't be able to gain access. The creatures could conceivably live off the garbage produced by these hospitals and also by the Western students. So, the location is ideal.

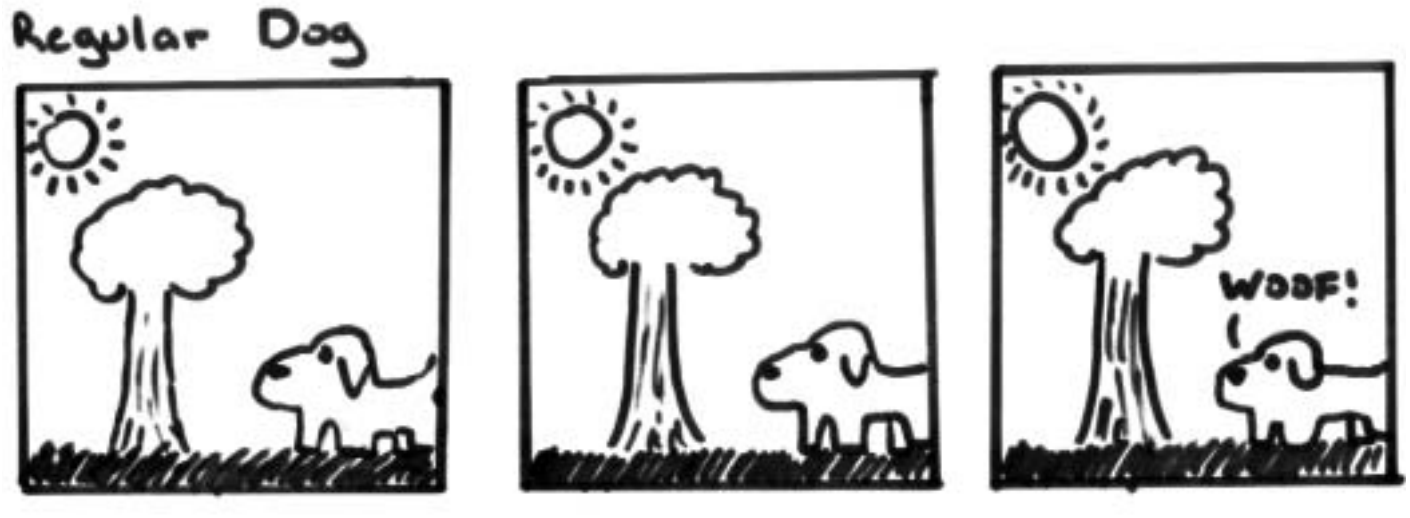
The next phase of the plan will require the installation of containment facilities so these creatures can't migrate back to their natural habitat, Waterloo's campus. High voltage electric mesh fencing would do the trick nicely. Of course, the mesh would have to cover the entire perimeter of Western's campus and also seal it on top and below. We wouldn't want the things flying or digging their way out. The benefit of containing these animals would offset the inconvenience of effectively sealing Western students on the campus. We certainly won't miss Western engineers now will we? The power for this fence can be taken from the campus buildings and research labs and all that. If those people can't get out, what's the point in them doing any research?

Stage three will mean collecting all the mangy animals of Waterloo and getting them down to Western. This will be the hardest part of the whole process. First, the things are hard enough to spot before they steal work term reports and girlfriends. We'll need some powerful gear to hunt and capture them all. We won't be allowed to kill any during the roundup; animal rights activists would storm campus and possibly get POETS shut down. Admin would try to use any excuse to shut down our services.

"We could offer up a contest; whoever gets the most captured wins a prize."

So we hunt and collect. We could offer up a contest; whoever gets the most captured creatures wins a prize. We'll pick a prize later. Transportation will be even harder than the hunt. Who wants to volunteer their vehicle to carry hundreds of disease-infested, genetically deviant creatures the hour and a half to Western? We also need to worry about the creatures taking over a vehicle and using it to escape our evil reserve. The cost to tranquilize all those creatures would put us over budget. So we can go find an old train cab, the kind that can be loaded from the top, dump all the animals in, and run the train onto Western's campus. That might be tricky, but I'm sure the acclaimed Waterloo engineers can figure out a solution to this relatively simple problem.

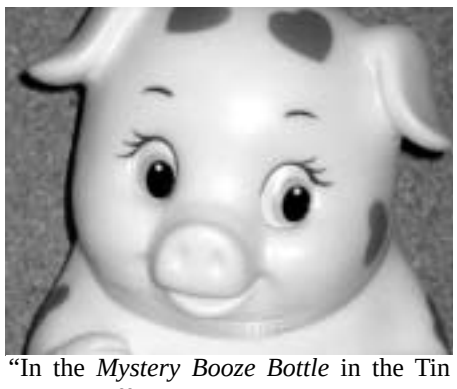
That about does it. The animals are gone, contained in a place where no one will care enough to do anything, and we got to show the world the ingenuity of Waterloo Engineering. Perhaps this project will attract world-wide attention. I hear New York City has massive infestation problems. They could offer lots of money to clean out the place. Just imagine it, crawling through New York subway tunnels and sewage plants collecting mutant rats and pigeons and things that got flushed down the toilet. I'll be there. I need the cash to pay my tuition.



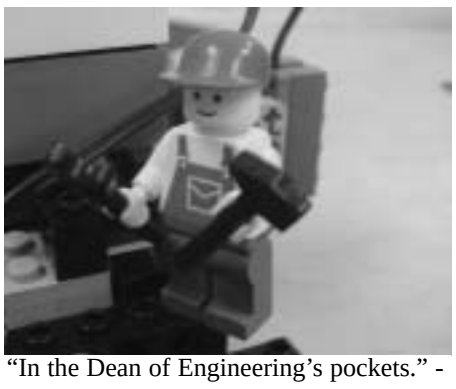
the Tin Tribunal

Archimedes McGuire, 4N Nanotechnology

"Where do you look for sugar?"



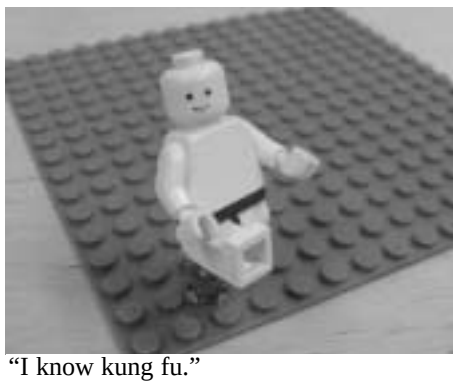
"In the *Mystery Booze Bottle* in the Tin Soldier Office." - Archimedes McGuire, 4N Nanotech.



"In the Dean of Engineering's pockets." -

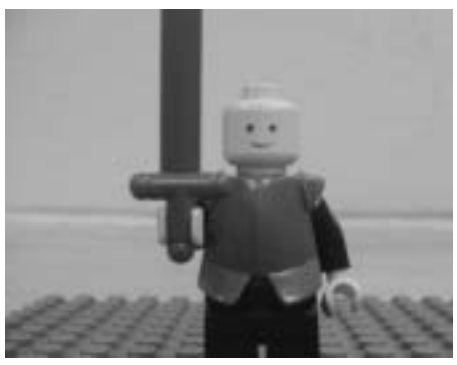
"Mary Bland."

"In the woods in the witches house. Uhh..I mean across campus in Needles Hall."



"I know kung fu."

"I don't look for it. My slaves bring it to me."



"Uhhh....the Brunny?"

"Right here. Why don't you hop on in and we'll go for a spin?"

Ontario Professional Engineers Awards Gala

Jeff Henry

4N Computer

Years of careful work and of public service were finally rewarded on the night of Friday, November 14, 2003 in Toronto. Speeches had been prepared and revised many times and there was a sense of anticipation in the air for many of the attendees. No, the event was not the coronation of Paul Martin, although there was a Paul Martin, P. Eng in attendance.

