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THE IRON WARRIOR

THE NEWSPAPER OF THE UNIVERSITY OF WATERLOO ENGINEERING SOCIETY

VOLUME 28 ISSUE 12 | WEDNESDAY, OCTOBER 10, 2007

Would you kill over a video game?

Page 10

Co-op jobs too vile, even for JobMine!

Page 15

<http://iwarrrior.uwaterloo.ca>



Energy Days: UW at the forefront of Ontario's Energy Policy

An Interview with Dr. Jatin Nathwani, Ontario Research Chair in Public Policy and Sustainable Energy Management

FARAZ SYED
4A CHEMICAL

Dr. Jatin Nathwani is the inaugural holder of the Ontario Research Chair in Public Policy for Sustainable Energy Management, a \$3 million provincial research chair at UW to integrate new technologies that can enhance energy efficiencies and promote renewable resources within a reliable power system. A former manager of strategic planning for Hydro One, he will lead efforts at UW to identify and develop cost-effective energy options for Ontario and beyond. In this exclusive interview with *The Iron Warrior*, he talks about UW Energy Days and his future plans for developing the capacity for innovative solutions for the energy sector at the University.

The Iron Warrior: Can you start by telling us about the UW Energy Days event?

Jatin Nathwani: UW Energy Days is a three-day event which starts on Tuesday, October 23rd. It is a set of upcoming public lectures about energy research at the University of Waterloo. The program has been developed in co-operation with the team of energy researchers here at Waterloo. Professors Ian Rowlands from Environmental Studies, Michael Worswick from Engineering and myself were involved in putting this together.

We are keen to provide a forum for our communities and members of the public to gain a better understanding of the challenges facing the Ontario's energy sector and



Dr. Nathwani recently joined the University.

help provide a context for national and global energy issues. These relate to our role as individual consumers of energy services but also an appreciation of the need for renewal of the existing generation and delivery infrastructure. We will be bringing in leaders from the energy sector to share their views and perspectives in a public forum and allow a meaningful discussion of the issues with the audience through questions and answers. This is an open event or-

ganized by the University and all members of the public are welcome and encouraged to attend – there are no tickets. The idea is to improve the quality of discourse and debate to allow people to have meaningful input to research directions that will shape the development of the energy sector.

IW: You mentioned earlier that the UW Energy Days event was just the beginning of a larger project. Can you elaborate on that?

JN: It is one of my strongest desires

See ENERGY on Page 3

Waterloo Engineering Takes On the World

Midnight Sun Off to Australia

DAWSON OVERTON
1A ELECTRICAL

With the World Solar Challenge (WSC) in Darwin, Australia a mere 2 weeks away, things have been in high gear for Waterloo's solar car team, the *Midnight Sun*. A lot of changes have been made to the car from the previous model, and the team's members are diligently doing last minute electrical work and preparations before they fly off to meet their car in Australia on October 9th (the car has already been shipped there and likely is waiting in Darwin at the time of writing).

I sat down with Derek Hans of the *Midnight Sun* team to speak about the changes to the solar car.



This year's competition is bound to be exciting.

The improvements on the car this year are numerous. Firstly, they have implemented a completely new telemetry system which gives the driver real-time battery information, temperature

See SOLAR on Page 5

Letter from the Editor: On Bullshit



FARAZ SYED
EDITOR-IN-CHIEF

Did you vote on Wednesday? How did you choose? I didn't really care about politics until now, so I never learnt how to choose between all those talking heads making the same, tired promises. I'm probably the most apolitical person you'll ever meet. It's in my background, I guess – anyone who's ever been submerged in South Asian culture would call politics a "dirty game" instead of a decision making process. That's actually not a gross generalization; this view of politics and its players is firmly embedded in South Asian film, humour and gossip. It's what our dads discuss in excited tones at every gathering (because discussing politics is the cultural pastime), and their discussion usually focuses on a few, key players who, of course, have brought shame to their countries.

It's not so different from Canada – most of my friends can't seem to get past discussing how great Paul Martin would have been if Jean Chrétien hadn't damaged Martin's career from the start, or how Harper's policies are so close to the States'. I don't understand how people can discuss that simple thing for hours on end.

Then there's that theme of Canada/U.S. relationships – it's really ambivalent because there is such a widespread love/hate mindset that it hinders any sort of conclusion. It's odd how we embrace the Americans at one point, and recoil in disgust at the latest mention of their politics the next (not that I mean to paint all Canadians with the same brush, but I sense this is a cultural issue). In other parts of the world people either outright hate each other, or in the other extreme, call each other brothers. Maybe it's because no two countries have quite a shared history and geography like Canada and the U.S. – familiarity breeds contempt.

The good news is, no matter how apathetic you think you are, election fever always catches up with you. Something always comes along and challenges your low expectations of politics, and forces you to respond. For me, it was the matter of energy. Why? It's my background acting up again. I'm an Engineer, and I've had lots of work experience related to the overall energy industry in Canada. So I just wanted to impart a quick warning to anyone who decided based on energy and environmental themes: if you voted for Howard Hampton of the NDP, or anyone else who said they would stop nuclear and coal power, you won't see those promises materialize within the next 50 years.

"Stop coal & nuclear. Switch to green power." That is politician speak! That's Marketing & Promotion thinking: "You know what we can do? We can take advantage of the public's ignorance on these issues and promise them things that would take forever to accomplish anyways! Screw the pragmatic stuff – no one will elect you if you invest more in research, for example. Just challenge the status quo to show that you're not afraid of whatever it is your opponents are afraid of!"

I should probably disclose that my only exposure to Howard Hampton's campaign has been this little pamphlet I picked up with the very slogan I'm attacking. Don't assume for a second though that I attacking a candidate based on a single pamphlet though. I know I haven't done my research on these elections (I hate politics, remember?) so of course I won't advocate or attack any candidate. What I am advocating is using critical analysis to cut through the politician speak that every candidate employs. Heck, I might as well call it Newspeak. I'm sure it's used to defend their position on just about everything, but energy is all I know about. I leave it up to the reader to do their own research on other matters.

We can't just wish away nuclear. Nu-

clear actually happens to be the technically cleanest power generation technology we have. It produces waste that is easy to contain and store. It actually produces *less waste* than other methods because uranium gives you so much energy to begin with – it is a very energy-dense source. If we want to move towards a sustainable energy industry, and we do, then we have to move towards it gradually. Use a multi-disciplinary approach – no one invention is going to be save us all. Find a way to integrate things like bio-fuels, wind, solar into the existing nuclear/hydro mix. That's just a start, and this sort of research already happens at our University. I encourage you to browse the UW department websites at some point and read up on both existing energy research, and the Green Energy Research Institute (which is probably going to become part of the new Waterloo Institute for Sustainable Energy).

Engineering Homecoming

On a side note, it was great fun hosting an open house for *The Iron Warrior* during the Engineering Homecoming events. We had so many visitors come by and pick up old issues of *The Iron Warrior* and *Enginews*. I must have met at least six past Editors-in-Chief during the event – we pulled out the old issues and browsed through many of their issues. They all remarked at how wonderful it felt to pay a visit to the newspaper office once again, and to meet the current staff. One of them is Brian Hamilton, who was Editor-in-Chief in 1986! His picture is on page 9 among many others in the interesting photo essay our staff has put together. Once again, I'd like to thank the many contributors and staff who make this paper possible. They enable Engineers to shatter stereotypes about non-creative, straight laced students by producing interesting reading, be it serious or funny, every single issue. That is why Engineering journalism so is important.

That's all folks! See you same time, same place, next issue!

High-Voltage Lab Rebuilt Grand Opening Planned

THE IRON WARRIOR
NEWS BUREAU

The High-Voltage Engineering Lab in Carl A. Pollock Hall is set for a grand re-opening on October 25th, according to the Department of Electrical and Computer Engineering. The lab has been completely rebuilt after burning down almost three years ago.

The two-storey lab is located in CPH 1333, across from the Multimedia Lab. The ECE Power and Energy Systems Group conducts research in the lab, which was damaged heavily by a blaze that was started at about 4 am on March 7, 2005. The fire destroyed research equipment and left the lab unusable, causing roughly \$1 million in damage.

Apologies & Corrections

The Iron Warrior would like to apologize for printing incorrect submission deadline dates for the remaining issues of the term. Please note the correct dates, which are printed in the submission deadlines box below.

Future Submission Deadlines

October 26 for publication on October 31, 2007
November 9 for publication on November 14, 2007
November 23 for publication on November 28, 2007

Send your submissions to
iwarrior@engmail.uwaterloo.ca

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of Waterloo Engineering Society

Editor-in-Chief
Faraz Syed

Assistant Editor
Jeff Kao

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

The Iron Warrior encourages submissions from students, faculty and members of the university community. Submissions should reflect the concerns and intellectual standards of the university in general. The author's name and phone number should be included.

All submissions, unless otherwise stated, become the property of The Iron Warrior, which reserves the right to refuse publication of material which it deems unsuitable. The Iron Warrior also reserves the right to edit grammar, spelling and text that do not meet university standards. Authors will be notified of any major changes that may be required.

Mail should be addressed to The Iron Warrior, Engineering Society, CPH 1327, University of Waterloo, Waterloo, Ontario, N2L 3G1. Our phone number is (519) 888-4567 x32693. Our fax number is (519) 725-4872. E-mail can be sent to iwarrior@engmail.uwaterloo.ca

Becoming a Leader in Energy

ENERGY

Continued from Page 1

to find ways to share the current thinking about energy matters with members of the public, and to give people an opportunity to be part of the excitement but also challenge and question those involved in the planning and development of our energy systems and research. This is just the beginning; there will be many more conferences, workshops and courses as part of an initiative to ensure that what we do and the technologies that we develop meet the needs of our societies, in a way that is sustainable over the long term from both environmental and economic growth standpoints.

IW: Let's move onto the topic of energy research at UW in general.

What is the University's vision for this sort of research?

JN: The very reason I am here at Waterloo is that the senior administration, including the President, accept the need for a central focus on the question of the energy: its generation and delivery, consumption patterns, development of effective policies to address the complexity of energy systems, and how power systems will evolve.

Professors at Waterloo are involved in many areas of energy research, such as wind energy, bio-fuels, power engineering and integration of distributed power systems into the existing grid. Our desire is to provide an integrated, multi-disciplinary focus that relies on the strengths of each faculty member and their graduate students. Working as teams, we could begin to address the complexities of the real world in a short to medium time frame. An array of technical, financial and public policy instruments are necessary to meet the needs and expectations of society.

We want to bring the world to Waterloo – people who are working in business, industry and government need to be aware of who we are and what our competencies are. We want them to bring their perspective and challenges to us, so that we can understand their real needs, and then match our research directions and policies to meet those needs in an interactive way. We want to be judged by our peers and others as the focal point for leading edge energy research in Canada.

IW: How do you explain this complexity

to people and in what ways can we manage the human factor?

JN: The complexity of energy services is astounding. Consider how many different ways there are to produce electricity and the long term planning and investments that are required – there are several major sources such as hydroelectricity, nuclear power, natural gas, wind and solar power and on a site-specific basis even landfill gas or agricultural wastes can be used to generate power. Then there is transmission and delivery of electricity and rather limited and storage capability. The physics of the system dictates a need for generation and end use to be met moment by moment without interruption. On top of

“We want to bring the world to Waterloo.”

all of this, there is the question of how to use energy effectively. Can we conserve or shift the demand by using power at “off-peak” or low usage times? Such concepts have enormous benefits in terms of cost as well as our ability to reduce the environmental footprint of our actions. What would inspire us to use less, or shift the times we use energy? A consumer at the receiving end of the energy chain doesn't appreciate or think of all this complexity – they simply expect the lights to turn on at the flick of a switch, reliably and at a low cost.

If we are to encourage efficient use, we will need a far better understanding of consumer motivation. This will have to be supported by affordable technologies to help them gain a better awareness of their impacts. Let's say you turn on the AC, or you set it on “High” during a peak energy hours. Raising the temperature by just a little bit has enormous capacity to reduce the demand from the system, but a consumer has no perspective or sense of the consequences. If they only knew those consequences, or if there was a meter in front of them that told them the level of their consumption (in \$ or kWh) and by how much this changes as a direct result of their actions, they might change their habits. The difficulty is that these things are not evident to the average consumer.

So how do you change human behavior and give people an appreciation of the effective use of energy? What if in addition to the consumption meter, we also told them that by reducing demand by a little bit they are also reducing carbon dioxide (CO₂) emissions and protecting the environment?

Immediately, that's another thing that consumers can relate to and apply. This is but one example of being able to see that personal actions have an influence on the environment and the pocketbook. Pilot projects and demonstration projects are trying to establish the values of these methods in helping people conserve energy, reduce demand, reduce peak demand and reduce energy costs to the consumer, as well as reducing the environmental footprint. Making all of this transparent is a key challenge.