The Ontario Professional Engineers Awards, a program in place since 1947, were given out to nine deserving professional engineers at a black tie gala at the Marriott Airport hotel. Hosted jointly by Professional Engineers Ontario (PEO) and the Ontario Society of Professional Engineers (OSPE), the event drew around 400 engineers, spouses, family members, and special guests.

The Keynote speech was given by Gord Miller, the Environmental Commissioner of Ontario, who spoke about the public perception of engineers and their role in not just serving their customers and protecting the public but also of their role in protecting the environment; though the environment cannot be charged billable hours, the importance of serving it as equally as engineers serve their customers.

"There are only four engineering jokes," said Commissioner Miller. But unlike the jokes about other professions – lawyers, for example – the jokes about the engineering profession highlight the good thing about engineers.

An engineer noticed his colleague riding a new bicycle and stopped him to ask when he got it.

"Well, it was the weirdest thing," the engineer began. "I was hiking, when this gorgeous woman rode up on the bicycle. She took off all her clothes and said to me, 'Take whatever you want.'"

"You made the right choice," the other engineer said. "The clothes wouldn't have fit."

Miller noted that this showed engineers were practical people who understood the value of technology. The other three similarly highlighted laudable traits; traits embodied by the recipients of this year's awards.

Peter Hiscocks, a professor at Ryerson, was awarded the Citizenship Award for his years of work championing and supporting women in the engineering profession. The award-winning Women in Engineering project and the Discover Engineering outreach programs at Ryerson founded by Hiscocks have provided education for students considering an engineering career while promoting a friendly and supportive environment for thousands of young women. He also worked to include harassment in the definition of professional misconduct under the regulations of the Professional Engineers Act.

Wayne Doran, Chief Technology Officer of NCR Corporation, was awarded the Engineering Medal for Engineering Excellence. His pioneering work in the area of electronic cheque and image exchange has included development of standards to move to electronic cheque processing which are contained in the Check Truncation Act currently before the US Congress.

William Rowan, a founder of RWDI, was awarded one of two Engineering Medals for Entrepreneurship. Using scale models to determine the impact of a development on its environment, or vice versa, RWDI has been involved in numerous projects involving city blocks, roadways, rail lines, bridges, and skyscrapers, including the Sky Dome, the world's tallest buildings and longest span bridges.

Larry Seeley, President and CEO of SGS Lakefield Research, was awarded the other Engineering Medal for Entrepreneurship. Lakefield Research's transformation into the largest commercial metallurgical testing, research and development organization in the world is credited to him. Seeley has implemented major breakthroughs in research to ensure cleaner mining processes to protect the environment.

H.N. Edamura, Partner and Senior Vice President of Marshall Macklin Monaghan, was awarded the Engineering Medal for Management. After other successful airport developments, he is responsible for the management of the multi-billion dollar Terminal Development Program at Pearson International Airport which includes both the creation of Terminal 3 and the new terminal.

Levente Diosady, professor of food engineering at U of T, was awarded the Engineering Medal for Research and Development. He has led the development of techniques for fortifying salt with iron and iodine to prevent micronutrient deficiency diseases that affects over two billion people.

Hanif Ladak, assistant professor at UWO and associate scientist at Robarts Research Institute, was awarded one of two Engineering Medals in the Young Engineer category. As the leading authority on three-dimensional image segmentation for use in prostate cancer therapy, Ladak holds two patents, published more than 11 refereed journal articles, and contributed to nearly 20 conference publications. He is also regarded as an excellent teacher.

"...their achievements, they said, were only possible through the support of their colleagues"

Jennifer Moylan, Project Manager at Husky Injection Molding, was awarded the other Engineering Medal in the Young Engineer category. Achieving professional recognition for developing and introducing a new industrial software product that uses case-based reasoning to identify and solve aircraft maintenance and other complex problems, Moylan also served as Treasurer of the OSPE during its first full year of operation.

H. Douglas Barber, Retired President and CEO of Gennum Corporation, was awarded the premier award of the awards program, the Gold Medal. Gennum Corporation has become the world leader in hearing aid microcircuitry design and high-end broadcast video products under his leadership. While helping the company become a Canadian high-tech success story and influencing the development of microelectronics through the boards of many industry associations, Barber has remained actively involved in education. He has been a part-time professor of engineering physics for 27 years, a chair and past chair of the Board of Governors, and a Distinguished Professor-in-Residence at McMaster and has been awarded with honorary doctorates from the University of Waterloo and McMaster. He has served as a member of NSERC and is Chair of the Education & Skills Committee of the Ontario Science and Innovation Council. Barber has been awarded the PEO Engineering Medal for Research and Development in 1987 and Ontario's Technology Entrepreneur of the Year. He was cited nationally as the Entrepreneur of the Year for Innovation and Technology and is currently heading a study to determine the potential of Canada's private sector to move our economy into the top five innovative economies of the world.

The evening included many wonderful speeches by the award winners who all seemed to share a common trait – their achievements, they said, were only possible through the support of their colleagues. Perhaps that is the reason why engineering is referred to as the invisible profession, with little recognition by the general public. The gala, of course, is designed to show not just the public, but engineers as well, how proud and acknowledging they should be of their achievements.

Thirty-Six 55-Watt Panels

...continued from Page 1.

involved in renewable energy projects and thinking about conserving energy," says Jeff DeLoyde, STEP director and fourth year environmental engineering student.

The solar array consists of 36 55-Watt PV panels, which will create a 2 kilo-Watt (kW) sized array capable of generating about 2400 kWh/yr of electricity (enough to meet 2/3 of the electricity needs of an energy efficient home). Since the array produces clean energy, over 1200 kg of CO_2 emissions will not be released by burning fossil fuels. The free electricity produced by the solar array will save UW $200 annually.

A display board with a real-time readout of the array's electricity production will also be built in front of Fed Hall.

The solar array employs leading-edge technology and was designed so that the electricity produced will be fed back into UW's power-supply grid in a process called "grid-tieing". This will avoid the use of environmentally hazardous batteries. Using the grid-tied technology, if all the electricity is not used in Fed Hall, it can be fed into UW's grid and be used anywhere on campus.

Similarly, if you own a house with a grid-tied PV solar array that generates more electricity than you need, the surplus electricity can be fed back to Waterloo North Hydro and your meter will actually spin backwards! The utility company will give you a monetary credit for your surplus electricity.

Although Waterloo North Hydro is one of a handful of utilities in Ontario that permit grid-tied systems, there are generally no set rules on how much they will pay you and is typically allowed only on a case-by-case basis. In areas such as California, legislation exists that mandates utility companies to allow grid-tied solar or wind systems and pay the homeowner a fair price for their electricity.

The STEP team has had over 55 volunteers since the inception of the project and has raised $40,000 to-date through 20 sponsors from UW and the local business community. Members spent the first year raising funds, then spent from February to August 2003 designing the solar array. Since September 2003, student volunteers have been gaining hands-on skills in the student machine shop building components of the racking system.

The STEP team has surpassed their original fundraising goal of $25,000 because in September 2003 quotes from contractors to install the array on Fed Hall came in at $16,000, nearly three times the estimated cost. Contractors must do the installation work since students are not permitted on the roof of any building for insurance and liability reasons.

"To allow us to pay for the contractors, recent sponsorships were generously given by UW President David Johnston, the Dean of Engineering, the Civil Engineering department, Ontario Power Generation, Stantec Consulting Ltd., Conestoga Rovers and Associates, and Enermodal Engineering," says DeLoyde.

"We see this as being the first of many student-led renewable energy projects on campus," says DeLoyde. Examples of future projects include a solar sculpture that moves when the sun is out, a solar hot water system on the PAC, or a PV solar array that tracks the sun.

Co-Op to Enhance Quality

...continued from Page 8.

tion of Co-op is a valid academic achievement by providing funding to all schools who offer a Co-op program. Co-op was not an official credit several years ago. Olaf explains why the credit was instituted: "We're trying to set ourselves apart from other schools that offer Co-op. We want Co-op to be that much more meaningful and I think the idea there was that if we attach a credit to this, then perhaps we may get to that stage, where Co-op has a higher meaning than it already has."

The University is moving forward the idea to enhance the current Co-operative Education program by adding more content, the so-called "professionalism courses." This new piece of Co-op will hopefully "take the next step in differentiating its Co-op Education experience from that of other universities offering study-work programs so that it may continue to be the undisputed leader in terms of the quality of its Co-op programs, and it will do so by enhancing the quality of its educational component." These new courses are not being introduced as the sole academic component of Co-op. These new courses are being presented as supplementary learning components for Co-op students.

The Co-operative Education experience at the University of Waterloo provides academic benefits to all students who enroll. Everyone who sets out on a work term will learn something about his or her field of study that could not be efficiently taught in a classroom. Oh, and don't forget about the work report we all have so much fun preparing. That's worth credit if nothing else is.

Columns

Moving Forward

Christine McCullough
2N Chemical

The Liberal Party Convention was this past week and it pretty much went as expected; a lot of tributes, some interesting performances by famous Canadians and a general love-fest for Jean Chrétien and Paul Martin. But perhaps the most moving, important and honest presentation was by Bono. It is widely known that Bono lives two separate lives; that of a world famous rock star and that of an activist. He tours the world passionately advocating on behalf of third world nations. Currently Bono is pressing world leaders to "drop the debt", erasing the outstanding debt that any developing nation may owe, and to help provide low cost AIDS treatments for African nations. His calm demeanor and rock star looks were very misleading as he set out the most difficult of all challenges presented for Paul Martin at the convention. While he did commend Canada as a nation for being a world leader in debt relief and for the recent legislation that will allow drug companies to produce generic AIDS medications for Africa, he is not letting us or our leader off the hook. In his words to the Liberal Convention "I'm going to become the biggest pain of his life! Paul Martin thinks he likes me. He doesn't know what he signed on for -- more lobbying about debt, begging for letters, petitions for unfair trade, phone calls about money for the global health fund." Rightfully so, I'm glad someone will be taking care of that. And I, like most Canadians I am sure, felt better. Bono challenged our future Prime Minister to take care of the bad things in the world, so Canada will once again be the good guy and we as citizens can take the credit. Yeah Canada!

Well that wasn't what happened. That is what the national media told you, but that wasn't the entire story. I watched and listened to the entire speech and not only did this passionate activist implore Mr. Martin to improve international aid, he implored us, everyone who listened, citizens not only of Canada, but of the world, to work for change. Well, what does that mean? We are, after all, only students. Our financial resources and time is already spent, there isn't much we can spare. I agree, there isn't much we can spare, but "not much" is more than nothing.

We live in one of the wealthiest countries in the world. It blows my mind sometimes that when I get sick I can just call a cab and go to some clinic and I know I will see a doctor. There are people who have never seen a doctor in their entire lives and will die from simple, treatable and preventable diseases because of lack of accessibility to medical services. And I complain because I have to wait an hour or two to see someone. It's a bit of a reality check. Today 6500 Africans died of AIDS. Just today. Tomorrow will be the same. The chasm between the rich and the poor is growing greater not only in our own country, but also across the world. Every Canadian child is guaranteed an education and access to healthcare. In Afghanistan and the Democratic Republic of Congo decades of conflict have left hospitals and schools either completely destroyed or crumbling from lack of up keep. Many healthcare professionals and teachers have fled the countries because of the wars and there haven't been any permanent educational facilities to train new doctors, nurses and educators. People are lying in the ruins of their nation dying from dehydration, starvation and exposure. And the brutal truth is that the only difference between me and the Afghanis or Congolese is that I am lucky, I happened to be born in Canada.

Bono was right, it is time we realized what we have, be thankful for it and do something to lessen the divide between the 'haves' and the 'have-nots'. But that is difficult; it requires that we take a hard look at our lives and at ourselves. We all truly live lives of excess. I regularly spend $5 for one drink at Second Cup. $5. That's ridiculous. I have a weakness for shoes; I own more pairs than I can wear in a week. I drive to school and spend money on parking because I am lazy. I live a life of excess and I want to stop. I need to stop. So, what exactly can I, one person, do to make such a great change in the world? A lot. Maybe I will put my engineering education into practice with Engineers Without Borders bringing clean running water to a community that has never had it before. Maybe I will work with a national charitable organization coordinating international efforts to ease third world debt. Maybe I will go on to medical school and practice in an under serviced area in one of the territories. The possibilities for the future seem endless; there is a lot that I could do. But there is a lot that I can be doing right now. Maybe once a week instead of going to Second Cup, I donate that $5 to the United Way. Maybe I cut back on my long distance and put that money towards sponsoring a child overseas. Maybe I volunteer once a week to mentor a child who doesn't have many positive influences in their life. Maybe I donate $2 of canned goods a week to the Food Bank. Maybe I join Amnesty International and write letters to government officials protesting torture and wrongful imprisonment. Maybe I just realize how truly blessed I am and learn to reach out to those less fortunate every chance I get, whether they be on the other side of the world, on the other side of the country or right next door.

"There are people who have never seen a doctor in their entire lives...Today 6500 Africans died. Just today. Tomorrow will be the same."

Bono recounted a conversation he had with an American congressman. This particular congressman is a survivor of Auschwitz. And when Bono asked what stuck with him about his experience, he replied that he remembers the people standing watching the trains leave full of people headed for the concentration camps and not seeing anyone do anything. They didn't know where those trains were going, but they didn't do anything. Applying this analogy to present day, we know where this "train" is headed; more poverty, more war, more terror, more death. We see these trains leaving with the victims and we know where it is headed, what are we going to do? Bono said he is willing to lie on the tracks in front of that train, he believes that Paul Martin is willing to do the same, he hopes the rest of Canada is willing to as well. I hope so too.

Money Talks

Rajat Suri
2A Chemical

"And, yeah, then the girl said to me 'Like whatever! Talk to the hand! I'm through with you, boyfriend!'. And then she slammed the door in my face. I tell ya man, girls ain't nothing but trouble."

I cluck my tongue in sympathy. Poor guy. Here we are at the residence cafeteria, eating a simple yet detestable meal of hard chicken and soggy peas, just two normal guys eating dinner after a hard day's lectures and suddenly this stranger starts spilling his sob story to me as if I were his best friend. He looked like he was going to cry any second, too. And all I wanted for dinner was chicken less than three days old. Bah the world ain't fair.

"Yeah man," I say vengefully, as if I were just dumped yesterday too. "Forget her. She's not worth your time or effort." Especially if she talks like that.

"But, but, I love her!" he puts his hands to his face and starts blubbering away. I sigh and hand him some napkins. Pretty soon his peas aren't the only things that are soggy. But at least he's calmed down.

"So what program you in?" He says at last, evidently trying to change the subject away from his pathetic love life. I am happy to oblige.

"Engineering, you?"

"Arts. Whoa engineering man? That's crazy!" He looks amazed. You'd think I just told him I was from Mars. "What type?"

"Chemical."

"That's cool man. How's it like?" He leans forward, entranced, like I was going to give him classified information or something.

I shrug. "It's not that bad, y'know."

"Not that bad? I hear you've got like fourteen hours of homework a day! Thirty-five hours of class a week! No reading week! And that you've got like three girls for every four hundred guys!" He shakes his head in disbelief at the last one. "How you do you LIVE like that man?"

I smile and nod. What an idiot. "Well you know how it is. If you gotta get by, you gotta get by!" It was the worst line ever, but I really didn't feel like explaining the whole situation to him. How do I tell him that at least I'll have a job paying decent money in the future, that at least I'll have a solid degree with which I can do more than just teach with? Poor guy is already as depressed as it is.

"Get by? Dude! How can you deal with all that science and math crap?" His expression is one of absolute horror. Einstein's long lost son, he wasn't. "When do you get time to like go out and party and stuff? To like, live life, y'know?"

I sigh. "Sorry man. I don't."

For a second, I think the guy is gonna have a heart attack. He doesn't quite, but I wonder how close he gets. Certainly looks like he just swallowed a watermelon whole, I snicker to myself.