IW: How do institutions such as the Green Energy Research Institute fit into this integrated framework?

JN: We are in the

Have You Been Fooled?

Ontario Election Distraction Tactics



DAN ARNOTT
4A ENVIRONMENTAL

On October 1, 2007, John Tory, the all-too-aptly-named Conservative candidate for leadership in Ontario, announced that he would not institute funding for all faith-based schools without putting the vote to the public. Without that bone to pick over, the Ontario voter is left to wonder: what are our esteemed candidates going to talk about for the rest of the nine days until the election?

I have lived in Ontario for my entire life, and never once have I thought to myself, election time or not, “You know what? Faith-based education is *the* most important issue in this province!” Health care? Environmental concerns? Aboriginal rights? Labour issues? Land development policy? Sure. Even education as a whole is an important issue, but to focus on this facet of the issue almost exclusively, on the eve of an election which seems to be characterized more by personal emotion and reaction than by actual hard facts and policy? Seems to me like a distraction tactic.

Who here is aware that McGuinty plans to spend \$100 million on school books bought exclusively from the Indigo chain? That Howard Hampton plans to institute a one-year warning for mass layoffs? That Tory intends to increase the enforcement of marijuana laws? Not likely, and those are fairly big issues. The way they make it sound, the entire province is going to collapse if the issue of faith-based schools is not put at the forefront. It's all they talk about.

That is, when Hampton and Tory aren't tag-teaming McGuinty. I have heard more personal attacks on McGuinty than anything else from the both of them. Between McGuinty's endless ‘I'll be your friend if you be mine’-ism and the endless ad-homming from Tory and Hampton, the real issues of this provincial election are being neglected. When did highly emotional,

process of establishing a new institute that will incorporate all of our goals – the name proposed is the Waterloo Institute for Sustainable Energy (WISE). It will be a transformation of the Green Energy Research Institute (GERI), in the sense that it will further enhance goals of green or “greener” energy systems to be incorporated into the broader, more comprehensive energy system that is part of the existing energy infrastructure. I believe sustainability will provide a broader and more helpful canvas for the promotion of green options. We have billions of dollars worth of existing infrastructure that provides us with cheap, reliable energy services, but there are both environmental concerns and technical concerns – the system is ageing and needs replacement. There are huge challenges in just keeping the power system going as it is, and also in building new systems in a way that meets the test of environmental sustainability. We would very much like to be leaders in promoting effective integration of green and renewable energy systems into the existing infrastructure but at the same time develop powerful solutions for improving the efficiency of the existing system.

IW: Where do students fit into UW's vision for energy research?

JN: We must build on the existing exper-

heartstring-tugging TV ads take the place of real politics, of actual comparison and discussion of policy? One would think that after Ernie Eves's referral to McGuinty as an ‘evil reptilian kitten-eater from another planet’ during the last provincial election, we would step back and see how inane these elections are becoming. One would think. Those who do not learn from the past, it seems, are doomed to repeat it.

What does all of this suggest? Several things, all of them rather disturbing. First, the fact that the Conservatives and the NDP are teaming up on the Liberals suggests that there's no real fundamental difference between the Left and the Right in this province. The Tories and the Dippers are supposed to be like fire and ice! A coalition government between them will be totally ineffective, and if it's not, it certainly won't be the right kind of effective. A regrettable outfall of this is that left-wingers who can't reconcile themselves with the

“The way they make it sound, the entire province is going to collapse if the issue of faith-based schools is not put at the forefront. It's all they talk about.”

Conservatives (or right-wingers who can't reconcile themselves with the NDP) may vote Liberal for lack of a better option, without actually supporting the Liberal party's policy.

Second, what is being obscured by all of these shenanigans? Well, for one, the press is giving

the Mixed Member Proportional referendum far less attention than it deserves. That can hardly be blamed on the candidates, but it's frustrating nonetheless.

Third, if the candidates are so concerned with being elected that they talk more about their opponents than about their own policy, it calls into question their reasons for running for office. If you're not content on being elected based on your policy alone, why are you running for office in the first place? I thought the whole point of it was service to the people, not service to yourself.

I suppose it's too much to ask for our candidates to stop playing these games, or for our media to stop paying so much attention to them. After all, candidates will be candidates, and media will be media, but it's not too much to ask that we inform ourselves.

tise in the faculties at UW, and provide opportunities for undergraduates to learn and participate. We want to get them excited about joining energy research and working on issues that really matter to people.

We also want to develop the capabilities of our graduate students working in energy. Consider the undergraduate coop program that UW is renowned for – it takes students into real world, where they gain appreciation of its complexities, but also gives them the academic perspective through school. As an idea, if graduate students were to get similarly involved, whether formally or informally, with research projects that are focused on addressing problems of direct interest to companies in the energy sector, then that would be an important move forward. It is but one additional perspective that needs to be explored further.

IW: What sort of interface to the government do you provide as an Ontario Research Chair? How will UW's work affect policy makers?

JN: The government will be seeking guidance from us. They need independent academic advice on policy matters. My chair is set up by the government with that mandate in mind. We will continue to remain engaged and provide assistance and advice as appropriate.

uw energy days

Tuesday, October 23, 2007

7:00 pm

CIGI (Centre for International Governance Innovation) 57 Erb Street, Waterloo

Ontario's Electricity Future: Opportunities and Challenges: A public presentation by Amir Shalaby (VP of Power System Planning for the Ontario Power Authority) followed by a discussion facilitated by Dr. Jatin Nathwani.

Wednesday, October 24, 2007

6:00 pm - 9:00 pm

Davis Centre Foyer,

University of Waterloo

Energy Days Open House: This event will feature poster presentations, demonstrations and showcase some of the Green Energy triumphs at UW.

Thursday, October 25, 2007

7:30 pm

Arts Lecture Hall, Room 116, University of Waterloo

Hot Air: Meeting Canada's Climate Change Challenge: A public presentation by Mark Jaccard on the future of Canada's Climate Change policy followed by a 40 minute discussion period.

Thursday, October 25, 2007

8:30 am - 5:30 pm

Davis Centre, Room 1302,

University of Waterloo

NRC-Auto21-Waterloo Fuel Cell Workshop: Technical presentations by leading researchers and government officials on the impact and future of Fuel Cell technology in Canada.

<http://geri.uwaterloo.ca/EnergyWeekEvents.html>

ENGINEERING SOCIETY EXECUTIVE REPORTS

Presidential Report



AMANDA HOFF
PRESIDENT

Well, here we are a month into the term and I'm happy to report that we're still here, still alive, and still kicking!

Thanks to everyone who came to help out and participate in the events, Alumni Weekend was a fantastic success! I've heard nothing but positive feedback from all of the Alumni I've spoken with, and overall it was a great experience for everyone involved. If anyone's got any crazy stories from their minglings at the EngSoc Reunion dinner or the Open House, I'd love to hear them!

In more recent news (or, rather, in news of things to come), the Organizational and Human Development office on campus is organizing a series of four 90-minute leadership workshops. They will be happening October 30th, November 6th, November 13th, and November 27th from 3:00 pm-4:30 pm or from 5:00 pm-6:30 pm. The topics, in order by date, will be "Building your credibility as a student leader", "Planning and running effective team meetings", "Communication styles", and "Campus Intelligence - collaboration with other University groups and resources on campus". If you're interested in taking on any leadership

roles within the University (or even if you're not), I encourage you to check out these sessions! Space is limited, so if you're interested please e-mail Sue Grant (smgrant@uwaterloo.ca) and let her know you're with EngSoc, and tell her which session(s) you would like to sign up for.

As mandated at EngSoc Meeting #1 this term, each of the Executive has prepared a Directional Document outlining our goals and plans. Due to space restrictions, rather than posting them here (as I suggested at Meeting #2) the final copies will be posted on the EngSoc website (www.engsoc.uwaterloo.ca), hopefully by the time you read this!

Finally, don't forget to check out the KW Oktoberfest festivities over the next few weeks! Thursday, October 11th from 8:00 pm-1:00 am is Universities' night at Bingham's, when we have guests from other Universities across Ontario come visit and we show them what Oktoberfesting is all about! Tickets for this event are available in the Orifice for \$9 (\$11 if you're not a current UW student), and this includes bus transportation to and from the event. You can check out the rest of the Oktoberfest happenings on their website, www.oktoberfest.ca.

That's all for me for now, so until next issue, stay safe, have fun, and most importantly don't forget to brush your teeth!

VP Finance Report



CHRIS JAMIESON
VP FINANCE

Hello again and welcome to Finance Report Number 2.

First and foremost I would like to thank all the directors who got their budget proposals to me on time. I will be preparing the budget (with funding suggestions) to be voted on in the next meeting on October 17th.

Next I would like to quickly talk about the 2 policies which I briefly introduced in the meeting on Oct 3rd. These policies are stolen from ASOC (mmm policy 71) and are quite simply the processes that we already abide by simply written down. I would like to thank Todd and his ASOC (former) exec team for allowing me to 'borrow' them. If you would like to get a better look at the policies you can grab the meeting minutes from the 3rd either when they are mailed over the list or on our website.

I would also like to briefly outline my goals as I presented them at the meeting. Since no one had an issue with them I left

them unaltered.

My first and main goal is to complete the Novelties point of Sale System as I promised in my campaign. For this I need a few additional volunteers who have programming experience and want to help me put the finishing touches on it. My goal is to have it done and working at the end of this term.

Secondly but very similarly, I want to finish the Online Novelties Store by the beginning of the Summer term. For this I need some additional volunteers with web development experience to give me a hand. If you are interested in either of these email me at bsoc_vpfin@gmail.com.

Finally, I have set a few additional goals for myself in regard to my mandate. I would like to have a rough draft of my Strategic plan which I can distribute for comment at Potluck this term. Additionally I am striving to get ASOC involved as much as possible in this initiative. To the end I will be hosting a brainstorming session on Thursday October 11th at 5:00 pm in POETS. So if you are interested in giving me ideas, talking about the plan, or just eating some food in POETS, I encourage you to swing by.

That's all for me this issue, have a great 2 weeks.

VP External Report



ERICA WAUGH
VP EXTERNAL

I'm looking for volunteers!! EngSoc plans on having a float in the Santa Claus parade this November and I can't do it on my own. Please e-mail me if you are interested in helping to make the float or ride in the parade at the end of November. It's not a big time commitment, but it will be tons of fun. More information will follow over the mailing list.

Two weekends ago I flew half way across the country to lovely Regina, Saskatchewan for the CFES Presidents Meeting. There was quite a large focus on the accountability of the CFES exec. The members found a few areas that needed to be improved, most significantly the VPComm portfolio. We wrote motions and voted and, hopefully, we will see some results in the next few months! We also passed the Charity Cookbook as the CFES charity event for 2007-08. All member schools (that's us!) are asked to submit recipes for this cookbook. You can download the form on the EngSoc website under 'EngSoc Forms'.

Next weekend, myself and Amanda will be heading out to Ottawa for the ESSCO Presidents Meeting. We will be attending sessions on ESSCO exec accountability,

as well as PEO and OSPE information sessions. ESSCO and the PEO also put together a conference every year to promote the services and advantages the PEO offers. This year the conference is at U of T and YOU'RE invited. It's from November 2nd to November 4th. All delegate fees and transportation are covered by EngSoc. Send me an e-mail if you are interested!

Don't forget to come out and buy pancakes on October 12th in the CPH Foyer; 3 for \$2 AND FREE P*5 POINTS with your purchase!

VP Internal Report



CAT HAY
VP INTERNAL

There once was a workshop on interview skills
So we can get jobs that will help pay the bills

We went to Elmira and entered in herds
We DUSTED a bar of all their cheese curds

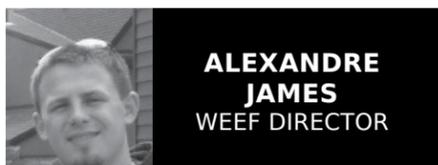
The next week we learned how to decorate cupcakes
Let's not eat them all kids, for goodness sakes!

We made paper gliders for Enginuity two
They soared high and far, just like a cockatoo

Next week we compete to make the best boat
Let's hope it doesn't sink in the middle of the moat

Keep reading *The Iron Warrior* to learn about my objectives and goals
Please let me know if you think there are any holes

WEEF Director Report



ALEXANDRE JAMES
WEEF DIRECTOR

There are two important topics in this article: participation rates and WEEF proposals.

The number of refunds was low this year, with a total of only 595 people. In an effort to increase architecture participation rates, I intend to hold a WEEF forum in Cambridge in the near future. Architecture students will have an opportunity to ask questions and voice concerns about WEEF during this meeting. In fact, all students are encouraged to come by the WEEF office (E2 2349) at lunch times or email me for WEEF information. Next issue will include a chart analyzing the WEEF refunds.