OK OK, so I was kidding. Of course I got time to do stuff. But hey, don't they say 'ignorance is bliss'? So I was in fact blessing the guy by not telling him the truth… right?

I've actually gone down this road many times. And it's not just to artsies. Everyone from third-graders to old English teachers have their own ideas on what awful and secret torture is inflicted on engineers during their undergrad careers. Their knowledge of engineering students ranges from the astute to the absurd. Here are some gems I've picked up along the way.

"Engineers are crazy."

"You wanna do engineering? That's like joining some religious cult, except with Isaac Newton as your god."

"Only guys take engineering."

"Only nerds take engineering."

"Only male nerds take engineering."

"Engineering? Don't do it man, too amuch work!"

"Engineers couldn't stay sober if their lives depended on it."

"Engineering guys are the worst dates ever! They're so weird."

"Engineering girls is an oxymoron. Even the girls aren't really girls girls."

"You're in engineering? Get out. Now."

"Did you know that engineers kiss their computers goodnight?"

"Engineering is for the suicidal or the incredibly smart. And you don't look incredibly smart."

Yep. We've got quite the reputation haven't we? And you and I both know it's hardly deserved. I mean, really now, I can't recall ever giving my computer a goodnight kiss. A goodnight hug, now that's a different story…

"I hear you've got like fourteen hours of homework a day! Thirty-five hours of class a week! .... How do you live like that man?"

But that's the way people look at engineers around campus. People who're always working their butts off, never having time for anything fun, and who keep to themselves mostly. Anti-social workaholics, in a nutshell. Weird, in another. Most people simply cannot understand why anyone would want to spend their life (or even a few terms) doing yucky stuff like calculus and physics, when they could be out enjoying their lives, livin' it up with a couple o'bird courses and an elective each semester.

And why indeed? Are we just suckers? Drawn into a dark, grey life of number-crunching and diagram-drawing with promises of fame and fortune? No one told us it would be this bad! The thirty-five hours a week of classes wasn't on the university brochure!

But we're in it, and most of us are staying in it. And we all do know why, although no one might actually admit it. It's for…the money.

You're screaming at me. You're bawling at me. You're denying everything. It's for the community, you yell, it's to help society! But you know the real truth. You want money and that's why you're killing yourself… cause you know it'll pay off in the future. Face it, if you really cared about science or math, you'd be in those faculties instead of engineering, doing actual theoretical work to advance your subject of interest instead of just using theory for industrial (and hence profitable) purposes like us.

And that's why we can thumb our noses at those ignorant artsies. Cause we don't just hope they'll be working for us some day…we know. And hey our reputation ain't too bad is it? Computers don't taste much worse than rez food. Actually they probably taste better.

It's like a famous artsie once said…

Show me the money!

Columns

Free and Open Source:
Its uses in Business and Education

On December 1, in RCH 101 at 7:00 PM Jon “Maddog” Hall will be presenting on the significance of free and open-source software on business and education.

Abstract: Free and Open Source software has been around for a long time, even longer then shrink-wrapped code. It has a long and noble history in the annals of education. Even more than ever, due to the drop of hardware prices and the increase of worldwide communications, Free and Open Source can open new avenues of teaching and doing research, not only in computer science, but in other university fields as well.

Learn how Linux as an operating system can run on anything from a PDA to a supercomputer, and how Linux is reducing the cost of computing dramatically as the fastest growing operating system in the world. Learn how other Free and Open Source projects, such as office suites, audio and video editing and playing software, relational databases, etc. are created and are freely available.

Biography: Jon "maddog" Hall is the Executive Director of Linux International, a non-profit association of computer vendors who wish to support and promote the Linux Operating System. During his career which spans over thirty years, Mr. Hall has been a programmer, systems designer, systems administrator, product manager, technical marketing manager and educator. He has worked for such companies as Western Electric Corporation, Aetna Life and Casualty, Bell Laboratories, Digital Equipment Corporation, VA Linux Systems, and is currently funded by SGI.

He has taught at Hartford State Technical College, Merrimack College and Daniel Webster College. He still likes talking to students over pizza and beer (the pizza can be optional).

Mr. Hall is the author of numerous magazine and newspaper articles, many presentations and one book, "Linux for Dummies".

Mr. Hall serves on the boards of several companies, and several non-profit organizations, including the USENIX Association.

Mr. Hall has traveled the world speaking on the benefits of Open Source Software, and received his BS in Commerce and Engineering from Drexel University, and his MSCS from RPI in Troy, New York.

In his spare time maddog is working on his retirement project:

More information is available at http://www.csclub.uwaterloo.ca/events/RCH_101-2003-12-01-7:00_PM.html

Industry Standards While on Work Term

Michael Simoes
1A Chemical

While on work terms, the majority of engineers encounter different standards, specific to a product or company. These standards must be upheld and sometimes even exceeded to improve customer relations, or to raise the bar in competition with other companies. But, where do these standards come from?

The biggest is from the International Organization of Standardization (ISO). They have various guidelines that companies could use for quality management. The document, the ISO 9000, is an updated version of the ISO 2000. It sets a framework to improve efficiency within the organization. It has 8 main principles:

1) Customer Focus
2) Leadership
3) Involvement of People
4) Process Approach
5) System Approach to Management
6) Continual Improvement
7) Factual Approach to Decision Making
8) Mutual Beneficial Supplier Relationships

Source: www.iso.org

The next document, from the ISO, is the ISO 14000. This document deals principally with the environment, and standards within the environment that mirror a global consensus on safe environmental practice. Furthermore, it is used to reduce raw material/resources, reduce energy consumption, improve process efficiency, reduce waste generation and disposal cost, and utilization of reusable resources. These things are very important for companies to not abuse, so that the environment is kept safe for generations to come. To learn more about the ISO 14000, or about the ISO 9000 go to www.iso.org for further reading.

The next process in reducing cost and improving efficiency is from Six Sigma. (6Sigma) The methodology of six sigma is based on five improvement processes:

1) Define- Define what processes work, and what processes need improvement

2) Measure- observe process measurements and gather efficiency data

3) Analyze- communicate data using graphs, histograms etc…

4) Improve- knowledge and skills of employees and allows the company to keep track of changes made to products, processes etc…

5) Control- making sure things remain detail oriented

Source: www.6sigma.com

Many companies such as Motorola and Honeywell have adopted this methodology for the improvement of standards within their workplace. To gain more information about the six sigma methodology, go to the unofficial website, www.6sigma.com.

The next resource for improving manufacturing standards is the 5S system. The 5 S’s are simple:

1) Sort- Organizing both the employees and the machinery making sure communication between employees and the employee/machine interface is kept up to date, getting rid of machinery that is useless to the company

2) Set in Order- making sure everything is at maximum efficiency, meaning clear labels on products so that anyone can find things

3) Shine- making a clean work environment, with not clutter or mess around

4) Standardize- integrating sort, set in order and shine making sure everything is sustained (5)

5) Sustain- making sure everything is kept up to date

Source: www.manufacturingnews.com/news/editorials/skinner.html

The 5S system can be very useful in making changes to improve efforts and efficiency. For more information go to www.manufacturingnews.com/news/editorials/skinner.html

Overall, these are the three main standardization methods that are used both in small businesses and big industry, and many of us will encounter implementing these processes and using them effectively so that the company may improve its own efforts to reduce cost, improve profit and become a more efficient business.

Waterloo Through My Eyes:
Not So Deep Thoughts

Christine McCullough
2N Chemical

I’ve had a lot of deep thoughts this term, you may have read some of these thoughts scattered through out the Iron Warrior. Well, I’m out, done, no more thinking for me. My sister got engaged on September 13th; she’s getting married December 13th. My parents sold their house shortly after that and will be moving the first week of January. There have been a couple of deaths in the family recently. It’s been an interesting few months. While I have felt a little stretched of late, I know that I’m not the only one who is facing challenges. It would be ideal if we could just control everything and everyone around us; then nothing could interfere with our academics (and our other not so noble endeavors). Well, we can’t. I have tried everything to help my sister with her wedding plans, help her feel less stressed and finally I’ve tried everything to convince myself that I am not the reason she is in such a foul mood. Of course nothing has worked. The wedding is not going to be perfect, she is still really busy and feeling stressed and of course still quite a bitch. So there I was at my parents house feeling a little overwhelmed when I heard a knock at the door. It was a neighbour and he had a very happy, very mischievous looking Golden Retriever in hand. He found this dog running carefree through the neighbourhood and he knew we had a dog that looked similar, so he thought is was ours. I knew the dog wasn’t ours, my beautiful Golden Retriever was having a nap under the table, but I offered to keep the dog in our backyard, since it is completely dog-proofed. Then I went down the street to knock on another neighbours door; I knew they had a golden and thought it might be their “Maggie”. There was no answer at the door, but noticeably absent was any barking and Maggie wasn’t in their backyard either. It was probably her, but I couldn’t do anything for the time being, so I headed home with Maggie in tow.

Tyrone isn’t the protective type and didn’t really care that there was another dog tearing apart his property. I, on the other hand was a little concerned. You see my dad is an avid gardener and made his own ornamental pond. It’s stocked with special coy that he has had for years and beautiful water plants. And there in the middle of this beautiful display of foliage and rocks collected from across Ontario was Maggie. She would hop out of the pond, race around the yard and hop back in the pond. All of the water plants had been trampled from the running in and out of the pond. The fish must have taken refuge under the waterfall where her paws couldn’t take them out. She was in her glory, a water hole that fit her perfectly, what more could you ask for? She didn’t care where she was or how ridiculous she looked. Of course she is just a dog, right? Well, in that moment I wished I could be a Golden Retriever, just a dog. My biggest worry would be how to escape the confines of my own backyard. I could sleep whenever and wherever I wanted. It wouldn’t matter who is dying or getting married. I could just be.

Of course, that is both an impossible and rather odd thing to want. Well, maybe if I could just have some of the carefree nature, for just a little while every now and again. Moments when it didn’t matter what others thought or what I have to accomplish by the end of the day, time to just be me. Time to not be responsible, to not take care of other people, to not worry about money or homework or what I am going to make for dinner. Maybe it isn’t such a ridiculous thing to want. So, I got my dad’s camera and took a couple pictures of this completely happy being. I thought I might need to refer to it in the future. So, I will never be a dog, and I will never be without worries and responsibilities. But for that moment, standing on our back porch, concern gave way to laughter watching this crazy dog dive in and out of the tiny pond. I wasn’t worrying or thinking about anything other than how hilarious Maggie looked, wet from her back down, running circles in the grass.

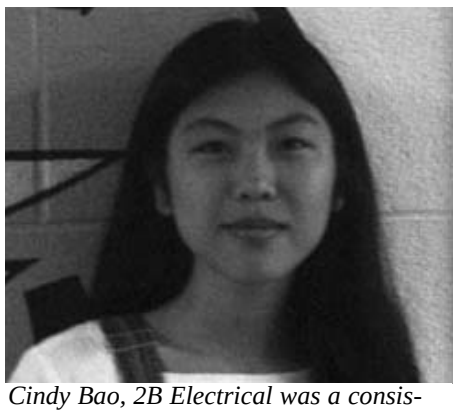
Eventually we got a hold of her owners, and they were glad to have her back, even if she was covered in shreds of pond plants. And I had to go back to my life. I will never be a Golden Retriever, but maybe every so often I can make a point of sitting back, shrug off the world and do what feels good, whether that be to laugh, cry or take a nap. I guess that’s why this article turned out the way it did, I’m just writing what feels right, nothing deep, just a story about a happy dog, a pond and a state of mind that I wish I had just a piece of.

Staff Appreciation

IW Staff

Well, it's the end of the term, and I get to put together a feature I've been looking forward to all Fall - the Staff Appreciation page. There are many people involved in the production of the Iron Warrior, and this page is dedicated to those individuals who have committed to helping out regularly and who have made the paper a success this term. Special thanks have to be given to John Olaveson who leapt into his role as Assistant Editor with both feet and kept things running smooth-

John Olaveson, 2A Civil was outstanding as Assistant Editor this term.



Cindy Bao, 2B Electrical was a consistant contributor and driver in her position as Assistant Editor.

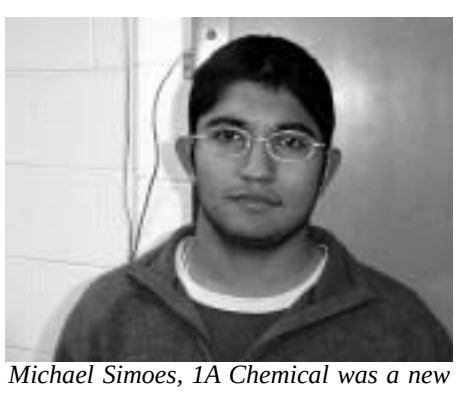
Maria Simoes, 4N Computer was not only a Layout Editor this term but also a contributor and a trainer. Thanks.

James Schofield was once again the IW Webmaster and performed excellently!

Naoreen Hasan, 2B Chemical was the Distribution Manger this term and helped ensure the paper got out.

Jeff Henry, 4N Computer and Offstream Editor in Chief helped so much he seemed to live in the IW office. Many, many thanks.

Kiran Dhaliwal, 2B Electrical was a consistent provider of outstanding articles and interviews.



Michael Simoes, 1A Chemical was a new face to both UW and the IW, and he's become a valuable contributor.

Christine McCullough, 2N Chemical, was not only a great contributor but made a massive contribution to IW operations.

Edward Tan, 2A Computer, adorned the pages of the IW with his regular written and artistic submissions.

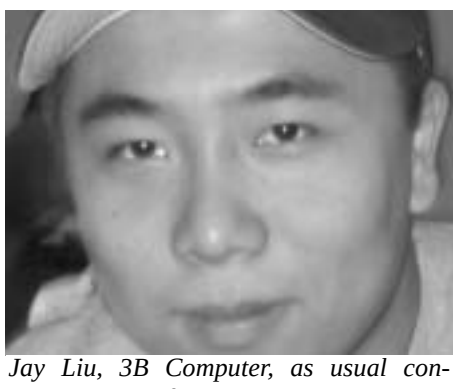
Hui Lam Yau, 4A Mech, as usual provided us with some spectacular work.

Jonathan Ng, Computer Graduate and past Editor in Chief helped out as a regular photographer.

Ryan Consell, 3N Mechanical and WEEF T.A., entertained us with his articles and comics.

Dan Arnott, 1A Environmental, was also a new face to the IW staff and has become a consistant contributor.

Sung Hon Wu, 3A Computer contributed both in written form and photographic form.

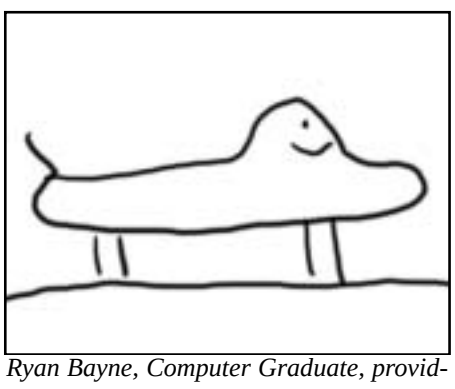


Jay Liu, 3B Computer, as usual contributed some fantastic written work this term.

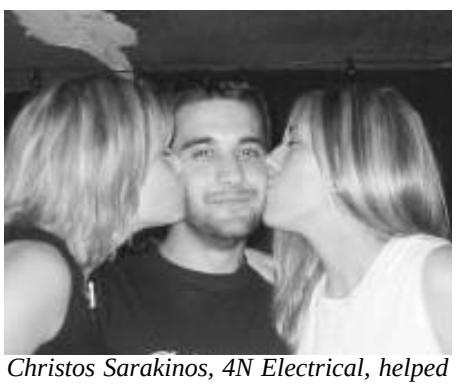
Stephanie Purnell, 4A Chemical, kept us up-to-date on her adventures in English.