WEEF is now accepting proposals for the fall term. To submit a proposal, download the template from the WEEF homepage (www.weef.uwaterloo.ca), fill it out, and email it to weef@uwaterloo.ca. If you have any problems, do not hesitate to contact me and I will be more than happy to help. This

term I have made it a goal to get more proposals than ever before. To help me, I will be adding a suggestion box to the currently empty (but soon to be filled) WEEF display case in front of the Orifice. When you are calling your great-grandparents for tips on labs because the equipment is so outdated, WEEF can help. We just have to know about it! So stop by the display case, and drop a note into the suggestion box with as much information on the equipment as possible, including the lab's name, and the lab instructor. I will then personally contact the lab instructors to encourage and help them to write WEEF proposals. With your help, I am hoping to get \$200 000 in proposals, which is \$150 000 more than we usually get.

Now, some of you might be thinking, "Alex, last week you said we would get to hear about this mysterious large donation proposal that WEEF is thinking of making." However, I want to do the proposal justice, so the announcement will be delayed until the next issue of *The Iron Warrior*. Good luck on all of your upcoming midterms!

VP Education Report



PATT GILLIS
VP EDUCATION

Come one, come all to the PDEng Forum!

The question of an independent PDEng review, was finally addressed this summer and the students given a voice. An open forum was held with an outstanding response from the students who all wanted their say in when the forum should be held, and the format that the review should take. Once the dust settled, 6 pages of notes were taken away and a report was presented to Dean Sedra asking for a review as soon as possible.

To this the Dean has promised us that a review will begin as soon as the entire suite of courses has been completed and PDEng 55 has been offered once, which will be this coming winter term.

Now the point of this little update, is that THURSDAY OCT 18th at 5:30pm (Location TBD) we will be holding our own PDEng Forum to give students on BSoc a chance to voice their own concerns about what issues should be addressed in the review. I'd like to encourage anybody with a positive attitude and some constructive criticism to come out and help us let the Dean know what the problems that need to be fixed are. I would also like to remind everyone that this will be an opportunity for us to put forward a constructive statement

and that this is not the time to vent any personal vendettas with PDEng.

In other business, hold on to any midterms or major tests that are being returned to them and submit them (with answer keys if possible) to the exam bank in the Orifice. If you've ever used this service you know how valuable it can be, but we need you to keep it up to date and relevant. You get P*5 points for it, so everybody wins!!

Finally, please have a look at the directional documents the rest of the Executive and myself have compiled regarding our goals for the coming months. This is something the council has mandated us to provide and we all look forward to any comments or even help you may be able to offer with respect to our plans.

Are You a Caveman?

Developing Your Entrepreneurial Skills



**DMITRI
ARTAMONOV**
3N COMPUTER

Borrowing from John Hancock CEO David D'Alessandro, I'm going to explain to you a surprising million-dollar secret for success: a modern corporation resembles a caveman tribe. Then I'll talk about developing the skills needed for success in the business world.

In a caveman tribe, there are hunters, who capture the animals. In the corporate world, they are the salesmen, the most important people in the company. They get the money for the company and so long as they keep bringing home the bear, they get respect from everyone and are not likely to be fired even though they may be obnoxious.

Then, there are the trappers, or the marketers. Their job is to set the traps that allow the hunters to capture the animals, much like the marketers make the product presentable and appealing to customers.

Next come the skimmers, who distribute the meat among the tribe. Without them to do this fairly, the tribe would fall into disarray. These are the finance people in a company, who divide the resource the salesmen bring in among the various departments.

The cooks then prepare the meat for consumption, much like operations people who execute the task that the salesman promised the customer. This will vary between corporations, but an example is the manufacturing manager whose job is to create a product that was sold.

Finally, there are the engineers, who in their pure form are the people who invent the clubs and knives used by fellow tribesman, though they may also be the cooks, such as in an engineering consulting company.

Having said that, remember that if not

for the engineers the world would still be living in caves. However, this should very much tell you that to be a valuable member of the business world you need to have far broader skills than afforded to you by an engineering education alone. Have you ever worked with a client directly? Then you've sold. Have you ever neatly organized your report or presented a PowerPoint presentation? Then you've marketed. The point that I'm trying to make is that your technical skills have to be complemented with real world business skills in order to make a name for yourself. These could include networking, negotiation, or marketing, but from a real world, business-applicable perspective.

Many engineers have had tremendous success because they developed their business skills. You may have heard of more than a few engineers who have struck it big in business. The famous Jack Welch, CEO of General Electric, is a chemical engineer. John Baker, the founder of Desire2Learn is a UW Engineering graduate and so is William Tatham, after whom the Tatham Centre is named. He will be this issue's case study.

Case Study: William Tatham

William Tatham graduated from the University of Waterloo in 1983 with options in Socioeconomics and Management Sciences. His success story began in 1990 when he founded Janna Systems, a financial software company. His company was sold for 1.6 billion dollars to Siebel Systems and was the world leader in CRM (Customer Relationship Management) software for the financial services industry. After a stint in venture capital, Tatham currently works with NexJ Systems and is also contributes to academic causes like the Tatham Cen-

tre. During Entrepreneur Week, hosted by Communitech, he came to Waterloo to share some of his wisdom on business strategy. For those of you who weren't there or didn't take notes, I publish mine:

On the definition of business

- Fundamentally, business is about relationships
- Business is about the commitment to making it work and doing anything to get there

On starting a business

- In order to have a successful business, first you must start with quality customers
- To make a profit, find a market of companies who have money and are willing to spend it to gain a competitive advantage

- Find a market with a revenue greater than 1 billion dollars

- Of all products, software has the highest gross margin
- If your business is not

taking off, look at other companies' business models that are successful and don't restrict your search only to your industry

On operating a business

- In software, deal with the largest possible transaction size, sell to the market leader or the runner-up
- Janna Systems' competitive advantage was the extreme market focus and their commitment to customer service

- As a small company you can gain the advantage of your software product over large companies by aligning yourself as a strategic partner in a niche market.

- Your revenue grows in tandem with your customer, and your dependence on their success is the implicit assurance that you will deliver quality.

- When selling software, a good sales strategy is to sell large numbers directly to corporations as a solution

- Innovate on your products, stick to proven business processes
- Hire people that are experts, and lots of co-op students

- A company should go public and trade shares on the stock market only if it is consistent in its performance

On venture capital

- If you're taking on venture capital, look at the shareholders agreement with sharp eyes - you may lose control of the company that you built

- Cheapest way to raise money is to not need it

- Nobody will fund the development cycle of your product, only when you are ready to go to market

Finally, his prime piece of advice was to always learn at work and to always improve your skills.

If you have any comments about this article or entrepreneurship in general, contact me at dmitri@newventurepathways.org.

Upcoming events:

Some of the events accessible through New Venture Pathways (a new UW entrepreneurship service) hosted by the Waterloo Region Mall Business Centre include "Finding Essential Business Information" on October 15, "Smart Selling for Successful Business" on October 18, and "Understanding Financials for the Business Owner" on October 30. The Schlegel Centre for Entrepreneurship is hosting "Innovation and Entrepreneurship" on October 10 and the Centre for Family Business is hosting "Authentic Leadership: Creating Effective Relationships" on October 26. Goto <http://www.newventurepathways.org> to register for these events.

Ninth Generation of Solar Car to Compete in World Challenge

SOLAR Continued from Page 5

data, and speed data which helps them to optimize their driving strategy. They also have a full-blown dashboard now, as opposed to the small control box they used in the car's previous iteration. The array of solar panels used has been changed to silicon-based, from the older and more expensive gallium-arsenide based panels. The aerodynamics have been significantly changed, and the shape of the fairings has been improved, resulting in a considerably reduced drag coefficient. Hans even mentioned making the fairings automatically rotate to compensate for crosswinds, improving speed while making the car easier to operate. The battery packaging has been changed to make it more robust as well. In fact, so much has changed that Hans claimed that the only thing the new *Midnight Sun* has in common with the old one is the motor!

With this many improvements, it goes without saying that the team hopes to be quite competitive at the WSC. Hans thinks that we will do particularly well in the stock class (cars built using only commercially available parts). Not that this is anything out of the ordinary - the *Midnight Sun* has been a top contender in international competitions for over a decade. Apart from the World Solar Challenge in Australia, the *Midnight Sun* has been involved in the North American Solar Challenge for many years, and has been the top Canadian team

at the past three competitions. The current car will be competing in this competition as well: in fact many of the design decisions have been based on making it as efficient as possible under the NASC regulations. Between the WSC and NASC, the various incarnations of the *Midnight Sun* have travelled the continent and the world.

For those who are unaware, the *Midnight Sun* has a pretty extensive history at the University of Waterloo. This is the 9th car built by the team (not including the club's first project - a solar bike dubbed *Midnight Sun Zero*) and their competitive history stretches back to 1990. According to Hans, the club currently consists of almost 100 members, with a "core team" of 20-25 people who do the majority of the work on the car. I had the chance to see some of these dedicated members when I conducted my interview - it was quite late, but they definitely weren't going anywhere soon: Hans mentioned that late nights are quite common, especially (and understandably) this close to an upcoming competition.

It should also be said that the *Midnight Sun* is always looking for new members. The work is probably most related to work students would be doing in Mechanical, Electrical, and Computer Engineering, but being in these programs is by no means a requirement for joining. If you are dedicated, interested in working on an extremely cool technical project, and willing to learn new things, then the *Midnight Sun* is more than happy to welcome you aboard. Even if working on the car itself isn't your cup of

tea, Hans mentioned that they are actively looking for people who would want to work on the business side of things - there is a great deal of money required to run the project (they have a budget of \$250,000) and so sponsorship is very important. They are also looking for individuals who would be interested in mathematically modeling the car so as to find ways of improving its efficiency. When it comes down to it, though, if you are willing to contribute something to the team and want to get involved, don't hesitate to check them out - maybe it will be you travelling to Australia

for the next WSC.

In conclusion, wish our team good luck. In two short weeks they will be racing from Darwin to Adelaide: a distance of approximately 3000 kilometres that will take competitors completely across the continent, from north Australia to south. The competition is first-rate - they will be competing with 42 other teams from every continent in the world - but if the past is any indicator (not to mention the huge improvements to this year's car), you can be confident that they will represent Waterloo as a world-class competitor.

Trip to Uptown Strange but Definitely Fun

SHAWN WASSERMAN, ARI TAUB, AND ROSS RICUPERO FROSH MENTORSHIP DIRECTORS

About two weeks ago the Frosh Mentors along with an outstanding collection of volunteers showed the wonders of Uptown to Engsoc's newest recruits. This event was a complete success full of laughter and fun that we won't soon forget!

It started as a tour starting from The Brick and ending at Different Strokes. We pointed out all the sites and hot spots including maps and brochures followed by dinner and dessert, all the while regaling the Frosh with stories of Engsoc, Waterloo, and even ED-

COM lore. This is definitely an event that should be repeated yearly to get the Frosh out of the villages and into Waterloo life.

But if you thought that was it for the Mentors you have another thing coming. Friday October 12th at 6:30 pm the Mentors are commandeering POETS to show Frosh all the movies every University student should see or die trying. And guess what! If you're wise enough, cunning enough, or just watch a \$h*t load of movies you can have the chance to win the movies we play!

So join us for some fun videos, stories, games and even help with some future Frosh activity planning. Hope to see you then!

Point

Should We Introduce New Engineering Programs?

Counterpoint



ALEX GREEN
1A ELECTRICAL

Society has been evolving for thousands of years. From farming, trading and mercantilism to the creation of engineering itself, people have continually progressed into new fields of study. Through this process we have come to the advanced society we live in today. There are so many specialized fields that exist today, ranging from economics and law to medicine and the sciences.

The engineering field is no different in its evolution than that of societal knowledge. The word

'engineer' is derived from the Latin word *ingenium*, meaning talent, genius, cleverness, or native ability. It was first used in the Roman Empire for those who had talent in inventing and constructing weapons. From this the field grew to those in construction of buildings and civic affairs, and has continued to do so ever since.

The fact that the engineering field is so broad today shows that as engineers we must adapt and specialize to the needs of society. Those pushing against the specialization of our field are merely conservative and close minded. Any government control on the expanding fields of engineering would be ludicrous considering specialization is a natural development our field.

The term 'overspecialization' should not apply to the field of engineering considering the breadth it covers. In Canada there were 2391 accredited programs in 2004 graduating engineers from all over the country. On occasion one will find a school

using specialization as a marketing tactic, but as engineers we are not easily fooled. We are in fact, if I do say so myself, very intelligent and practical. If a branch of engineering is not needed, not only will students and engineers recognize this, but the demand will be limited in society and the field will eventually fade out.

Let us compare two fields that some might consider 'overspecialized'. Nanotechnology is a new field

that is opening up all kinds of amazing possibilities. The ability to create machinery at the microscopic scale will create new opportunities in computing, medicine, and fields previously unimaginable. Yet some say this is an unnecessary addition to the engineering profession.

Engineers who supporting advancement and change believe the more specialization in this area we can get the better. Research will be more concentrated and with less breadth in the variety of unnecessary knowledge, the more depth they can have. Amalgamating this field with chemical or electrical engineering would be ridiculous. Although overlap does exist between these three, enthusiastic engineers who are willing to specialize in nanotechnology only add more to the engineering field and society as a whole. They see potential in this field, and the way technology is advancing, they are quite correct.

Another more obscure branch of engineering is ceramic engineering. This branch involves working with polymers, composites and glasses in addition to ceramics. The materials that are being produced by engineers who have gone through these programs are astounding. A material which is a mix between metal and ceramic, called 'cermet' is an extremely strong substance that is used in resistors, jet engines, and many plastic-metal joints. Without specialization in this area, the researched would not have been adequate or would have taken years longer to develop these things. Both of these small branches have been crucial over the years in development of inventions people do not think about, yet use everyday.

Engineering is a beautiful thing because it is a 'practical science' and is named rightly so. We are the engineers, and with an ever evolving world, we will always be able to fix anything. With... or without gears.

ANDREW WONG
1A CHEMICAL

Although there always seems to be a need to improve society, the answer may not always lie in stretching the flexibility of what already is considered common knowledge. Engineering is a term loosely used to describe the profession that seems to be needed everywhere. As far as denominations of engineers go, there seems to be more specializations than there are votes for the green party in the upcoming election.

Engineers seem to be in every field. Over the years we are getting more and more unnecessary branches of engineering that may have deviated too far from the fundamentals of engineering decades ago.

Back when my dad graduated from university, there were no such things as mechatronics, management engineering, nanotechnology, architecture, bioresource, chemical and bio engineering, communications engineering, integrated engineering, manufacturing engineering, materials engineering, petroleum engineering, oil and gas engineering, software engineering etc. All of these programs in one way or another can be derived through the core basic denominations of traditional engineering faculties such as chemical, civil, mechanical, engineering science, systems design engineering and computer science.

Why would we even have so many engineering faculties (not just here at Waterloo, but elsewhere across Canada)? One thing to notice is that with the tag of engineering onto one's title, it immediately elevates the status and value of one's degree. For example, someone coming out of management engineering may hold a preferred name over an honours math degree, but when looking further into what the program has to offer, course curriculums are surprisingly comparable.

The course selection in the two faculties revolves around the principal mathematics of statistics and calculus. The one key difference is the three or four business courses integrated into the engineering and not in math. But when it comes down to practicality, will those few courses really make that difference in gaining the advantage over the competitor? It's arguable, but the reality is that the magnitude of knowledge gained in both programs is on similar levels. The "so what" factor comes down to a key concern common to all university students. The reality is that for these two analogous programs, one of the programs cost distinctly more than the other. Unfortunately, to our disadvantage, the engineering student pays approximately 1,500 dollars more than the math student per term.

In general, we can begin to compare engineering with any other faculty, and see some unsettling trends that do not benefit us engineers. By stretching engineering as a profession to be tagged on to almost anything, the vaguer engineering programs are able to be profited from by the universities. The programs with minimal relevance to traditional engineering, are in the same tuition range as all engineering. This is to say, for some "engineers" to get similar courses as a student in another faculty, we have to pay more. For example, engineers enrolled in an arts course have to pay the engineering flat rate, which compared to the arts flat rate, is substantially more. This title of engineer, practical or not, allows the universities to classify individuals according to their title, and nothing else.

As far as the university is concerned, a student is just a student - a number that gets filtered in and out of the school. Whether they admit it or not, we are here for our own reasons. We owe universities nothing, as they owe us nothing in return. We learn because we want to, not because we have to. Although the idealist will believe that universities are set in place to help educate the future, I'm pretty sure their number one concern is still focused around the fiscal stability of the school. Without money there are no professors and researchers; without professors and researchers there is no funding for the school, without funding for the school there are no students; without students we begin the cycle again with no money being invested.

Also to consider is that with an increased number of engineering faculties, there comes the issue of steering yourself down a career path that is very specific and specialized. In saying so, every engineering program has some path that is usually followed, leading to a certain demographic market at the end of its education. But by creating too many new programs we run the risk of either watering down a discipline too much or over emphasizing it. For example, new programs such as chemical and bioengineering, and mechatronics, are examples of programs that intend to cover two somewhat related disciplines in the amount of time it should take to thoroughly cover one. By intending to cover more, the irony lies in the fact that the student will likely end up learning less. When looking at chemical and bioengineering in its own respect, the chemical and biological aspects are vast enough to have people majoring in

them separately. By combining them, the program runs the risk of allowing students to be average at both, but not great at either.

On the other end of the spectrum, there is the possibility that engineering may get too specific. By focusing immediately on one aspect of engineering

that occupies a very small niche in society, we are potentially saturating the supply of engineers in specific fields to surpass the demand. Engineering faculties such as oil and gas engineering and petroleum engineering are geared towards one career only. Should there be a drastic change in the job market in the next couple of years, the people graduating out of these programs will be left in a very difficult situation. The key to any profession is to be able to find balance between adaptability and knowledge. Sticking to the engineering practices which have been a staple of society will always allow you stability and practicality in the "real world". The ability to branch into specializations later on in your studies, (I believe) is more attractive than choosing a path at the beginning and being forced to follow it because of circumstance.

Generally speaking, by increasing the numbers of different engineering programs, we run the risk of leaving too far the original foundations of engineering. Almost all of the traditional engineering practices have specialization options which may be pursued later on in the education process. Enrolling in a program just because the word "engineering" is attached onto the end of it is not always the best option.

You should be sure it makes sense in terms of the money you're paying and course knowledge you're receiving. In doing so, this decision may leave you feeling a bit better about your educational decision at the end of your 5 years.

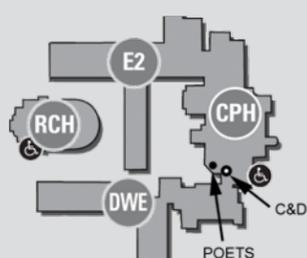
"The fact that the engineering field is so broad today shows that as engineers we must adapt and specialize to the needs of society."

"The 'so what' factor comes down to a key concern common to all university students ... COST."

MORE THAN JUST COFFEE & DONUTS

The EngSoc C&D has more than just Coffee and Donuts. Stop by for a variety of freshly prepared sandwiches, baked goods, soups, and more! It is run by students for students, so the prices can't be beat!

There are a variety of specialty coffees available - including fair trade. Bring your own mug to help the environment too!



ENGINEERING SOCIETY



HOURS OF OPERATION
MONDAY-THURSDAY 7:30AM - 7:00 PM
FRIDAY 7:30 AM - 5:00 PM

Editor's Note:

Point - Counterpoint is a feature meant to stimulate discussion on thought-provoking topics. The views and opinions expressed here do not necessarily reflect those of the authors, *The Iron Warrior*, or the Engineering Society.

Making a Difference on the Other Side of the World



DANE CORNEIL
3N SYSTEMS DESIGN

Dane Corneil is a 3A Systems Design Engineering student spending his co-op term this fall in Ghana, a country in Africa. He is the only Engineers Without Borders (EWB) short term volunteer (aka Junior Fellow or JF) in Africa this fall.

Hey there Waterloo!

I've been working in rural Ghana for about two months now. It's hard to believe that, not too long ago, I was writing exams at Waterloo. The people here have been incredibly hospitable, and it seems that I've gotten to know half the town! They're all testing me on my knowledge of Kassem, too (the local language). Although I'm constantly in touch with friends and family, Canada seems very far away now, and almost alien. I'm taking this as good news: a sign that I'm over the initial stages of culture shock. In my first few weeks, Canada was always on my mind; especially the feeling of a hot shower every time I bathed from a bucket (something that seems fairly natural now).

Through Engineers Without Borders (EWB if you haven't heard of it around campus), I'm working with the Ministry of Food and Agriculture (MoFA), a part of the Government of Ghana. MoFA's mandate is to support farmers. Extension agents visit farmers to record

yield and production data, offer advice on any challenges, share good practices between farmers, and bring improved varieties and new opportunities. Although Ghana is a quickly developing nation with a strong economy, the northern regions remain very poor and highly dependant on sustenance agriculture (using everything you grow for your family's meals).

Farming is risky business at the best of times, but sustenance agriculture in northern Ghana is definitely not for the faint of heart. The climate is defined by erratic rainfall and a very long dry season. This year, farmers were faced with a drought early in the rainy season which killed many of the first crops; this was followed by the worst flooding in 15 years, washing away not only crops, but destroying homes and dams as well.

EWB is working with MoFA to increase support for farmers. For instance, we are looking at ways to assist farmers in moving from sustenance to income-based farming (selling crops on the market). In my district, this means looking closely at irrigation. There are over 40 small dams throughout the district and two large ones, including Tono Dam (at 2 kilometres long, Tono is one of the biggest of its kind in West Africa). While farmers often grow the staple cereal crops for sustenance in the rainy season, irrigated vegetable crops are grown in the dry season for profit. By looking at ways to ensure that farmers turn a profit in the dry season, the vulnerability of sustenance farming is reduced, and new opportunities open up for the farmer (such as sending children to higher education, in a country where education is regarded as a priority).

I'm currently working on a report which looks at the

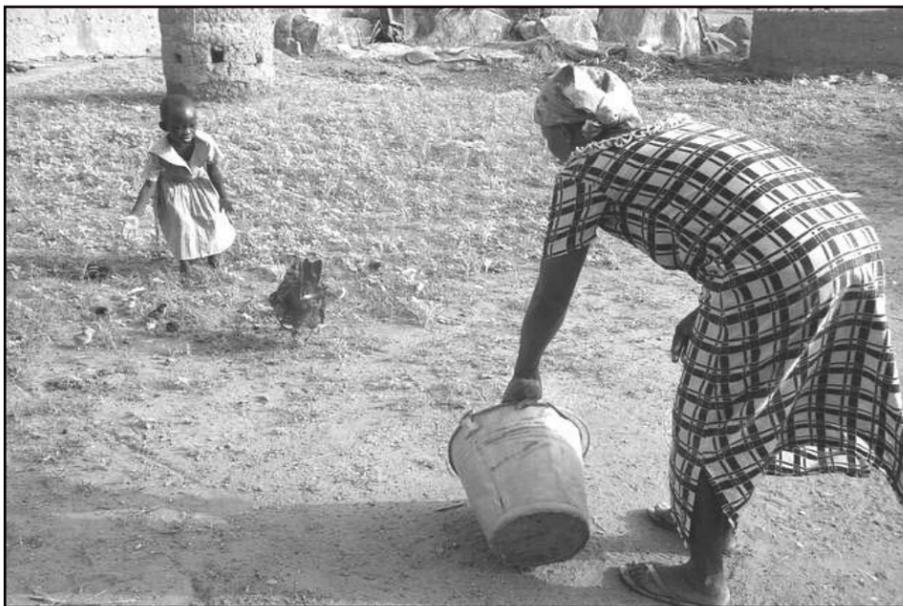


TZ, a millet porridge and staple food that is eaten with spicy soups at most major meals. I eat it a lot.

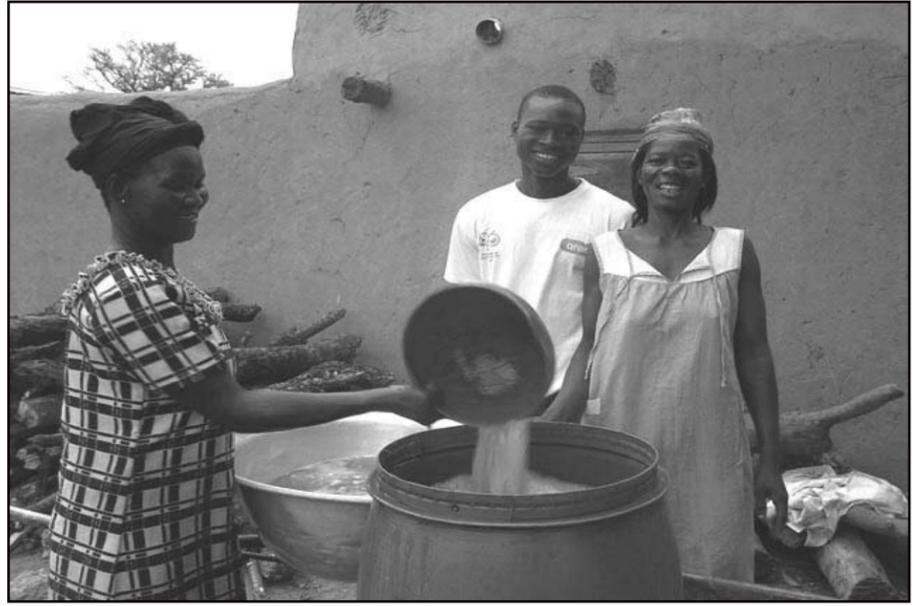
profitability and risks of three of the main dry season vegetable crops: tomatoes, onions and hot peppers (or "pepey" as they're called here). Based on this, I plan on working with one of the crops to look at ways in which farmers can increase their profit margins. This is interesting work; it means traveling around to collect data and talk to farmers and other experts in different fields. Often, certain issues (such as the market glut in tomatoes earlier this year) involve many different vari-

ables. They may seem simple after speaking to one person, but with each new viewpoint offered, you realize just how little you know and how much you have to learn.