Bryan Bell-Smith, 4N Computer, was invaluable in his help as copy-editor.

Alyssa Clarkson was also very, very helpful in article editing.



Ryan Bayne, Computer Graduate, provided endless mirth with our favourite mutant canine.



Christos Sarakinos, 4N Electrical, helped with contributions - especially with the Tin Soldier.

Sabrina Mu, 2A Systems Design, provided us with the "Art of Living"

Chun Lam, 2B Chemical, also provided contributions as needed.

Caught By The Window

John Olaveson
2A Civil

The Toronto-based band Pilate recently arrived on the international music scene with the quickly popular song "Into Your Hideout." I admit, I bought the band's latest CD, "Caught By The Window," mostly for that song. I also bought it because I try to support young rock groups. And the display in HMV grabbed my eye. So I'm a consumer whore. Get over it.

Pilate has enjoyed great popularity in the Toronto indie-scene prior to this release. The band started out with a bunch of guys, some very new to music, forming through internet calls and friendship connections. Their first disk was an independent venture and was the basis for the shows they played in Toronto. With the new tracks found on Caught By The Window, they've expanded their fan base and have even opened for such groups as Matthew Good and David Usher.

Pilate has been criticized for imitating established bands Coldplay and Radiohead. The songs on this disk combine some of the sounds of both of those bigger bands. But I say, who cares, as long as the music is good? And, this music is good. With the prices of CDs approaching the reasonable range (retailers are lowering prices to between $12-16 to combat piracy), this one is a bargain.

The music starts out slow and contemplative with "Endgame" (oh, the irony!). The rock picks up with the second track "Melt Into The Walls," a passionate piece of music. Then comes the crowd-pleasing, headbang-inducing "Into Your Hideout," definitely one to wait for in a concert. The album slows down again with the next few tracks. "Collide" sends the mood of the CD into a calm reflection. It is a soft ballad, a lovely break before the next upbeat tracks. The CD closes with "A Respite" of the first track. The final tune slowly builds into a massive crescendo that leaves the mind absorbing emotion and thought as the sound fades into nothing.

Guitar, piano, and drums all stand out during various pieces of music. The bass player Rudy Bumrah gets some vocal work, a soft compliment to the voice of the lead singer, Todd Clark. Bill Keeley rocks on the drums, holding an energizing beat for the ear candy guitar lines played by Chris Greenough.

The website for the band looks very similar to the CD cover. Maybe I haven't been to enough websites to see the like elsewhere, but this website is unique in its interface. The atmosphere matches the feel of the music. And there are demo tracks there that curious folk can listen to. Check it out if you like at www.pilate.com/#.

So will Pilate survive their first record to produce more great music? In a market saturated by similar sounds, in a world where music is traded on-line and bands see less and less money from sales, there are no certainties. But for now, I'll enjoy my $15 CD, and I'll try to check them out live at the Bomber tonight. But don't tell anyone; I want a good spot at the front.

Pilate at the Bomber

Maria Simoes
4N Computer

On Friday, November 21st I had the pleasure of seeing Pilate at the Bomber. Based out of Toronto, Pilate's sound is heavily influenced by such bands as Radiohead and Coldplay. I had been heavily anticipating the show after being introduced to the band's freshman CD, Caught in the Window, two months ago. I wanted to see how their live set would hold up against their studio sound. I was not dissapointed. Well, not by them at least.

The show was billed as "Pilate and Special Guests". The special guests turned out to be Crush (an alternative rock group from Guelph) and Leslie Pike (a Tori Amos styled singer/songwriter). The first was pretty much my idea of "stock rock" and did not impress as anything I'd be willing to pay for just yet. The latter was too soft and angsty for the crowd; therefore, even though she was pretty decent and possibly worthy of more looking into, she just did not fit into the night.

Getting over the eclectic opening lineup, there were still a few things about the show that plagued me. For one, the sound was badly done. The sound setup for Crush was so loud it caused my ears to almost shatter at various points in their set. The sound setup for Leslie was decent, but that might have had something to do with the soft "coffee house" style of music she was delivering. However, nothing "beat" the sound setup heard through out Pilate's entire set. Many times my listening pleasure was rudely interrupted by the sound of feedback coming through the speakers. And this was after the sound crew took approximately 30 painstaking minutes to run a second sound check - much longer than most fans could be seen to bear.

However, the bad sound and strange openers did nothing to take away from the wonder that is Pilate. Ignoring the many noisy points in their set, I could still hear their essense coming through. The melodic voice of lead singer Todd Clark did not dissapoint. Nor did the almost near perfect renditions of their studio songs. Being ever the critic, I would have changed their set a slight bit to include my favourite song from their freshman release - "Perfect Thrill". Furthermore, I would have probably rearranged and placed the songs that were NOT on their album into the original set and not into the encore set. Since this seemed to really disappoint the less "die hard" fans who had not had the presence of mind nor the $0.99 to buy those songs off of puretracks.com or download them from pilate.com.

Leaving the show, I had an overall sense that it was pretty much worth the $5 charged. I'd probably not pay to see another band at the Bomber until I know for certain that the management can deliver on the sound. On the plus side for the Bomber, it is probably the most intimate venue on campus. In this case, it allowed me to grab some amazing stills of the band in action and also helped me to get my CD signed by Todd! The music was good and I had a enjoyable time.

Pilate live at the Bombshelter did not disappoint

Pushing For a Student Membership Program

...continued from Page 5.

tion they needed to get the required experience and get licensed. Beginning in the seventies, PEO ran a conference where engineering society representatives from across the province were invited. In 1987, the Engineering Student Societies' Council of Ontario (ESSCO) was formed partly to help foster communications between engineering students at the various schools and the PEO.

Pushing for a student membership program, ESSCO was rewarded in early 2000 with an online version of a student membership program (http://www.engineeringstudents.peo.on.ca). Engineering students could now, for no charge, receive publications and access information about the PEO, the licensure process, their local PEO chapter, and a resident faculty advisor in their university. With a goal of ensuring a seamless transition from student member, through engineer-in-training, through the professional ethics and engineering law exam to the profession itself, the membership program boasts 6,490 students enrolled – 1511 here at Waterloo.

Conflicting Interests and the Split

Over the years, PEO had become an organization not just attempting to protect the public interest, but to serve its members interest. Promoting the profession to the public, providing services to members and lobbying government sometimes outside of a strictly regulatory capacity became at odds with the mandate of serving the public interest. With professional engineers demanding for an organization that would improve the image of engineers in the public eye and affect government policy positively on their behalf, a referendum in 2000 resulted in the creation of OSPE.

The Society, as it is often referred to, was given a mandate of advocating on behalf of professional engineers to government, promoting the image of engineering, and providing member services to professional engineers. As such, the Society has been modelled after other professions, such as medicine where the College of Physicians and Surgeons regulates practice and the Ontario Medical Association advocates. Over the last three years, OSPE has taken over areas like the Women in Engineering Advisory Committee, the National Engineering Week Ontario steering committee, a position on the Ontario Engineering Competition advisory board and next year the annual engineering salary survey.

In a presentation to be given to engineering society councils across the province, the Society describes itself as follows:

"The Ontario Society of Professional Engineers is the voice of engineers and engineering in Ontario. We advance the professional and economic interests of our members by working with governments, offering leading-edge professional development and valued member services."

Debt management, automobile insurance and cellular discounts, and many others are all available to student members. But more importantly, OSPE is working with ESSCO to build the voice of engineering students in addition to their work of building the voice of the professionals many students will become.

From helping enshrine the essential role of engineers in the post-Walkerton legislation regarding certification of drinking water operation and management to current involvement with the Brownfield legislation, which deals with revitalization of industrial lands and who is qualified to certify a site as environmentally safe, OSPE has continued to work hard on behalf of today's professionals and will be great partners for the engineers of tomorrow.

The OSPE student membership (http://students.ospe.on.ca) requires an annual fee of $25.00 plus GST.

Becoming an Engineer

The best way to keep informed on what is required to walk the path into the role of environmental and public protection that professional engineers play is to sign up for the PEO student membership program.