Check out the next issue of The Iron Warrior for Dane's next letter from the field! In the meantime, visit daneinghana.blogspot.com to read more on Dane's experiences.



Selina helping to shoo the chickens towards her mother, Kristy



Kristy brews Pito, the local beer, to sell in the local market

The Engineering Behind Fair Trade



TANEEM TALUKDAR
4A SYSTEMS DESIGN

The concept of a free market system works best when left alone, with minimal regulation: the impersonal forces of supply and demand will pass fair judgment on the players in the market based on their efficiencies. Those that lose in the market are the ones that weren't efficient enough to survive. Sink or swim, like in nature.

At least that's what mainstream thinking will tell you today. But is this really the case?

The truth is, without regulations, people, being wired for short-term planning and 'get rich quick' mentalities, create complex unsustainable systems.

Unsustainable situations have been the reality in commodity markets, such as coffee and sugar, over the last couple of decades; a relatively short period of time considering the global scale of the supply chain. Without proper market regulations, everyone in the commodity supply chain works for short-term gain and people at the bottom of the chain are thoroughly exploited by those higher up.

This is why, for example, only 2% of the retail price for coffee goes to the entire coffee supply chain in the exporting country '

including the roasters, millers, farmers and other players. The other 98% goes to the multinational company importing the coffee. Of course value is added by the multinational company through additional processing and packaging of the brew. But we're talking about an increase in the price of 1Kg of coffee from 52 US cents from the exporting country to US\$26 when it gets to Tim Hortons*. Think about it.

What does this mean? It means that when you have 20 million coffee farmers around the world working with razor thin profit margins, and often losses, societies start to collapse into a spiraling cycle of poverty ' and then children are pulled out of schools, diseases, malnutrition, and violence spread and economic development stops. This, in turn, affects the coffee supply chain itself, altering product quality and prices.

So much for a 'free trade' market. The reality is that it's anything but free, and millions of farmers are being exploited by multinational companies concentrating wealth into the hands of a very small minority. This is not an inevitable consequence of how market forces work; it's a human designed system, planned with short term financial goals in mind.

The entire point of Fair Trade, on the other

hand, is to manage the market intelligently, aiming for sustainability and quality.

The idea is to work directly with cooperatives of farmers in the exporting country, guaranteeing stable baseline prices with a premium when the market allows it, and distributing the revenue generated from retail sales more equitably down the chain. This means that, usually, the actual cost of fair trade to you as a consumer is NOT dramatically higher.

The cost of a fair trade coffee from the Engineering C&D, for example, is about 10 cents more than regular coffee. And there are other benefits: not being pressured to cut corners, farmers grow coffee using traditional methods that produce

a higher quality bean and a more environmentally sustainable product. Being in a cooperative gives farmers a stable organization where, working together, they are able to share resources such as equipment, tools, schools, and hospitals, which are built using the premium received from Fair Trade purchasers (Cooperatives are not favored by the current trading system because they give farmers collective bargaining power against multinationals).

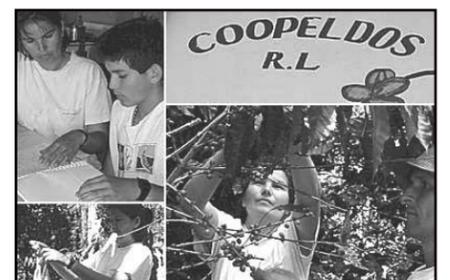
The system works! Coffee-growers who sell to Fair Trade buyers have had their lives completely changed. With a stable income, their quality of life has dramatically improved,

their output has increased in quantity and quality, and, generally speaking, a healthy working supply chain has replaced an exploitative unsustainable one' with you, the coffee drinker, completing the chain.

In the next issue of The Iron Warrior we will look into how you can support Fair Trade with your consumer choices (with a list of places in Waterloo that carry fair trade products) and other actions. If you're interested in getting actively involved, or just learning more about Fair Trade, come out to our next 'EWB Presents' event, happening on Tuesday, October 16th, at 5:30pm in RCH 307.

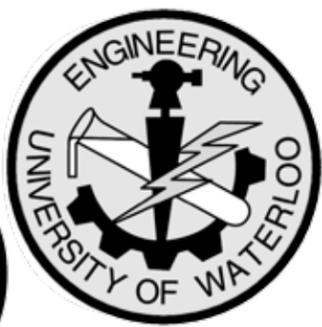
**All prices circa 2001/2002*

Source: Mugged: Poverty in Your Coffee Cup (p. 24), Oxfam International 2002, retrieved from: <http://www.maketrade.com/assets/english/mugged.pdf>



Costa Rican farmers growing fair trade coffee in a co-operative

50 years



How It Really Happened A Dynamic Culture of Journalism at UW



BAHMAN HADJI
4N COMPUTER

As part of the University of Waterloo's Homecoming 2007 celebrations, *Imprint*, the University's official student newspaper, hosted a dinner at the Grey Silo Golf Course Timber Room on Saturday, September 29, to celebrate 50 years of campus journalism. Invitations were sent to past and present contributors to UW's current publications, *Imprint*, *The Iron Warrior*, and *MathNews*, as well as their predecessors, *The Chevron*, *The Coryphaeus*, and *The Cord Weekly*, and the faculty newspaper formerly published by Communications and Public Affairs, the *UW Gazette*.

The history of student journalism at the University of Waterloo dates back to its infancy in the late 1950s when it was still called the Waterloo College Associate Faculties, affiliated with Waterloo College (now Wilfrid Laurier University). Waterloo College's students amalgamated its two student newspapers (the *College Cord* and the *Newsweekly*) in a referendum to form *The Cord Weekly* in 1958, which remains to this day the student newspaper of WLU. In the meantime, the Engineering students of the Associated Faculties started their own newsletter in early 1959 shortly after the formation of the Engineering Society. The newsletter was dubbed *Enginews* and was first published as a mimeographed sheet of foolscap, serving as a way to disseminate information to Engineering students about events. By late 1959, *Enginews* had joined *The Cord Weekly*, appearing as a special section with its own masthead within the newspaper.

Enginews Morphs into Campus Paper

After the federation of Waterloo College (which had now been renamed Waterloo University College) and the Associated Faculties (which had now been renamed the University of Waterloo) failed in the spring of 1960, the collaboration between *The Cord Weekly* and *Enginews* ended. Students back at the new UW campus located on the Schweitzer farmland had *Enginews* as their sole publication in the spring and summer of 1960, until a new student newspaper was created in the fall of 1960. The first issue of this newspaper was nameless, but it was officially called *The Coryphaeus* (the Greek word for "leader") with its second issue.

The first editorial of *The Coryphaeus* stated, "From the Engineering Students 'Enginews' of last year we have developed into a University-wide publication from Arts, Science and Engineering". However, *The Coryphaeus's* early issues looked similar to *The Cord Weekly*, with *Enginews*

still having its own section and masthead within the newspaper, though this section would slowly disappear as the paper itself began to focus more on Engineering. The dominance of *The Coryphaeus's* Engineering coverage enraged some Arts students, one of whom wrote in an editorial that he wished to write about "the monetary policy of the Canadian government, but I thought it might send the vast majority of engineers running for a dictionary." The Arts students slowly got themselves organized and took over the newspaper. *The Coryphaeus* was renamed *The Chevron* in 1966, and began to take a more radical editorial slant as the activist student movement of the '60s got underway, dealing with issues such as the Vietnam War and civil rights. Some Engineering students, claiming that they were no longer getting any benefit from *The Chevron*, decided to start their own publication. Thus, *Enginews* resumed publication as a standalone newspaper after a 7-year absence in July of 1967.

Return and Death of Enginews, Birth of The Iron Warrior

This was a total reboot of the historical *Enginews*, according to Brandon Sweet, Federation of Students Executive Researcher. *Enginews* claimed it would be a newspaper that focused on being irreverent and rely on wit to make its point. Of course, this ultimately doomed the paper as the male-dominated environment led to the publication becoming increasingly crude towards the late '70s and early '80s, causing its eventual demise in 1985. This atmosphere paved the way for the Engineering Society to start a serious newspaper in 1980 called *The Iron Warrior*, which was focused on promoting professionalism and encouraging thought-provoking, informative discussions. The existence of *The Iron Warrior* made the death of *Enginews* inevitable and brought good publicity to UW for becoming one of the first universities to get rid of its crude Engineering publication. The newspaper also shattered the stereotype of the crude, boorish engineer through its investigative reporting and human interest stories, receiving attention from students and faculty from across campus.

Death of The Chevron and the Birth of Imprint

Meanwhile, *The Chevron* ran into its own trouble. Through the late '60s and into the '70s, the radical left-wing agenda of the newspaper's cliquish staff became apparent and it began losing the students' confidence. In November of 1978, after a long battle with the Feds Executive that had involved the freezing of the newspaper's budget (to which its staff responded by publishing *The Free Chevron*), *The Chevron* was overwhelmingly rejected by

EngSoc Reunion Brought Together Alumni, Students, Food

**YUVRAJ GOEL AND
AMANDA HOFF**
3N MECHANICAL AND
3B MECHANICAL

The Engineering Society held a 50-year reunion on the night of September 28 at the Delta Kitchener Hotel as part of the Homecoming 2007 weekend. Originally conceived by Leanne Whiteley, past EngSoc President and Civil 2002 grad, and organized with the help of the Office of Alumni Affairs, the reunion was a great night that provided current EngSoc members with a chance to get to know their predecessors, for alumni to see each other and re-connect, and for all of us to get together to celebrate 50 years of Waterloo Engineering pride. The Engineering Society

was formally founded in 1958, less than a year after the first Engineering students entered classes in the summer of 1957 at what would become the University of Waterloo.

The evening started off with the reception, during which The Tool graced us with its presence and alumni and current students alike had the opportunity to have pictures taken with the Engineering Society mascot. We then enjoyed a splendid dinner in the company of a group of very accomplished alumni. At our table, we had the pleasure of conversing with Paul Johnson (Mechanical 1980), John Sardellitti (Electrical 1974) and Paul Dobrocky (Electrical 1974) who were all EngSoc Presidents or Execs in their time. They had many entertaining stories to tell throughout the meal, regaling us with tales of days when coffee and a donut at the C&D cost a whopping 25 cents, and of when the EngSoc Exec picked up every single issue of *The Chevron* (the campus newspaper at the time) to stop an election controversy from spreading.

After dinner was a series of speakers and

an Open Mic session, consisting of inspiring and often humorous speeches by alumni. Jim Pike, the EngSoc President from 1967-68 who brought The Tool to Waterloo Engineering, spoke to us about Engineering pride and the history of B.O.A.T. racing. Richard Van Veldhuisen (Civil 1965) described what the campus looked like in its infancy, and how the small group of Engineering students had to tread through mud to get to classes, which were held in temporary shacks until the buildings could

be constructed. Other interesting stories included tales of a time when the C&D was starting to make a profit. Since the C&D was intended to be not-for-profit, EngSoc decided to lower the price of coffee by 10 cents. The result was that they ended up making even more profit than before!

John Vellinga (Systems 1991), one of the founders of the Waterloo Engineering Endowment Foundation (WEEF), used the memorable analogy of a quarterback passing on a football to describe his views on leadership through EngSoc and the importance of being a pioneer, encouraging us as current leaders within EngSoc to take the metaphorical football and run with it.

There was also an EngSoc trivia session, and the winners were given Engineering-related memorabilia as prizes. One particular highlight was when a prize was offered to "the first alumni who can recite a cheer from UW Engineering" and the entire room erupted in a rendition of the Engineering Hymn. The evening culminated with a short photo slideshow consisting of fun and interesting moments from the past 50 years that Yuvraj Goel put together. Overall, we were honoured to be among the illustrious EngSoc alumni, entertained and inspired by their stories, and it was a night we won't soon forget.

"... described what the campus looked like in its infancy, and how the small group of Engineering students had to tread through mud to get to classes."

"... the entire room erupted in a rendition of the Engineering Hymn."

students in a referendum and removed as the University's official student newspaper. In the spring of 1978, the UW Journalism Club, made up of former staffers of *The Chevron* and other students, started its own weekly publication called *Imprint*, funded solely by advertising. After winning the support of the students in a March 1979 referendum (including Engineering students, who voted over 10-1 in favour of recognizing the newspaper and establishing a refundable fee), *Imprint* was installed as the official student newspaper of the University of Waterloo.

Since its modest beginnings as an independent newspaper published by a Federation of Students club, *Imprint* has now become an award-winning newspaper with a circulation of 12,000 in Kitchener-Waterloo and a six-figure operating budget. The *Imprint* staff has recently finished going through their archives from the past 50 years and scanning each issue to be preserved electronically. The archives contain issues of *The Coryphaeus*, *The Chevron*, and *Imprint* from 1958 to present, and can be accessed online at imprint.uwaterloo.ca.



Clearly a very tasty Homecoming Cake, welcoming back the Class of '87



Iron Ring Wardens Larry Galajda ('76) and Mike Marshman ('70) were present, ready to replace lost, damaged, or outgrown Iron Rings



EngSoc B Executive and Mary Bland posing with the Toolbearers



Toolbearers keeping the rowdy crowd in P.O.E.T.S. under control



A look at the possible future generation of UW Engineering



Even UW mascot Pounce the Lion wanted to get a picture taken with the Engineering Society mascot



Alumni trying out clothing from the Novelties Shop



UW Engineering alumni posing with the Tool and Toolbearers



"Hands off the Tool Ma'am!" Our photojournalist Sylvia Wu caught red-handed



Passionate debate about the merits of a Waterloo Engineering degree over a couple of beers



Thank you to all the volunteers who made Engineering Homecoming a success!



Spring '07 Editor-in-Chief Bahman Hadji standing with the '86 Editor-in-Chief Brian Hamilton (Systems Design '87), holding an issue which Hamilton worked on

Indulge the Inner Geek

Smartphone Review: HTC S710



ANDRE LO
1A COMPUTER

Ever wanted a Smartphone, but didn't want to look like a geek?

My HTC S710 may just be the answer to your desires. In terms of style, it's not as conspicuous as a BlackBerry or other PDA-phone devices, since the front of the phone looks exactly like a traditional candybar handset, with a 2.4" QVGA LCD screen and a numeric keypad below it.

Nevertheless, it's actually quite a stealthy little thing. When you look closer you'll find a QWERTY keyboard that slides out to the right. Rotate the phone clockwise, and you can quickly thumb-type an SMS after a bit of practice. My Asian version, rebranded as the Dopod C500, will even allow you to type Chinese!

Other features include Bluetooth, Wi-Fi, a 2 megapixel camera, and a microSD slot. You'll want to purchase your own microSD card since the phone only has 50MB of flash storage free after the installation of Windows Mobile 6 Standard. The screen is not a touch-screen, but entering text using the QWERTY keyboard is faster than pecking at the screen anyway so it's not a big loss. The camera produces acceptable images if you know how to tweak the white balance, though the right colours can only be obtained by navigating through horribly dumb menus.

The phone also comes with a stereo hands-free headset so that you can listen to music or talk on the phone without holding it. The sound quality is acceptable for listening to music, but I found the wire to be too short to reach from my ears to my phone in my pocket, even though I'm not that tall. Of course, I could always pony up some big bucks to replace the earpiece

with nice wireless headphones, since the phone has Bluetooth!

The best thing about Windows Mobile is that you can sync your contacts and calendar to Microsoft Outlook on any PC with Windows 2000 or above. There is also a large selection of programs such as games and web browsers, many of which can be downloaded for free and installed.

Unfortunately, since the phone runs on an OMAP 201mhz processor, the most powerful programs won't run. In fact, there is even lag during daily use, especially when I change orientations by sliding out the QWERTY keyboard. The phone will hang a couple of times a week if you use it hard, such as when I listen to music and surfing the web at the same time. Windows Live



Messenger is often crashes the phone, and I know because I'm often chatting away with my friends during lectures. (Don't we all just love the Wi-Fi in the lecture halls?) I remedy errors by pulling the battery out to reset the phone.

Despite these problems, the discreet looks and the "wow" factor (when you flick the QWERTY keyboard out of nowhere into your friend's face!) more than makes up for all its shortcomings. I still love my phone to bits!

Whining Music Makes Me Cry and I Like It



KEVIN PO
4A SYSTEMS DESIGN

This fall has been pretty good on the music front. There are at least 10 good albums coming out that have a whopping hip hop content of 0. Last week saw the release of one such album, perennial super-whiny music poster boy Dashboard Confessional's with *The Shade of Poison Trees*. If you can get past the strange album name, you'll enjoy it. Here's the breakdown:

Album: The Shade of Poison Trees
Artist: Dashboard Confessional



Dashboard's been at it for a while, first starting out as a solo side project, then becoming a full band after Chris Carabba made it big. Unfortunately, as Carabba expanded the band, it seems that a lot of his earlier magic was lost. The last two albums (both of which included a full band) were pretty weak. When I heard that *The Shade of Poison Trees* was to be a solo acoustic album, I was pretty excited. Back to the whiny music, right?

Well, I've had some pretty mixed feelings about this new album. When it shines, it brings me back to those high school days, listening to classic songs such as *Hands Down* and *Again I Go Unnoticed*. Where *There's Gold* is a great opener and includes the pessimistic lyrics Carabba's known for but the song itself remains fairly upbeat. The title track slows down the pace, and really harkens back to the old songs. Unfortunately, this album length is very short, clocking in at 34 minutes. Also, there are some songs that are too happy for my liking, such as *The Rush*, and others that are downright weird (*I Light My Own Fire Now*).

Overall, this CD's pretty good. It has a few songs that will join the pantheon of whiny acoustic songs but the weak tracks really bring it down.

Here's a list of songs to sample:

- Where There's Gold
- Little Bombs
- The Widows Peak

Video Games That Can Get You Killed

Economics and the Law in the World of Online Gaming



JEFF KAO
4A SYSTEMS DESIGN

In 2005, an online gamer in China stabbed a friend in the chest over the theft of a sword in the online video game 'Mir 3'. Perhaps one can look at this man as a bit of a nutcase; someone who took video games just a little too seriously, but would you still feel the same, knowing that the stolen sword was sold for a little over \$1000 U.S.?

People take their entertainment seriously because it is a serious business. According to analysts, the world video games market is expected to grow from \$33 billion in 2006, to \$47 billion in 2009. There's no doubt that there is huge money to be made in the video game industry, with online transactions in virtual equipment, fashion, spells, etc. made daily. There is a rapidly growing market for virtual goods, but a lack of regulation. Perhaps the Chinese man felt that there was no legal recourse for his loss, and that taking the law into his own hands was the only solution.

Susan Abramovitch, an entertainment law partner at Gowlings LLP in Toronto sees this as a major problem. She came to speak at our university two weeks ago about the importance of law in the virtual world. Just as we've heard predictions of network convergence with VoIP, television, and internet all merging into a single giant information pipeline, Abramovitch predicted that a time will soon come when the distinction between different forms of entertainment formats will be blurred, with television, music, video games all combined into a single interactive medium. Virtual property, an idea closely linked with intellectual property, will play an important role in that new medium.

Games like "Second Life" already allow players to lead alternate lives online. In the game, virtual property is exchanged in a virtual economy among players. Last year, Ailin Graef became the first millionaire in "Second Life". Her land and property holdings are worth over \$1 million if converted from the Linden Dollars used in "Second Life" to US Dollars (yes, there is even a virtual market-based exchange for virtual currency!).

While most online gamers are happy working to achieve these virtual items and buy and sell them on sites such as gamepal.

Saving Lives with Microphones



ALEX GREEN
1A ELECTRICAL

In 2002, 8,161 people in Canada died of gun-related wounds. In the same year in the United States, 10,950 people died because of gun violence. In some cities in recent years, being caught in stray gun fire and fearing for your life are common experiences. The recent school shooting at Virginia Tech brings the prospect of gun violence a little closer to the common student's life. People for years have been looking for solutions to gun violence. In some countries like Canada it is gun control, while many others are making firearms completely illegal. A company in the United States now has a solution to the problem. Their answer is Shotspotter.

This technology makes use of highly sensitive microphones that are able pinpoint sounds

com, little do they know they may have very little control over these creations and acquisitions. Abramovitch emphasized that in many games, the End-User Licensing Agreements (the terms and conditions you agree to but never bother to read when you sign up for an online service), often state that 'property' generated inside the game actually belongs to the game development company itself. This is probably wise on the developers' part, since one company was once sued for losing a player's account due to a system crash! It won't be long though, before players demand a great control over their virtual creations, with "Second Life" as a great example and leader in the field.

Whether you subscribe to a market theory, or a labour theory, there really is something of economic value behind these creations in code. Abramovitch contends that these virtual creations may be considered other forms of property that go beyond our current notions of intellectual property. However, the differences of the virtual environment and the physical world gives rise to so many issues that have yet to be sorted out in the law, especially when the activities have real-world consequences.

For example, what happens when the game service provider decides to create more virtual currency, devaluing your virtual property in real world terms?

What is the legal recourse when somebody steals virtual property from you or 'kills' your avatar? What if the objective of the games is to steal from, rape, maim, and kill your enemies?

Should there be a capital gains tax on virtual property that appreciates in value? How about virtual property tax?

What if somebody assumes a similar virtual identity as yours in an attempt to lower your reputation? Think that's not a big deal? What if you owned a virtual store where your sales depended on that reputation?

While space may be the final frontier, the virtual online world is the next one. It is important to ensure that users are protected as they invest a great amount of their time and money into this form of entertainment. It's an economic truth that humans will compete for scarce resources in any environment. As that conflict extends to the virtual environment, it remains to be seen if law can keep up with the rapid advancements, so that technology can continue to benefit society into the future.

of gunshots. The gunshot noise is relayed back to computers in a police department or detection office. Through computer calculations, they can detect where the shot had occurred within 12 meters. Shotspotter is rapidly being put into use all over the United States and is also aiding US troops fighting on the street in Iraq. Authorities have seen a 60 to 90% decrease in gun crimes and injuries in municipalities where Shotspotter has been deployed. If we extrapolate this to the United States and Canada, it could save thousands of lives every year.

Shotspotter uses five to eight sensors per square kilometer, much less than any other system. This makes it easy and cheap to employ in a large area. Each sensor has a unique filtering technology that is able to detect gunshots, but not similar sounds such as car backfires or fire crackers. Not only do these sensors detect the shot fired, they can even supply information such as the direc-

See SHOTSPOTTER on Page 11

Alles klar zum OKTOBERFEST!



GABRIEL CHAN
4A SYSTEMS DESIGN

Some of you may have noticed by now that there has been an increase of drunk, rowdy people around town lately. No, it was not just because of D.U.S.T.E.D. or another Pubcrawl. This month is October and it is time for Oktoberfest!

Oktoberfest is more than just an excuse to get piss drunk. It is a German tradition and it involves a lot of alcohol, specifically beer. Actually, to be specific, it is a Bavarian tradition (Bavaria is a southern region in Germany) and most Germans are not very fond of being associated with Bavar-

ian stereotypes, because going to Bavaria is like going to another country. However, that is beyond the scope of this article.

Oktoberfest is a widely-known and wildly popular event, yet surprisingly, many people do not know much about the history behind it. Here is a crash course on the tradition:

Oktoberfest is held not in October, but September. The first Oktoberfest was in October 1810; the occasion was the commemoration of the marriage of Crown Prince (and eventual King) Ludwig of Bavaria and Princess Therese of Saxony-Hildburghausen. A horse race was the centre of the event, aside from beer. It was later decided by the city of Munich that Oktoberfest was to be held every year. It was moved to an earlier start to take advan-

tage of the warmer weather in September, ending in October.

The festival opens with a keg of beer tapped by the Lord Mayor of Munich who declares "O'zapft is!" (It's tapped!). The first 'mass' of beer is served to the Prime Minister of Bavaria (1 mass = 1 litre, held in a big glass jug called Masskrug). The beer at Oktoberfest is slightly darker and contain more alcohol than normal brews. Up to 30% of a brewery's yearly production may be consumed at Oktoberfest.

There are no horse races nowadays, but there are plenty of carnival rides, parades, beer wagons, and of course, food. In fact, the entire city smells like food. Typical foods served at Oktoberfest are Bratwurst (grilled sausage), Schweinshax'n (roasted pig knuckle), Hendl (roasted chicken), and an assortment of other roasted animals. Sauerkraut, Semmeln, and Knuedeln (I don't know how to translate these) are typical side dishes. They have some of the largest pretzels in the world. If you are thinking of eating healthy, do not go to Oktoberfest.