Due to lobbying by the University of Waterloo, coop experience after 2B can count towards the four years of relevant engineering experience required for licensure provided it meets certain restrictions (see the No side of this issue's Point vs. Counterpoint, or sign up at http://www.engineeringstudents.peo.on.ca and read the information for yourself).

With the advocacy and member services side separated from PEO, the essential self-regulatory work of protecting the public by ensuring only competent and ethical professional engineers can practice professional engineering can continue without conflict.

I encourage all engineering students that have read this article to sign up for both organizations as student members and support yourself and your future profession.

Arts

TalEng at Loose Change Louie's Great Success

John Olaveson
2A Civil

At last week's TalEng engineers from across all disciplines put themselves on stage to the delight of friends and spectators faculty-wide. Well, maybe not faculty-wide, but a good number of students were present at last Wednesday's event.

MCing the show were those two crazy characters Paul Paquet and Geoff Quinsey. Throughout the night, plenty of talent came and went. Between the events, the crowd was entertained by such spectacles as swordfights.

As is the custom of this semester's festivities, beverages augmented the fun. That's likely why TalEng is held at Loose Change Louies' all the time. The engineer's chant (the one concerning "He's no use to anyone" and all that, y'know?) was chanted to the delight of the crowd and the greater delight of the drinkers. But that's not all TalEng is about, right? TalEng is about the talent too.

The talent of the night showed all in attendance that engineers can really form world-class acts. We're much better at breaking down and having a good time. The acts were passionate, powerful, and wonderful. We all know that engineers can do more than solve integrals and design flashy computer programs. We're not the boring clouts that popular myth claims we are! We're fun and adventurous and creative but, unfortunately we only have a few venues to express that creativity. Why can't every week have a TalEng? Well, I suppose if there was a weekly TalEng no one would be able to get any homework done due to rehearsals and such. Oh well. There will be more fun next term.

For those less musically inclined, the dancers kept the evening entertaining

A familiar act to TalEng, Chris Lau and Drew Morris kept feet tapping

WASPS: More Sexual Than Intellectual?

Dan Arnott
1A Environmental

If you actually took time to stop in the halls of the engineering buildings and read the posters for WASPS- you know the ones with the white text on the black background- you may have been expecting a deep and profound examination of culture, stereotypes, and human emotion. Well, to me, the play was much better exemplified by those other posters, the ones that led to little white papers pasted over the part that said "Incest is best."

WASPS was a sidesplitting, edgy, heavily sexual comedy that taught me a lot more about human relations than "Single and Sexy" ever did during Frosh week. And I loved it.

The story of Val, a modest librarian who wants to break through the stereotype and get married, would be depressing if it weren't staged in such a funny way. She marries a U of T math professor (talk about bad taste!) who would rather prove a theorem than enjoy their wedding night. Soon Val uncovers a whole wasps' nest of lies, emotions, and hidden facts about Cyril that are at once hilarious and disturbing. We meet Cyril's evil twin/alternate personality, Lyle; his cold artistic sister Sam and her alternate personality, the irritating travel agent Sondra; Marge, the self-proclaimed "celibate lesbian"; Andrew Blett, the "delinquent borrower" with a fetish for Librarians; and a character for just about every type of neurosis or dysfunction you can imagine. Heck, even Maury Povich showed up! Innuendos and librarian references ran rampant, even working their way into one of the few serious scenes at the end, where we actually catch a glimpse of the concept of "love" through all the sex. It was a great story that kept getting more and more ridiculous, until it actually finished on a serious note- nice touch.

Marc Rizkallah and Julia Kossowski as Cyril and Val, shown here in rehearsal, performed outstandingly in the play.

There were many notable performances. Julia Kossowski, playing Val, did justice to the lead role, speaking clearly and delivering her lines with the full spectrum of the emotions they described. Her strengths included a solid stage presence, and a good ability to stay in character. And I'm sure her erogenous moans during her bedroom scene with Cyril had a few people squirming in their seats. Melissa Cesana, playing Marge the celibate lesbian, affected a certain tough, "bitch with a heart of gold" attitude, complete with a slight accent. She truly gave the role the attitude it deserved, and her strongest acting happened when she decided to stop being celibate when she met Cyril's sister Sam.

Mark Rizkallah did a good job of playing Cyril, giving him a mysterious, secretive, sometimes frenetic nature that went with the play perfectly. However, when he played Cyril's alter ego Lyle, it didn't seem like a very different character, it seemed like Cyril lying. That may have been what the directors and actors were going for, but Sam and Sondra (Melanie Roskell) were different enough to have been two separate actors! Fortunately, Mark redeemed himself in the climatic scene when he portrayed a manic and insane Lyle with stunning conviction. Andrew Blett, the delinquent borrower, played by Neil Cavan, was a somewhat gentler character than Cyril/Lyle, playing his role with more subtlety. But he was certainly capable of his funny moments. If the fact that he had a librarian fetish wasn't funny enough, all you had to do was watch him take off across the floor after Val's cardigan.

Many of the minor characters provided stunning performances and often stole the scene from the main characters. Child (David Johnson) and Other Child (Mike Bootsma) were two such characters. Their innocent demands for books on Labour Day and Remembrance Day for Mrs. Wannamaker's class were totally believable. David delivered his lines with bratty arrogance, while Mike took a different approach, interpreting his character as a shy and whiny child. Another good example was Lucas Andrews as the strange, lecherous Uncle Calvin, complete with 70's suit, southern accent, and wino demeanour. He had the most energy of anyone who stepped on stage, and took the ridiculous climactic scene to the next level of absurdity. (He was mistaken for a corpse through most of the scene). He brought energy to the stage and made everyone laugh, even if they were thoroughly disgusted.

I did, however, have a few complaints about the production. Transitions between scenes were awkward and long, and were barely eased by the sporadic (but often appropriate) music. That, however, might have been a function of the limited backstage room. At times, I had trouble hearing the actors, especially when there was music in the background, or when they spoke before the crowd had stopped laughing. And at least one of my friends was greatly offended by some of the subject matter. But when you go see a play with posters that say "Incest is best," you can't expect it to be all innocent fun.

Well, Incest may or may not be the best, but WASPS was certainly good. Librarians can get married and fall in love, although not necessarily with the same person. And Engineers can act and direct plays, making wildly funny pieces of theatre out of edgy and provocative scripts. I am willing to overlook the few minor problems with the play and state with certainty: **W**hat **A S**uper **P**lay- **S**uper!

Iron Warrior Photo Contest Winners

Regardless of the minimal publicization of the Iron Warrior photography contest, we received a surprisingly large number of submissions - and so selecting the top three works was difficult. In the end though, first prize goes to Richard Li of 3A Electrical with his fantastic photo of New York at night, second prize goes to David Yip of 2A Mechanical for his close-up of a camera lense, and third prize goes to Jonathan Fishbein of 3N Software for his photo of a vandalized stop sign.

Untitled by Richard Li, 3A Electrical

Flourite by David Yip, 2A Mechanical

Untitled by Jonathan Fishbein, 3N Software

Runners Up and Noteworthy Submissions

Foggy Day at Mount Royale by Richard Li, 3A Electrical

Untitled by Jonathan Fishbein, 3N Software

Untitled by Matt Colautti, 1A Mechatronics

For this contest, the Iron Warrior received over fourty submitted photos - all of them excellent. In addition to the first, second and third place photos shown at the top of this page, several other photos deserve honourable mention, as they made the selection process very difficult.

Although we weren't able to publish all submissions, colour versions of each photo are available on the Iron Warrior website ~ http://iwarrior.uwaterloo.ca

Butterfly by Alan Khan, 2B SyDe

Honda Magna by Alan Khan, 2B SyDe

Entertainment

iTunes for Windows: A Comprehensive Review

Maria Simoes
4N Computer

On Thursday, October 16th, Apple Inc. released their long awaited iTunes for Windows software. Within the span of three days, 20 million copies of the software were downloaded from apple.com. This article will attempt to go through the main features presented by this powerful new Jukebox for Windows.