Oktoberfest is the largest fair in the world. It hosts an estimated 6.5 million visitors every year on the 42,000-square-metre Theresienwiese (named after the princess). About 15% of the visitors are foreigners, so it has a reputation among Germans for being a festival for drunk tourists drinking too much overpriced beer. There is also a springtime version of Oktoberfest called Fruhlingsfest ("Spring Fest"), albeit much smaller but with less tourists. A prominent feature of the Munich Oktoberfest is the beer tents, basically a makeshift beerhall on the fairgrounds. The biggest one (Hofbraeu-Festzeit) holds almost 7000. And it is impossible to get a seat without reservations.

While the world's biggest Oktoberfest ended last week on October 7th, the world's second biggest had just begun. Kitchener-

Easy Gun Control

SHOTSPOTTER Continued from Page 11

tion in which the shooter may be moving after firing the shot. Police alerted by Shotspotter in many situations have arrived at the scene of gun crimes less than three minutes after shots were fired. The Gary Post Tribune in Indiana reported that after a shooting, "As fast as bullets went into the air, police were arresting shooters." It seems the solution to firearm control is not more police, or even stricter gun regulations, it is merely installing Shotspotter in an area, and watching the violence rates fall.

The future of this technology is promising to say the least. In Kingston, Jamaica, over five people are murdered everyday, a total of nearly 16,000 per year. Half of these crimes are gun-related, and gang wars remain a constant threat to civilian lives and police alike. Installations of these systems in cities like Kingston would have a profound effect on the abilities of the police to effectively deal with and eliminate gun crimes.

The Shotspotter is the solution of the future for firearm control around the world, and merely shows the power of engineers to create positive change on a global scale. The system is anticipated to spread to many more cities in the USA, Canada, and eventually around the world. To take the words of Mayor Keith Summey of North Charleston, SC, "This gives us a step up over the bad guys." As politicians go, I think this one has finally got it right.

Waterloo's Oktoberfest runs from October 5 to October 13. Formerly known as Berlin, Ontario (the name changed during WWI to something more pro-British), K-W hosts the biggest ethnic-German population in Canada. With over 700,000 visitors annually, it is definitely one of the biggest international Oktoberfests. Explore www.oktoberfest.ca for more details!

Alles gut zum Oktoberfest!



Photo credit: <http://www.flickr.com/photos/genista/>



Sandford Fleming Foundation

Teaching Assistantship Award

The Foundation presents awards to the most outstanding Teaching Assistants. These awards are based on nominations by undergraduate classes. So get your class together and nominate a worthy TA! Your Class Rep should be getting a nomination form soon. Send completed forms to the Engineering Undergraduate Office in CPH.

Debates

The Foundation has established the Sandford Fleming Foundation Debates in order to encourage the art of debate among engineering undergraduates. Each term there is one faculty wide competition. Please contact Prof. Scott Jeffrey of Management Sciences (ext. 35907) if you are interested in participating. The overall winning team will receive \$300 each and the runners-up will receive \$150 each.

DATE October 29, 30, 31
TIME 11:30 - 1:00
PLACE E2 - 3324

FINALS: CPH Foyer, November 2 at noon

Refreshments will be served at finals
Everyone is welcome

E2 3336, ext 84008, sff@engmail
www.eng.uwaterloo.ca/~sff

Crossword

CHERRY HO
1A ELECTRICAL



Across

3. DWE and that robotics competition have this in common
8. Happen every 16 months
12. We build medieval weapons for school
14. Closely related to Electrica, but not quite
17. This paper started in 1980
18. Deals with electro-mechanical systems

Down

1. What engineers drink
2. concrete is good for you
4. Always arriving, but never comes
5. Dreaded first year course
6. Strange word rhyming with beef
7. You don't want to meet these guys in a dark alley
9. $PV=nRT$
10. A formal meeting in which one or more persons question, consult, or evaluate another person
11. centre of Engineering life on Campus
13. event that happens once during the Fall and Winter terms and is a fundraiser for Gradcomm. Younger students sign up to be

19. Where to find your course materials
21. CPH 1337
22. E3 is home to many Engineering shops and heavy ____ labs.
24. "I can't see my project"
29. Greatness of size or amount
30. Thou shalt not touch The Tool without a(n) ____
33. Quantity possessing both

sold as slaves, with profits going to Gradcomm.
15. We are proud of who we are
16. The process of defining a function or calculating a number by the repeated application of an algorithm
18. Our solar car team
20. UW's student information system, used to enrol, switch, drop classes, view unofficial transcript, view financial statements
23. Co-op job search system
25. Civil, Electrical, Nanotechnology, Mechatronics, Systems Design, Chemical, Geological, Mechanical, Environmental, Software, Computer, Management,.....

magnitude and direction
34. Determining agent or factor
37. the RCH, formerly called the Engineering ____ Hall
38. Not the Vice President, but close. Something that computers need
39. Strong, hard, and covered in chrome
40. Summary of skills and experiences

26. The Faculty of Engineering at UW is comprised of ____ distinct programs
27. EngSoc Office
28. better than art-sies and mathies
31. original colour of The Tool
32. An excellent distraction
35. 60 inches of chrome
36. This is your colour, the colour of royalty
41. a decimal system of weights and measures, adopted first in France but now widespread

UW Residence Profiles

Village 1



Village 1 definitely lives up to its name, 'village'. With its awesome community center, numerous buildings and friendly atmosphere, Village 1 is a perfect place for first year students.

Village 1 is a great place for new students simply because of its friendly atmosphere. The upper years in Village 1 are there to specifically answer any questions you may have about anything in Waterloo. You will also have no trouble making friends at Village 1, guaranteed. There are always Village 1 events going on such as corn-roasts and semi-formal dinners. Depending on your Don, there will also be events specific to your building. On Monday, we have an event called "Monday Night Munches" where we simply eat snacks (or sometimes the Don makes us Kraft Dinner) and watch football.

The food in Village 1 fits a wide variety of tastes because of its wide variety of choices and specials. However, the service does leave a lot to be desired. If a certain day's specials do not fit your taste buds, it is a short walk to the SLC where there is another place to eat.

Living in Village 1 is definitely comfortable and fun. The rooms are decent and the bathrooms are always clean and tidy. You can always choose if you want to study or party by simply opening or closing the door.

Overall, Village 1 is a great place, especially if you are a first year student adjusting to University life!

Mackenzie King Village



I must have done some really good deeds before the UW residence lottery draw, because karma rewarded me with 8 months in MKV!

The best part about MKV has got to be the kitchen. I'm no gourmet cook, but I love making my own food. Cafeteria food, albeit awesome for a quick bite, gets pretty repetitive after a week or so. Having a kitchen not only lets me eat whatever I want, whenever I feel like, it also gives me a great feeling of true independence.

Visiting other residences always makes me appreciate MKV even more. In V1, about 15 people share two showers and one bath. In my suite, I only have to share the bathroom with one other suitemate. Since moving in, I've never once had to wait for my turn to shower. Also, the suites in MKV are more spacious than the ones at UW Place.

Despite my overall satisfaction, I must complain that the air conditioning is a bit extreme. A lot of MKV residents are getting sick these days, partly due to the constant A/C blast. Management really should've turned off the A/C by now, for both the comfort of its residents and the conservation of energy.

It's only been three weeks since I moved in, but I'm already dreading the day that I have to leave. I can't imagine living anywhere else, because as long as there's MKV, nowhere else matters.

St. Paul's United College Residence



"S! P! U! C! We're the place you wanna be!" This cheer embodies the spirit of the community known as St. Paul's United College. This residence is full of unique opportunities and experiences for its small, tight-knit community.

This University-College residence is located close enough to the centre of campus to be convenient, yet the hustle of everyday life does not seem to cross the creek. It consists of approximately 200 students from all faculties, and in different years of study. Finding an upper-year to assist with homework can be as simple as a walk down the hall.

Although the residence itself is small, the innovatively designed rooms are spacious, and provide a great deal of storage. The room is divided by a shelving unit, creating a U-shaped living space. The working area is separated from the sleeping area, ideal for roommates with different schedules.

Within the residence, there are two groups unique to St. Paul's: the ES Living-Learning Community, and La Bastille. The Living-Learning Community allows ES students to live together and interact outside of class. La Bastille is a floor dedicated to the French-speaking students at UW. It allows francophone students to share their culture and others to maintain and improve their French skills.

Some other perks of this residence include a chapel, 3 pianos, a games room, and great food. A time that SPUCers look forward to every night is 10:00pm: Toast Time. Here, students can unwind in the company of friends and...toast!

St. Paul's has all the aspects of a good residence: places to laugh, learn, and share. Who wouldn't agree that SPUC is the place you want to be?

UW Place

IVAN WONG
1A MECHATRONICS

UW Place, due to its location, is probably the most popular residence for Engineering students. A short seven minutes is all it takes to get to class, even for those who live in the farthest building.

UWP has six buildings in total. There are two halls (Beck and Eby) surrounded by four courts (Wellesley, Wilmont, Waterloo, and Woolwich). Since it is a suite-style residence, we have our own private kitchen, living room, and washroom. There is a downside to this arrangement - when your suitemate decides to take a shower right before you need to go to the washroom! Fortunately, there is still a washroom in the laundry room and lounge that we can use when ours is occupied (or steal toilet paper from if we run out).

The lounges in UWP are unique. First, they have card key swipers beside the doors used to get in. It looks really cool to have high tech security until you realize that the success rate of the swiper is only 10%. Secondly, each lounge in UWP is unique with its own theme. The lounge for my building is themed "Lava Lounge".

UWP is a comfortable, yet fun residence, and its location makes it perfect for Engineers!

EngSoc Darkroom
Open 3:30 - 5:30 pm Wednesdays
Drop by and expose yourself

RCH 225

TOP DON



It could be you...



BE A DON!

Spring 2008

"It's only so often when I update the skills on my resume that I notice the amazing qualities I've honed in residence: leadership, communication, creative thinking, you name it. And to think I was worried I'd be too busy for this job. I'm really glad I became a Don."

~ Matt Colautti

Matt "Iceman" Colautti
4A Mechatronics Engineering

Applications for Spring 2008 are now available online!

WWW.HOUSING.UWATERLOO.CA

Ou Sont les Robert Jordans d'Antan?

The Adventures of Dangerman



Dear Readers,

This is the time of the year to not just savagely devour thousands of innocent gobblers, but to remember all the happy things that have happened to us, give thanks, and embrace all the warm holiday sentiments.

That being said ... you're all going to die.

Some of you I am going to kill personally ... for money, revenge, stock options, etc. Others will die of natural causes ... old age, illness, being swarmed by the vicious garbage-eating squirrels on campus ... the possibilities are limitless, the results are the same; dead as doornails, the lot of you.

It's a reality that first struck me as, well ... a reality, when I turned the ripe old age of 20 and my thoughts turned almost obsessively to the fact that the whole dying thing was not quite as far away as it used to be. Nearly 1/16 of my life was over (I'm a biblical figure it turns out),

and I couldn't really say that I had accomplished anything meaningful or lasting in that time.

One of my favourite fictional characters of all time, John Yossarian from the novel *Catch 22*, whom the title of this week's article can be attributed to, decided to "live forever or die in the attempt". I recall when I first finished reading *Catch 22* by Joseph Heller ...

(I read it 5 times again, until I foolishly lent it away ... the current EngSoc B President is holding it hostage right now!)

... I learned Mr. Heller had passed away only two weeks previously. It was a bizarre sensation to hold several hundred pages of a person's personality and struggle in my hands so shortly after their demise. I've since settled on the description, "Creepy undead/zombie book phenomenon" to describe my feelings at this moment.

I remember that sensation now reflecting on the very recent death of another author, James Oliver Rigney, Jr., better known as "Robert Jordan" who penned the critically acclaimed *Wheel of Time* fantasy series of novels, which kept me nerdy, pure, and without a girlfriend throughout high school. Thanks again RJ.

Remembering Robert Jordan was a lit-

tle more bizarre however, because I actually met the man briefly in real life during a book-signing. I recall they had us lined up in such a manner that we would be forced to look at every measly piece of merchandise in the store before we could let him scribble in whatever we'd managed to drag up with us. When I finally stood in front of him and looked in his eyes, I don't know what exactly I was hoping to find.

The man had created a world that my imagination for years had lived happily in, I think I expected to see that whole world looking back at me and feel like I was meeting god for the first time. Through scraggly unkempt hair and weather-worn features, I saw his eyes were a milky cataract blue. But they were a stranger's eyes, with nothing remotely familiar at all. Wordlessly, I handed him my book to be signed, thanked him and walked away.