The library management features in iTunes requires you to trust the program, but if you do, it can be quite powerful and helpful. It will automatically rename and move your files according to the information in the library. Rather than having five hundred poorly labeled files in one directory, you end up with a directory with each artist contained in their own folder, therefore encouraging you to have good labeling habits. As well, iTunes provides for easy browsing by genre, artist and album, allowing you to quickly filter your library with just a few short clicks.

However, if you are a person requiring ultimate control over the storage of your music collection on your hard drive, there is an option that lets you manage your music to your preference. At the same time, iTunes still maintains an "iTunes database" of all the music you play through it, thereby allowing you to still use the available library management features.

Another powerful feature that is improved by having a well-managed library are Smart Playlists. These let you create dynamic playlists based on time, year, frequency of play, or just about any other criteria you can come up with. You could even make a playlist to only listen to track number 4 from all albums by artists starting with C recorded between 1997 and 1999. It also allows you to rate your songs on a scale of 0-5 stars and filter based on your ratings.

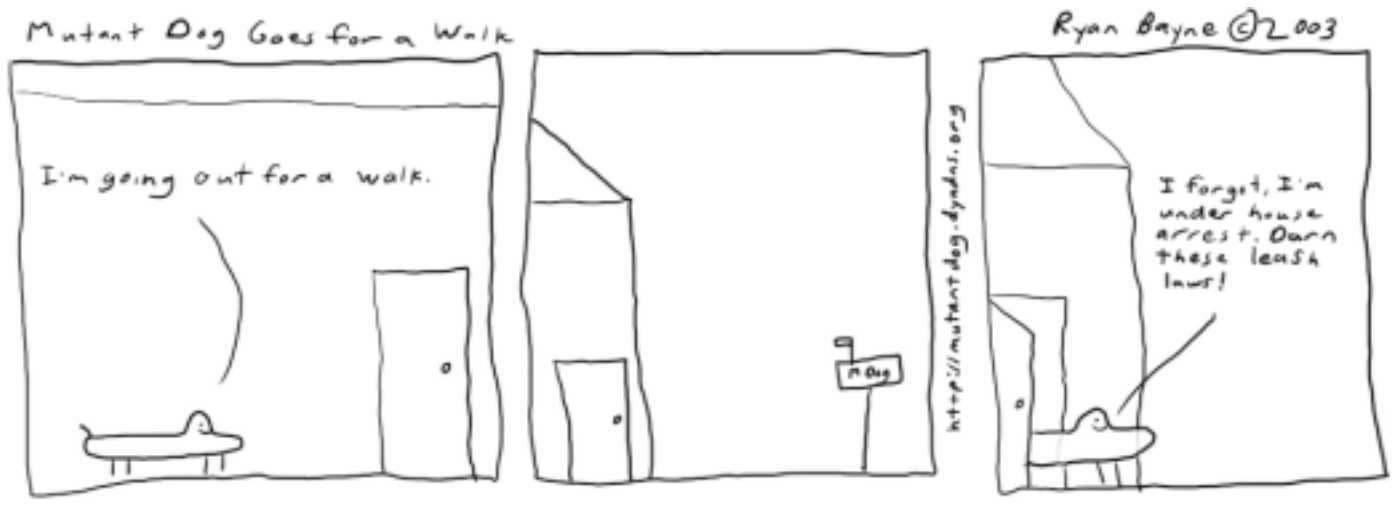
For those with an Apple iPod who use a Windows machine, either primarily or at work, will find this version of iTunes very satisfying. Previous to the release, Windows iPod users required iPod management software in addition to a specially modified version of MusicMatch Jukebox in order to transfer their music collections from their machines onto their devices. Needless to say, this did not provide a decent interface. The software was slower than would be wished and many a Windows user would look enviously at their MAC compatriots with auto-sync capabilities through iTunes.

Now, Windows users get the same functionality experienced by those on a MAC: auto-syncing to primary computers of selective songs or an entire library upon connection. Upgrading the existing iPod software was fairly simple. The features were well received and apparent upon the first connect. Furthermore, when connecting to a secondary computer - such as a Windows box at work or a secondary computer - one can choose to personally manage the syncing on that computer. All of these features work easily and seamlessly across the board. One recommendation is to grab a dual USB 2.0/Firewire cable in order to connect to Windows machines lacking the IEEE 1394 (Firewire) interface.

One downside of Apple making their software available for Windows is that they don't control all the user hardware that they do on the Macintosh. There have been various reports of incompatibilities with some CD burners as well as readers. Unfortunately, one of our drives suffers from this incompatibility, making it quite difficult to import CDs into the iTunes library. Hopefully this will be fixed in a future update. However, an external USB CD-RW drive worked right out of the box without any additional drivers and imports songs without issues.

For cross-platform users, there's only a negligible difference between iTunes for Mac and iTunes for Windows. The title bar and associated widgets look a little bit different, but otherwise, they share the same brushed metal appearance and behave identically. The iTunes for Windows installer includes QuickTime 6.4 for Windows as it's a requirement for playing back the various music formats. iTunes for Mac assumes you have QuickTime already, as it's part of the operating system.

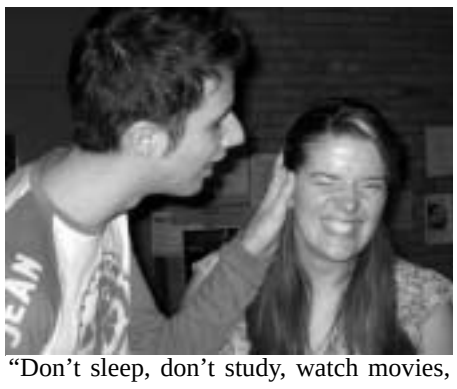
All in all, this software is a powerful and worthwhile addition to any Windows user. If said user also owns an iPod - it is a necessity - and a well working one at that. At work, at home, for play - iTunes for Windows has already proven its worth. Hopefully, future versions will continue to please.



the Iron Inquisition

Sung Hon Wu, 3A Computer

What's your favourite exam-stress reliever?



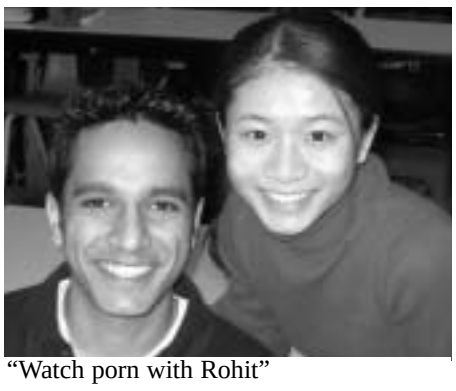
"Don't sleep, don't study, watch movies, direct plays, and ride each other"
Lisa Rehak - 4A Systems Design and Matt Woolsey - 3B Civil

"Run around RCH like the crazed engineer I am"
Alicia Liu - 2A Computer

"Take a long nap"
Elizabeth Maclander, Wallace Ip, Jolene Koornneef - 2A Civil

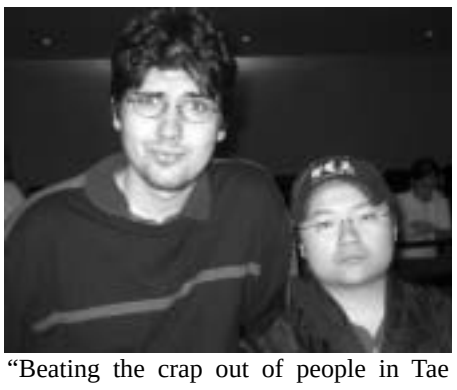
"Have fun with friends"
Jayanth Velayudhan - 1A Computer

"Playing with fire"
Aaron Malone - 1A Mechanical and Terri Reeve - 1A Chemical



"Watch porn with Rohit"
Rohit Sharma and Henriette Ko - 2B Systems Design

"I watch friends episodes"
Steve Lee - 3B Computer



"Beating the crap out of people in Tae Kwon Do"
Pam and Tamas - 3B Computer