I felt like the boy in the movie "A Christmas Story", who meets a mall Santa for the first time and freezes up, agreeing to get a football for Christmas instead of a, "Red Ryder carbine action, two-hundred shot Range Model air rifle BB gun with a compass in the stock and a thing which tells time" like I wanted.

I think I feel like that boy especially now

that RJ has passed, because I could have told the man a hundred different things in that particular moment, about how much his books had meant to me for instance, or how one had saved me from taking a knife wound in the chest once ... instead, I selfishly walked away disappointed that his gaze didn't have some supernatural power to enhance my enjoyment of his novels.

Too many idiots out there will tell you, "I have no regrets". Whenever I hear those words, I feel compelled to shoot whoever spoke in the leg and ask them if they still felt that way. Needless to say, Mrs. Chambers in Grade 3 received a shocking lesson that day ... screwing up is a requisite in life, especially if you want to learn anything. I can't recall who said it, but "You haven't really lived, unless you have a lot to regret". Keep that in mind next time you're down in the dumps, tightly clutching that stupid football you didn't even want, and remember, Dangerman loves you.

Yours Truly,
 Dangerman
 eric.dangerman@gmail.com

Food on the Web

JON GRIEMAN
 1A COMPUTER

Can't cook? Your options pretty much boil down to either learning how to cook, or learning the best places to spend money on food. In either case, you'd better check out these amazingly useful websites:

Useful site: uwplaza.net

This is a site which provides an interactive map of the UW plaza. The site features navigation by physical location, as well as by business name. It also provides information about specials and deals, as well as a comprehensive menu for many of the restaurants listed.

Useful site:

<http://www.foodservices.uwaterloo.ca/foodbuzz/>

FoodBuzz is a site by UW Food Services for students preparing their own food. It presents valuable information for those who are "cooking impaired." It gives information on how to properly prepare food, safely store food, follow a recipe, essential terms, and other valuable information for those doing their own cooking.

Can I Get An Extension On This Turkey, Please?

SKANDA SHRIDHAR
 1A ELECTRICAL



Upcoming Events Calendar

Monday October 8	Tuesday October 9	Wednesday October 10	Thursday October 11	Friday October 12	Saturday October 13	Sunday October 14
Thanksgiving	Cupcake decorating workshop (11:30-12:30 CPH Foyer)	GradComm Pizza IW Meeting (5:30-6:30 POETS) Egnuity Paper Glider challenge (11:45-12:15 CPH Foyer)		Feel Good Day Pancake Breakfast (8:00 CPH Foyer)		
Monday October 15	Tuesday October 16	Wednesday October 17	Thursday October 18	Friday October 19	Saturday October 20	Sunday October 21
IW Meeting (5:30-6:30 POETS)		GradComm Pizza Class rep workshop (5:00) & EngSoc meeting (5:30) in CPH 3385		Pancake Breakfast (8:00 CPH Foyer)		
Monday October 22	Tuesday October 23	Wednesday October 24	Thursday October 25	Friday October 26	Saturday October 27	Sunday October 28
IW Meeting (5:30-6:30 POETS)	UW Energy Days: Presentation by Amir Shalaby	Poker Tournament (2010 Year Spirit) UW Energy Days Open House	UW Energy Days: Presentation by Mark Jaccard	Hallowe'en		



Check out up-to-the-day event postings on the EngSoc website at engsoc.uwaterloo.ca



Even JobMine Wouldn't Post These

SHAWN WASSERMAN, DAN ARNOTT AND JON GRIEMAN
THE IRON WARRIOR: SPECIAL JOBMINE CORRESPONDENTS

Everyone has come across jobs on JobMine that make you think in horror "who would ever take this job? This is the worst job I have ever heard of!" Have you ever wondered whether all the jobs submitted to CECS are posted, as is? Well, wonder no more! A source for *The Iron Warrior* from inside Career Services risked life limb, and successful completion of a workterm to leak us this list of job postings that are TOO HORRID EVEN FOR JOBMINE*.

Job Title: Engineering Device Test Subject/ Research Assistant
Organization: BruiseTek Crowd Control Devices

Qualifications:

- Engineering - ALL

Job Description: BruiseTek Crowd Control is an industry leader in the field of protestor control and deterrence. We are seeking an individual to act as a test subject and research assistant for our internal testing divisions. Duties include testing devices intended for control of resistant segments of the populace, and producing documentation related to the degree of suffering inflicted. Join our team and help design the next generation of protestor and civil dissent suppression tools! Previous experience, either formal or informal, as a victim of official brutality or protestor suppression is a strong asset. BruiseTek is an equal opportunities employer, and encourages applications from visible minorities and other possibly disenfranchised groups.

Job Title: Sticker Remover and Applier
Organization: OmniCorp

Qualifications:

- Great tolerance for tedium

Job Description: OmniCorp previously hired several individuals to place product tracking RFID tags on boxes used in our warehouse. At the conclusion of the placement, it was realized that the tags had been applied in the opposite order that the database is expecting them. As it is more expensive to rehire the consultant to change the database, we are looking to hire 2 coop students to remove all stickers and replace them on opposite boxes.

** Disclaimer: This article is a light hearted parody of the JobMine process and does not contain a single fact.*

Job Title: Scapegoat
Organization: Undisclosed Student Society

Qualifications:

- Upper Years Arts Student
- Must be able to take Constructive Criticism well
- Must be able to take DESTRUCTIVE Criticism well
- Quick feet and previous dodging training recommended, but is not required

Job Description: The Mathematics Student Society of a university in Ontario is seeking a student to serve as scapegoat for actions of the society. Come work in a dynamic and fast moving environment! Duties include taking responsibility, both social and legal, for all negative repercussions of actions undertaken by the Society, ensuring that the Society's embezzlement slush funds remain fully funded, and appropriating supplies for Society activities. Previous experience as a flunky, toady, or yes-man or woman is an asset, but is not required.

Additional Instructions:
In addition to applying through JobMine, applications are encouraged to provide a paper copy of their resume and cover letter, printed on high denomination, non-sequentially numbered banknotes.

Job Title: Example to Others
Organization: Canadian Musicking Industry Association (CMIA)

Qualifications:

- Must be a music lover with extensive music collection
- Extensive experience with BitTorrent, Kazaa, or other file sharing programs
- Lack of understanding of legal rights a major hiring bonus
- Any previous experience in legal related fields will disqualify you for this position.

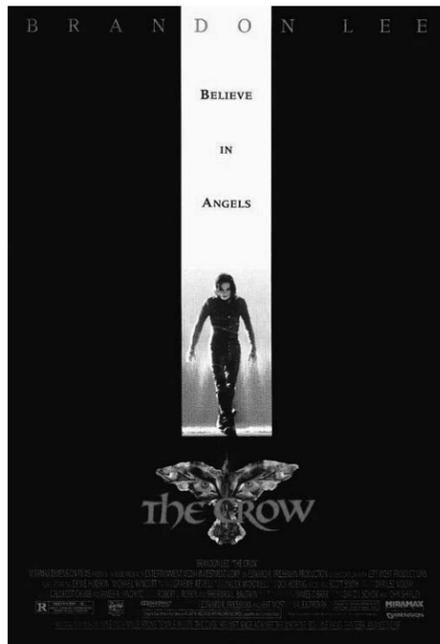
Job Description: Following the success of the anti file sharing techniques pioneered by the American Musicking Industry Association of America (the AMIAA), the CMIA intends to launch a campaign of lawsuits to punish music pirates in the faint hope of scaring others. In order to smooth these lawsuits process through the legal system, the CMIA is seeking several students who will serve as examples to others and set case law precedent. Successful applicants will be extremely naïve, and will gain valuable life experience through their dealings with the CMIA.

Additional Instructions:
In addition to applying through JobMine, applicants will submit a signed disposition detailing their previous file sharing activities, as well as conclusive collaborative evidence such as Internet activity records or account user-names and passwords.

P.O.E.T.S. Halloween Movie Reviews

THE CROW (1994)

SHAWN WASSERMAN
P.O.E.T.S. PROGRAMMER



Plays October 30th, 2007



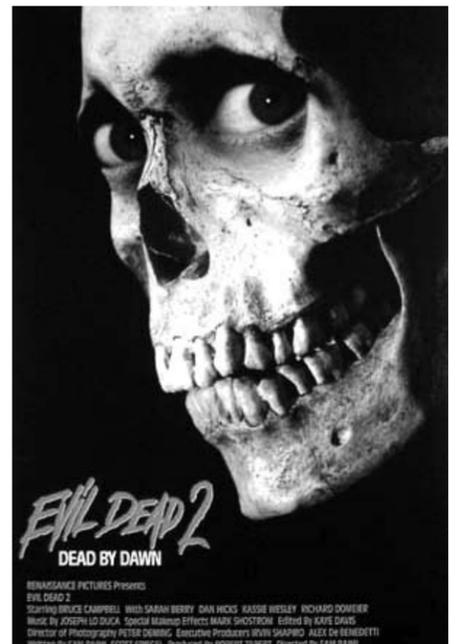
"People once believed that when someone dies, a crow carries their soul to the land of the dead. But sometimes, something so bad happens that a terrible sadness is carried with it and the soul can't rest. Then sometimes, just sometimes, the crow can bring that soul back to put the wrong things right." The Crow follows the after-life of Eric Draven; a young man killed on a day before his Halloween Wedding. Now one year later Eric returns as a creature of the night to avenge his death and the death and rape of his fiancé. This film it not only a fast pace action flick, it is also chock full of artistic dark images, phrases and scenes that will haunt you till your dying days.

Plays October 31st, 2007



If one asks you if it is possible for something to be so terrible that it is awesome the Evil Dead Trilogy is more than enough evidence. These films follow the misadventures of Ash; a young man caught in a blood bath of daemons and possession while traveling in the woods with his friends only to eventually end up in a time warp to the Middle Ages. This fantastic set of films is a cult fiction must see. It has even gathered enough popularity to become a popular live action musical. If you like blood, gore, crappy Special Effects and a good laugh come to POETS on Halloween, join in the Festivities of our Halloween directors and watch the Evil Dead Trilogy!

EVIL DEAD TRILOGY



POETS		Wednesday October 10	Thursday October 11	Friday October 12
MOVIE SCHEDULE		Clerks Clerks 2 Dogma	The Italian Job Starsky & Hutch The Blues Brothers	Die Hard Die Hard 2 Die Hard with a Vengeance
SHOWINGS BEGIN AT NOON				
Monday October 15	Tuesday October 16	Wednesday October 17	Thursday October 18	Friday October 19
Blade Runner 13th Floor Spaceballs	Almost Famous Walk the Line Oh Brother, Where Art Thou?	Indiana Jones 1 Indiana Jones 2 Indiana Jones 3	Ocean's Eleven Ocean's Twelve Catch Me If You Can	Rocky 4 Rocky 5 Rocky Balboa
Monday October 22	Tuesday October 23	Wednesday October 24	Thursday October 25	Friday October 26
Tequila Sunrise Conspiracy Theory The Transporter	Mallrats Chasing Amy Anchor Man	Bedazzled Coyote Ugly Eternal Sunshine	Smokin' Aces Live Free or Die Hard Crank	The Benchwarmers Seven Fight Club

Caption Photo of the **Contest**
Every-Other-Week



“Road signs and pylons, the latest rage in head gear.”

Congratulations to Josh Walker in 4A Chemical, who submitted the winning caption for last issue’s photo, seen above. Josh was the happy recipient of a \$10 prize.

Send your submissions for this issue’s photo (at the top of this page) to iwarrior@engmail.uwaterloo.ca. The best submission will be printed in the next issue and the winner will be awarded with a cash prize.

Tom Theta Strikes Again!

DRAWN BY JUDY WAN
1A MECHATRONICS

INKED BY JON GRIEMAN
1A COMPUTER



The Iron Inquisition

we ask. you answer.

“What are you thankful for?”
Produced by Ryda Peung and Sophia Follick, 4A Chemical



Mark Ferguson
1A Nanotechnology

“I’m thankful for erasers!”



Abdi & Moose
1A Systems & 1A Management

“Having Monday off!”



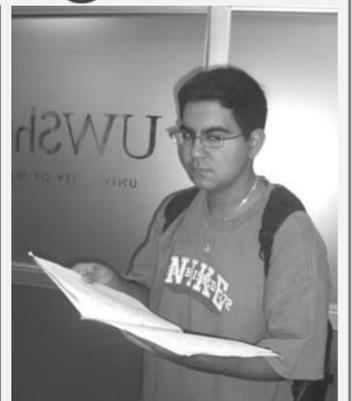
Ann-Marie Winkler
4A Mechanical

“Being alive after D.U.S.T.E.D.”



Imtiaz Rashid
1A Electrical

“Thankful for finally getting half of my OSAP!”



Anuj Ahojja
1A Electrical

“No linear algebra on Mondays!”